### CAMBRIÁ

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January 19, 1999

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

Re: Fourth Quarter 1998 Monitoring Report

Former Exxon Service Station 3055 35th Avenue Oakland, California Cambria Project #130-0105-108

Dear Mr. Chan:

On behalf of Mr. Lynn Worthington of Golden Empire Properties, Cambria Environmental Technology, Inc., (Cambria) has prepared this fourth quarter 1998 ground water monitoring report for the site referenced above. Presented below are the results from fourth quarter 1998 activities and the anticipated first quarter 1999 activities.

#### **FOURTH QUARTER 1998 ACTIVITIES**

Ground Water Monitoring: On December 8, 1998, Cambria collected ground water samples from wells MW-1, MW-2, MW-3, and MW-4 (Figure 1). The samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg), total petroleum hydrocarbons as diesel (TPHd), benzene, toluene, ethylbenzene and xylenes (BTEX), and methyl tert-butyl ether (MTBE). Cambria also gauged the site wells and inspected the wells for separate-phase hydrocarbons (SPH).

#### **Ground Water Flow Direction**

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

Depth-to-water measurements collected on December 8, 1998, indicated a ground water gradient of 0.007 ft/ft toward the northwest (Figure 1). Since 1994, the primary ground water flow direction has been toward the northwest with a change toward the southwest usually occurring during the fourth quarter. Ground water elevation data are presented in Table 1.

Cambria Environmental Technology, Inc.

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

#### **Hydrocarbon Distribution in Ground Water**

No SPH were detected in any of the monitoring wells. TPHd concentrations ranged from 3,100 parts per billion (ppb) in MW-2 to 4,200 ppb in MW-3. Benzene concentrations ranged from 3,000 ppb in MW-1 to a maximum concentration of 9,200 ppb in MW-2. Benzene concentrations significantly decreased in wells MW-1, MW-3, and MW-4 since the third quarter sampling event. This may be due to a reversal in ground water flow direction. The analytical report and field data sheets are included as Attachment A.



#### **ANTICIPATED FIRST QUARTER 1999 ACTIVITIES**

**Ground Water Monitoring:** Cambria will gauge the site wells, measure DO concentrations, check the wells for SPH, and collect water samples from the wells. Cambria will tabulate the data and incorporate the results into a ground water monitoring report.

Corrective Action: Cambria is designing a Dual-Phase Vacuum Extraction remediation system and preparing a bid package for the construction of this system. System design will involve identification of electrical and sewer utilities and determination of proper permits required for system operation. Preparation of a bid package for system construction will begin once the system design has been finalized.

#### **CLOSING**

If you have any questions or comments regarding this report or anticipated site activities, please call Bob Clark-Riddell at (510) 420-3303.

Sincerely,

Cambria Environmental Technology, Inc.

John A. Riggi

Senior Staff Geologist

Bob Clark-Riddell, P.E.

Principal Engineer

Attachments: Figure 1- Ground Water Elevation Contours

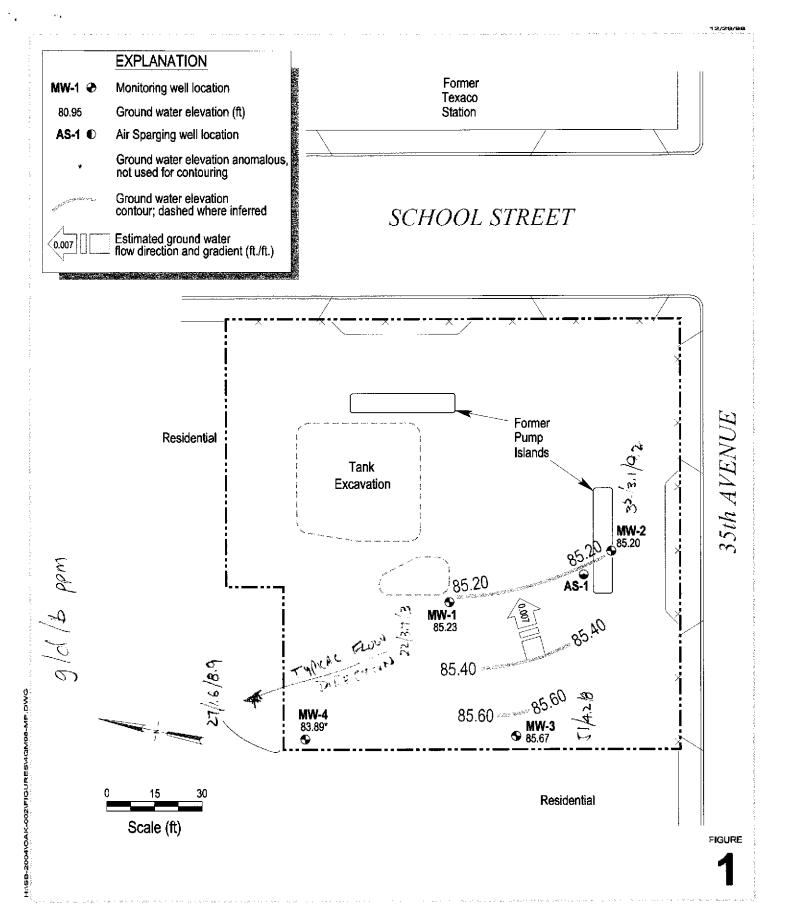
Table 1- Ground Water Elevation and Analytical Data

Attachment A - Analytical Report and Field Data Sheets

cc: Mr. Lynn Worthington, Golden Empire Properties, Inc.

5942 MacArthur Boulevard, Suite B, Oakland, CA 94605

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### Worthington

3055 35th Avenue

Oakland, California



**Ground Water Elevation Contours** 

CAMBRIA

December 8, 1998

Table 1. Ground Water Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

|           | Well ID        | Date     | GW         | SPH   | GW         | TPHg                | TPHd                 | TPHmo     | Benzene         | Toluene         | Ethylbenzene | Xylenes | МТВЕ   | DO     |
|-----------|----------------|----------|------------|-------|------------|---------------------|----------------------|-----------|-----------------|-----------------|--------------|---------|--------|--------|
|           |                |          | Depth (ft) | (ft)  | Elev. (ft) | <                   |                      | Concentra | ations in parts | s per billion ( | μg/L)        |         | >      | (mg/L) |
|           | MW-I           | 05/25/94 | 16.79      | Sheen | 84.06      | 120,000             | 25,000               | <50,000   | 22,000          | 17,000          | 2,800        | 16,000  |        |        |
|           | TOC = 100.85   | 07/19/94 | 20.77      |       | 80.08      |                     |                      |           |                 | ***             |              |         |        |        |
|           |                | 08/18/94 | 21.04      | Sheen | 79.81      | 925,000             |                      |           | 16,500          | 6,200           | 1,000        | 9,400   | ***    |        |
|           |                | 11/11/94 | 15.80      |       | 85.05      | 57,000              |                      |           | 14,000          | 4,400           | 1,400        | 6,400   |        |        |
|           |                | 02/27/95 | 15.53      |       | 85.32      | 45,000              |                      |           | 2,900           | 2,500           | 760          | 4,100   |        |        |
|           |                | 05/23/95 | 15.29      |       | 85.56      | 22,000              |                      |           | 9,900           | 990             | 790          | 2,000   |        |        |
|           |                | 08/22/95 | 20.90      |       | 79.95      | 23,000              |                      |           | 6,900           | 340             | 1,200        | 1,900   |        |        |
|           |                | 11/29/95 | 22.19      |       | 78.66      | 37,000              |                      |           | 9,900           | 530             | 1,600        | 2,900   |        |        |
|           |                | 02/21/96 | 11.69      |       | 89.16      | 33,000              | 4,300                |           | 10,000          | 480             | 1,000        | 1,800   | 3,300  |        |
|           |                | 05/21/96 | 14.62      |       | 86.23      | 36,000              | 8,500                |           | 8,500           | 1,400           | 1,300        | 2,800   | 1,900  |        |
|           |                | 08/22/96 | 22.30      |       | 78.55      | 41,000              | 6,200                |           | 8,600           | 1,300           | 1,500        | 2,900   | <200   | 8.0    |
| TUTAL TPH | 44             | 11/27/96 | 17.24      | Sheen | 83.61      | 38,000              | 6,100                |           | 9,600           | 950             | 1,600        | 3,100   | <400   | 5.6    |
| ,         |                | 03/20/97 | 16.65      |       | 84.20      | 33,000              | 10,000               |           | 6,100           | 560             | 970          | 2,200   | <400   | 8.5    |
|           |                | 06/25/97 | 19.77      |       | 81.08      | 31,000              | 7,400°               |           | 7,400           | 440             | 890          | 1,800   | <400   | 3.7    |
|           |                | 09/17/97 | 20.12      |       | 80.73      | $32,000^{d}$        | 3,500 <sup>e</sup>   |           | 9,100           | 550             | 1,000        | 2,000   | <1,000 | 2.1    |
|           | 3 <del>4</del> | 12/22/97 | 12.95      |       | 87.90      | 26,000 <sup>d</sup> | 5,800°               |           | 7,900           | 370             | 920          | 1,500   | <790   | 0.7    |
|           | >-             | 03/18/98 | 12.34      | Sheen | 88.51      | $30,000^{d}$        | 4,200 <sup>e,f</sup> |           | 7,800           | 820             | 840          | 2,000   | <1,100 | 1.3    |
|           |                | 07/14/98 | 17.34      |       | 83.51      | $41,000^{d}$        | 8,900 <sup>e,f</sup> |           | 8,200           | 1,100           | 1,200        | 3,000   | <200   | 1.8    |
|           |                | 09/30/98 | 19.90      |       | 80.95      | 37,000              | 3,300                |           | 11,000          | 950             | 1,200        | 2,800   | <20    | 2.0    |
|           |                | 12/08/98 | 15.62      |       | 85.23      | 22,600              | 3,700                |           | 3,000           | 1,200           | 730          | 3,100   | <900   |        |
|           | MW-2           | 05/25/94 | 15.65      |       | 84.35      | 61,000              | 6,900                | <5,000    | 9,900           | 7,400           | 960          | 4,600   |        |        |
|           | TOC = 100.00   | 07/19/94 | 19.81      |       | 80.19      |                     |                      |           |                 |                 |              |         |        |        |
|           |                | 08/18/94 | 20.37      |       | 79.63      | 88,000              |                      |           | 10,750          | 10,500          | 1,850        | 9,600   |        |        |
|           |                | 11/11/94 | 15.52      | ***   | 84.48      | 54,000              |                      |           | 5,900           | 6,700           | 1,300        | 7,500   |        |        |
|           |                | 02/27/95 | 14.46      | Sheen | 85.54      | 44,000              |                      |           | 5,100           | 5,300           | 930          | 6,400   |        |        |
|           |                | 05/23/95 | 14.17      |       | 85.83      | 33,000              |                      |           | 8,200           | 5,600           | 900          | 6,600   |        |        |
|           |                | 08/22/95 | 19.80      |       | 80.20      | 38,000              |                      |           | 6,400           | 5,000           | 1,100        | 5,600   |        |        |
|           |                | 11/29/95 | 21.05      |       | 78.95      | 46,000              |                      |           | 7,100           | 5,300           | 1,300        | 6,000   |        |        |
|           |                | 02/21/96 | 10.53      |       | 89.47      | 59,000              |                      |           | 8,000           | 6,000           | 1,800        | 8,900   | 4,500  |        |
|           |                | 05/21/96 | 13.47      |       | 86.53      | 51,000              | 3,400                |           | 8,200           | 5,200           | 1,300        | 6,600   | 2,400  |        |
|           |                | 08/22/96 | 19.12      |       | 80.88      | 37,000              | 5,700                |           | 5,100           | 3,500           | 960          | 4,500   | <200   | 3.0    |
|           |                | 11/27/96 | 16.61      | Sheen | 83.39      | 54,000              | 10,000               |           | 9,800           | 7,000           | 1,800        | 7,900   | <2,000 | 3.1    |
|           |                | 03/20/97 | 15.39      |       | 84.61      | 27,000              | 6,100                |           | 3,700           | 2,300           | 580          | 2,800   | <400   | 8.1    |
|           |                | 06/25/97 | 18.62      |       | 81.38      | 42,000              | 7,800 <sup>b</sup>   |           | 7,400           | 3,800           | 1,200        | 5,700   | <200   | 0.9    |
|           |                |          |            |       |            |                     |                      |           |                 |                 |              |         |        |        |

Table 1. Ground Water Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

| Date     | GW  | SPH   | GW   | TPHg   | TPHd   | TPHmo   | Benzene   | Toluene  | Ethylbenzene   | Xylenes   | MTBE       | DO         |
|----------|---|---|--|--|--|---|---|--|--|---|------------|------------|
|          | Depth (ft)  | (ft)  | Elev. (ft)   | <  |  | Concentr  | ations in parts   | s per billion  | (μg/ <b>L</b> )                                      |   | >          | (mg/L)     |
| 09/17/97 | 19.05   | Sheen   | 80.95  | 41.000 <sup>d</sup>  | 8.900 <sup>e</sup>   |   | 5,200   | 3,400  | 1,300  | 5,900   | <700       | 1.2        |
| 12/22/97 | 14.09   |   | 85.91  |  | •  |   | 8.500   | 4.600  | 1.800  |   | <1.200     | 1.2        |
| 03/18/98 |   | Sheen   |  |  |  |   | *   | *  |  |   |            | 1.1        |
|          |   |   |  | _  |  |   | -   | •  | •  |   |            | 1.5        |
|          |   |   |  |  |  |   |   |  |  |   |            | 1.8        |
|          | #   |   |  |  |  |   | A   |  |  |   |            |            |
|          |   |   |  |  | an aras a per Armana (ili ili ili ili ili ili ili ili ili il |   |   |  |  |   |            |            |
| 05/25/94 | 13.93   | Sheen   | 82.94  | 56,000   | 14,000   | <50,000   | 14,000  | 14,000   | 1,300  | 11,000  |            |            |
| 07/19/94 | 17.04   |   | 79.83  | •••  |  |   |   |  |  |   |            |            |
| 08/18/94 | 17.75   |   | 79.12  | 116,000  |  |   | 28,300  | 26,000   | 2,400  | 15,000  |            |            |
| 11/11/94 | 17.80   |   | 79.07  | 89,000   |  |   | 1,600   | 1,900  | 1,900  | 14,000  |            |            |
| 02/27/95 | 11.86   | Sheen   | 85.01  | 250,000  |  |   | 22,000  | 26,000   | 7,800  | 21,000  |            |            |
| 05/23/95 | 11.60   | Sheen   | 85.27  | 310,000  |  |   | 18,000  | 17,000   | 4,500  | 2,800   |            |            |
| 08/22/95 | 17.10   |   | 79.77  | 74,000   |  |   | 14,000  | 13,000   | 1,900  | 11,000  |            |            |
| 11/29/95 | 16.34   |   | 80.53  | 220,000  |  |   | 25,000  | 25,000   | 3,500  | 19,000  |            |            |
| 02/21/96 | 7.92  |   | 88.95  | 60,000   |  |   | 10,000  | 7,800  | 1,500  | 8,800   | 3,400      |            |
| 05/21/96 | 10.86   | Sheen   | 86.01  | 69,000   | 13,000   |   | 17,000  | 9,400  | 1,700  | 9,400   | 2,600      |            |
| 08/22/96 | 16.50   |   | 80.37  | 94,000   | 16,000   |   | 17,000  | 15,000   | 2,100  | 12,000  | 330        | 2.0        |
| 11/27/96 | 13.47   | Sheen   | 83.40  | 82,000   | 24,000   |   | 14,000  | 13,000   | 2,400  | 13,000  | <1,000     | 2.4        |
| 03/20/97 | 12.86   |   | 84.01  | 56,000   | 11,000   |   | 9,900   | 6,900  | 1,300  | 8,000   | 3,500      | 9.0        |
| 06/25/97 | 15.98   | ~**   | 80.89  | 49,000   | 7,700 <sup>b</sup>   |   | 9,700   | 7,100  | 1,300  | 7,000   | 220        | 5.8        |
| 09/17/97 | 16.34   | Sheen   | 80.53  | 78,000 <sup>d</sup>  | · ·  |   | 11,000  | 9,900  | 1,800  | 10,000  | <1,200     | 0.7        |
| 12/22/97 | 10.71   | Sheen   | 86.16  | _  |  |   | 7,300   | 5,300  | 1,400  | 7,500   | <1,100     | 3.1        |
| 03/18/98 | 8.41  | Sheen   | 88.46  |  | 20,000 <sup>e,f</sup>  |   | 21,000  | 19,000   | 2,600  | 15,000  | <1,600     | 1.6        |
| 07/14/98 | 13.51   |   | 83.36  |  |  |   | 18,000  | 14,000   | 1,900  | 11,000  | <1,400     | 1.8        |
| 09/30/98 | 16.14   |   | 80.73  | 91,000   | 9,800  |   | 17,000  | 13,000   | 2,100  | 12,000  | <1300      | 2.0        |
|          | 09/17/97 12/22/97 03/18/98 07/14/98 09/30/98 12/08/98 05/25/94 07/19/94 08/18/94 11/11/94 02/27/95 05/23/95 08/22/95 11/29/95 02/21/96 05/21/96 03/20/97 06/25/97 09/17/97 12/22/97 03/18/98 07/14/98 | Depth (ft)  09/17/97 19.05 12/22/97 14.09 03/18/98 10.83 07/14/98 16.07 09/30/98 18.71  12/08/98 14.80  05/25/94 13.93 07/19/94 17.04 08/18/94 17.75 11/11/94 17.80 02/27/95 11.86 05/23/95 11.60 08/22/95 17.10 11/29/95 16.34 02/21/96 7.92 05/21/96 10.86 08/22/96 16.50 11/27/96 13.47 03/20/97 12.86 06/25/97 15.98 09/17/97 16.34 12/22/97 10.71 03/18/98 8.41 07/14/98 13.51 | Depth (ft)         (ft)           09/17/97         19.05         Sheen           12/22/97         14.09            03/18/98         10.83         Sheen           07/14/98         16.07            09/30/98         18.71            12/08/98         14.80            05/25/94         13.93         Sheen           07/19/94         17.04            08/18/94         17.75            11/11/94         17.80            02/27/95         11.86         Sheen           05/23/95         11.60         Sheen           08/22/95         17.10            11/29/95         16.34            05/21/96         7.92            05/21/96         10.86         Sheen           08/22/96         16.50            11/27/96         13.47         Sheen           03/20/97         12.86            06/25/97         15.98            09/17/97         16.34         Sheen           07/14/98         13.51 </td <td>Depth (ft)         (ft)         Elev. (ft)           09/17/97         19.05         Sheen         80.95           12/22/97         14.09          85.91           03/18/98         10.83         Sheen         89.17           07/14/98         16.07          83.93           09/30/98         18.71          81.29           12/08/98         14.80          85.20           05/25/94         13.93         Sheen         82.94           07/19/94         17.04          79.83           08/18/94         17.75          79.07           11/1/94         17.80          79.07           02/27/95         11.86         Sheen         85.21           08/22/95         17.10          79.77           11/29/95         16.34          80.53           02/21/96         7.92          88.95           05/21/96         10.86         Sheen         86.01           08/22/96         16.50          80.37           11/27/96         13.47         Sheen         83.40           03/20/97<td>Depth (ft)         (ft)         Elev. (ft)         &lt;</td><td>Depth (ft)         (ft)         Elev. (ft)            09/17/97         19.05         Sheen         80.95         41,000<sup>d</sup>         8,900<sup>e</sup>           12/22/97         14.09          85.91         47,000<sup>d</sup>         6,100<sup>e</sup>           03/18/98         10.83         Sheen         89.17         58,000<sup>d</sup>         7,000<sup>e,f</sup>           07/14/98         16.07          83.93         42,000<sup>d</sup>         5,300<sup>e,f</sup>           09/30/98         18.71          81.29         22,000         2,400           12/08/98         14.80          85.20         32,000         3,100           05/25/94         13.93         Sheen         82.94         56,000         14,000           07/19/94         17.04          79.83             08/18/94         17.75          79.12         116,000            11/11/94         17.80          79.07         89,000            05/23/95         11.60         Sheen         85.27         310,000            08/22/95         17.10          79.77         74,000      &lt;</td><td>Depth (ft)         (ft)         Elev. (ft)          Concentration           09/17/97         19.05         Sheen         80.95         41,000<sup>d</sup>         8,900<sup>e</sup>            12/22/97         14.09          85.91         47,000<sup>d</sup>         6,100<sup>e</sup>            03/18/98         10.83         Sheen         89.17         58,000<sup>d</sup>         7,000<sup>e,f</sup>            07/30/98         18.71          81.29         22,000         2,400            12/08/98         14.80          85.20         32,000         3,100            05/25/94         13.93         Sheen         82.94         56,000         14,000         &lt;50,000</td>           07/19/94         17.04          79.83              08/18/94         17.75          79.12         116,000             11/11/94         17.80          79.07         89,000             05/23/95         11.60         Sheen         85.27         310,000             08/22/95         17.10        &lt;</td> <td>Depth (ft)         (ft)         Elev. (ft)          Concentrations in parts           09/17/97         19.05         Sheen         80.95         41,000<sup>4</sup>         8,900<sup>6</sup>          5,200           12/22/97         14.09          85.91         47,000<sup>4</sup>         6,100<sup>6</sup>          8,500           03/18/98         10.83         Sheen         89.17         58,000<sup>4</sup>         7,000<sup>6</sup>          9,300           07/14/98         16.07          83.93         42,000<sup>4</sup>         5,300<sup>6</sup>          6,000           09/30/98         18.71          81.29         22,000         2,400          3,600           12/08/98         14.80          85.20         32,900         3,100          9,200           05/25/94         13.93         Sheen         82.94         56,000         14,000         &lt;50,000</td> 14,000           07/19/94         17.04          79.83            28,300           11/11/94         17.80          79.07         89,000           28,300           11/11/194 | Depth (ft)         (ft)         Elev. (ft)           09/17/97         19.05         Sheen         80.95           12/22/97         14.09          85.91           03/18/98         10.83         Sheen         89.17           07/14/98         16.07          83.93           09/30/98         18.71          81.29           12/08/98         14.80          85.20           05/25/94         13.93         Sheen         82.94           07/19/94         17.04          79.83           08/18/94         17.75          79.07           11/1/94         17.80          79.07           02/27/95         11.86         Sheen         85.21           08/22/95         17.10          79.77           11/29/95         16.34          80.53           02/21/96         7.92          88.95           05/21/96         10.86         Sheen         86.01           08/22/96         16.50          80.37           11/27/96         13.47         Sheen         83.40           03/20/97 <td>Depth (ft)         (ft)         Elev. (ft)         &lt;</td> <td>Depth (ft)         (ft)         Elev. (ft)            09/17/97         19.05         Sheen         80.95         41,000<sup>d</sup>         8,900<sup>e</sup>           12/22/97         14.09          85.91         47,000<sup>d</sup>         6,100<sup>e</sup>           03/18/98         10.83         Sheen         89.17         58,000<sup>d</sup>         7,000<sup>e,f</sup>           07/14/98         16.07          83.93         42,000<sup>d</sup>         5,300<sup>e,f</sup>           09/30/98         18.71          81.29         22,000         2,400           12/08/98         14.80          85.20         32,000         3,100           05/25/94         13.93         Sheen         82.94         56,000         14,000           07/19/94         17.04          79.83             08/18/94         17.75          79.12         116,000            11/11/94         17.80          79.07         89,000            05/23/95         11.60         Sheen         85.27         310,000            08/22/95         17.10          79.77         74,000      &lt;</td> <td>Depth (ft)         (ft)         Elev. (ft)          Concentration           09/17/97         19.05         Sheen         80.95         41,000<sup>d</sup>         8,900<sup>e</sup>            12/22/97         14.09          85.91         47,000<sup>d</sup>         6,100<sup>e</sup>            03/18/98         10.83         Sheen         89.17         58,000<sup>d</sup>         7,000<sup>e,f</sup>            07/30/98         18.71          81.29         22,000         2,400            12/08/98         14.80          85.20         32,000         3,100            05/25/94         13.93         Sheen         82.94         56,000         14,000         &lt;50,000</td> 07/19/94         17.04          79.83              08/18/94         17.75          79.12         116,000             11/11/94         17.80          79.07         89,000             05/23/95         11.60         Sheen         85.27         310,000             08/22/95         17.10        < | Depth (ft)         (ft)         Elev. (ft)         <         | Depth (ft)         (ft)         Elev. (ft)            09/17/97         19.05         Sheen         80.95         41,000 <sup>d</sup> 8,900 <sup>e</sup> 12/22/97         14.09          85.91         47,000 <sup>d</sup> 6,100 <sup>e</sup> 03/18/98         10.83         Sheen         89.17         58,000 <sup>d</sup> 7,000 <sup>e,f</sup> 07/14/98         16.07          83.93         42,000 <sup>d</sup> 5,300 <sup>e,f</sup> 09/30/98         18.71          81.29         22,000         2,400           12/08/98         14.80          85.20         32,000         3,100           05/25/94         13.93         Sheen         82.94         56,000         14,000           07/19/94         17.04          79.83             08/18/94         17.75          79.12         116,000            11/11/94         17.80          79.07         89,000            05/23/95         11.60         Sheen         85.27         310,000            08/22/95         17.10          79.77         74,000      < | Depth (ft)         (ft)         Elev. (ft)          Concentration           09/17/97         19.05         Sheen         80.95         41,000 <sup>d</sup> 8,900 <sup>e</sup> 12/22/97         14.09          85.91         47,000 <sup>d</sup> 6,100 <sup>e</sup> 03/18/98         10.83         Sheen         89.17         58,000 <sup>d</sup> 7,000 <sup>e,f</sup> 07/30/98         18.71          81.29         22,000         2,400            12/08/98         14.80          85.20         32,000         3,100            05/25/94         13.93         Sheen         82.94         56,000         14,000         <50,000 | Depth (ft)         (ft)         Elev. (ft)          Concentrations in parts           09/17/97         19.05         Sheen         80.95         41,000 <sup>4</sup> 8,900 <sup>6</sup> 5,200           12/22/97         14.09          85.91         47,000 <sup>4</sup> 6,100 <sup>6</sup> 8,500           03/18/98         10.83         Sheen         89.17         58,000 <sup>4</sup> 7,000 <sup>6</sup> 9,300           07/14/98         16.07          83.93         42,000 <sup>4</sup> 5,300 <sup>6</sup> 6,000           09/30/98         18.71          81.29         22,000         2,400          3,600           12/08/98         14.80          85.20         32,900         3,100          9,200           05/25/94         13.93         Sheen         82.94         56,000         14,000         <50,000 | Depth (ft)         (ft)         Elev. (ft)         < | Depth (ft)         (ft)         Elev. (ft)          Concentrations in parts per billion (µg/L)           09/17/97         19.05         Sheen         80.95         41,000 <sup>d</sup> 8,900 <sup>e</sup> 5,200         3,400         1,300           12/22/97         14.09          85.91         47,000 <sup>d</sup> 6,100 <sup>e</sup> 8,500         4,600         1,800           03/18/98         10.83         Sheen         89.17         58,000 <sup>d</sup> 7,000 <sup>e,f</sup> 9,300         6,100         1,800           09/30/98         16.07          81.93         42,000 <sup>d</sup> 5,300 <sup>e,f</sup> 6,000         3,000         1,000           09/30/98         14.80          85.20         32,000         3,100          9,200         680         1,100           05/25/94         13.93         Sheen         82.94         56,000         14,000         <50,000 | Depth (ft) | Depth (ft) |

Table 1. Ground Water Elevation and Analytical Data - Former Exxon Service Station, 3055 35th Avenue, Oakland, California

| Well ID     | Date     | GW         | SPH  | GW         | TPHg                | TPHd                 | TPHmo     | Benzene         | Toluene       | Ethylbenzene | Xylenes | МТВЕ   | DO     |
|-------------|----------|------------|------|------------|---------------------|----------------------|-----------|-----------------|---------------|--------------|---------|--------|--------|
|             |          | Depth (ft) | (ft) | Elev. (ft) | <                   |                      | Concentra | ations in parts | s per billion | (µg/L)       |         | >      | (mg/L) |
| MW-4        | 03/20/97 | 13.75      |      | 83.59      | 47,000              | 3,100                |           | 11,000          | 4,500         | 1,100        | 5,200   | 3,400  | 8.4    |
| TOC = 97.34 | 06/25/97 | 16.15      |      | 81.19      | 61,000              | 5,800 <sup>b</sup>   |           | 16,000          | 6,100         | 1,500        | 5,900   | 780°   | 1.4    |
|             | 09/17/97 | 17.10      |      | 80.24      | $60,000^{d}$        | 4,400°               |           | 17,000          | 4,900         | 1,500        | 5,700   | <1,500 | 1.5    |
|             | 12/22/97 | 9.21       |      | 88.13      | $43,000^{d}$        | 3,100°               |           | 13,000          | 3,900         | 1,100        | 4,200   | <960   | 3.7    |
|             | 03/18/98 | 9.54       |      | 87.80      | 58,000 <sup>d</sup> | 5,500 <sup>e,f</sup> |           | 14,000          | 4,700         | 1,400        | 5,700   | <1,200 | 0.8    |
|             | 07/14/98 | 14.15      |      | 83.19      | 73,000 <sup>d</sup> | 2,900 <sup>e,f</sup> |           | 22,000          | 7,000         | 1,800        | 7,300   | <200   | 1.0    |
|             | 09/30/98 | 16.84      |      | 80.50      | 39,000              | 2,100                |           | 12,000          | 2,700         | 1,000        | 3,400   | 510    | 1.1    |
|             | 12/08/98 | 13.45      |      | 83.89      | 27,000              | 1,600                |           | 8,900           | 1,600         | 730          | 2,300   | <1,500 |        |
|             |          |            |      |            |                     |                      |           |                 |               |              |         |        |        |
| Trip Blank  | 07/14/98 |            |      |            | <50                 | <50                  |           | < 0.5           | <0.5          | <0.5         | < 0.5   | < 5.0  |        |
|             | 09/30/98 |            |      |            | <50                 | <50                  |           | <0.5            | <0.5          | <0.5         | <0.5    | <5.0   | F      |
|             | 12/08/98 | ***        |      |            | <50                 | t term               |           | <0.5            | <0.5          | <0.5         | <0.5    | <5.0   |        |

#### Abbreviations:

TOC = Top of casing elevation relative to an aribitrary datum

GW = Ground water

SPH = Separate-phase hydrocarbons

--- = not observed/not analyzed

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015

TPHd = Total petroleum hydrocarbons as diesel by modified EPA Method 8015

TPHmo = Total petroleum hydrocarbons as motor oil by modified EPA Method 8015

Benzene, Ethylbenzene, Toluene, and Xylenes by EPA Method 8020

MTBE = Methyl Tertiary-Butyl Ether by EPA Method 8020

DO = Dissolved oxygen

 $\mu g/L = Micrograms per liter, equivalent to parts per billion in water$ 

mg/L = Milligrams per liter, equivalent to parts per million in water

#### Notes:

- a = Result has an atypical pattern for diesel analysis
- b = Result appears to be a lighter hydrocarbon than diesel
- c = There is a >40% difference between primary and confirmation analysis
- d = Unmodified or weakly modified gasoline is significant
- e = Gasoline range compounds are significant
- f = Diesel range compounds are significant
- g = lighter than water immiscible sheen is present

TOC Elevation of Well MW-4 surveyed relative to an arbitrary site datum by David Hop, Licensed Surveyor on April 19, 1997

### ATTACHMENT A

Analytical Report and Field Data Sheets

| Cambria Environmental Technology      | Client Project ID: #130-0105; | Date Sampled: 12/08/98   |
|---------------------------------------|-------------------------------|--------------------------|
| 1144 65 <sup>th</sup> Street, Suite C | Worthington                   | Date Received: 12/09/98  |
| Oakland, CA 94608                     | Client Contact: John Riggi    | Date Extracted: 12/09/98 |
|                                       | Client P.O:                   | Date Analyzed: 12/10/98  |

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*, with Methyl tert-Butyl Ether\* & BTEX\*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

| Lab ID    | Client ID                             | Matrix | TPH(g)⁺   | MTBE    | Benzene | Toluene | Ethylben-<br>zene | Xylenes | % Recovery<br>Surrogate |
|-----------|---------------------------------------|--------|-----------|---------|---------|---------|-------------------|---------|-------------------------|
| 99816     | MW-1                                  | w      | 22,000,a  | ND<900  | 3000    | 1200    | 730               | 3100    | 106                     |
| 99817     | MW-2                                  | W      | 32,000,a  | ND<2000 | 9200    | 680     | 1100              | 2300    | 107                     |
| 99818     | MW-3                                  | w      | 51,000,a  | ND<1100 | 8000    | 6800    | 1400              | 7500    | 95                      |
| 99819     | MW-4                                  | W      | 27,000,a  | ND<1500 | 8900    | 1600    | 730               | 2300    | 104                     |
| 99820     | TB-1                                  | w      | ND        | ND      | ND      | ND      | ND                | ND      | 107                     |
| 99821     | Comp                                  | S      | ND        | ND      | ND      | ND      | ND                | ND      | 104                     |
|           |                                       |        |           |         |         |         |                   |         |                         |
|           |                                       |        |           |         |         |         |                   |         |                         |
|           |                                       |        |           |         |         |         |                   |         |                         |
|           |                                       |        |           |         |         |         |                   |         |                         |
|           | · · · · · · · · · · · · · · · · · · · |        |           |         |         |         |                   |         |                         |
|           |                                       |        |           |         |         | ·       |                   |         |                         |
|           |                                       |        | *         |         |         |         |                   |         |                         |
|           |                                       |        |           |         |         |         |                   |         |                         |
|           | g Limit unless<br>e stated; ND        | w      | 50 ug/L   | 5.0     | 0.5     | 0.5     | 0.5               | 0.5     |                         |
| means not | detected above orting limit           | S      | 1.0 mg/kg | 0.05    | 0.005   | 0.005   | 0.005             | 0.005   |                         |

<sup>\*</sup> water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

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 (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

<sup>#</sup> cluttered chromatogram; sample peak coelutes with surrogate peak

| Cambria Environmental Technology | Client Project ID: #130-0105; | Date Sampled: 12/08/98        |
|----------------------------------|-------------------------------|-------------------------------|
| 1144 65th Street, Suite C        | Worthington                   | Date Received: 12/09/98       |
| Oakland, CA 94608                | Client Contact: John Riggi    | Date Extracted: 12/09/98      |
|                                  | Client P.O:                   | Date Analyzed: 12/09-12/10/98 |
|                                  |                               |                               |

#### Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel \*

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

| Lab ID                                    | Client ID       | Matrix | TPH(d) <sup>+</sup> | % Recovery<br>Surrogate |
|---|-----------------|--------|---------------------|-------------------------|
| 99816                                     | MW-1            | w      | 3700,d,b            | 97                      |
| 99817                                     | MW-2            | w      | 3100,d,b            | 102                     |
| 99818                                     | MW-3            | w      | 4200,d,b            | 98                      |
| 99819                                     | MW-4            | W      | 1600,d,b            | 104                     |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
|   |                 |        |                     |                         |
| Reporting Limit un<br>stated; ND means no | iless otherwise | W      | 50 ug/L             |                         |
| the reportin                              | g limit         | S      | 1.0 mg/kg           |                         |

<sup>\*</sup> water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

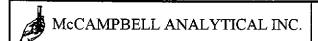
<sup>&</sup>quot;cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

| Cambria Environmental Technolog       | zv   Client Proi                      | ect ID: #130-0105; | Date Sampled             | : 12/08/98           |  |  |
|---------------------------------------|---------------------------------------|--------------------|--------------------------|----------------------|--|--|
| 1144 65 <sup>th</sup> Street, Suite C | Worthingto                            |                    | Date Received            | l: 12/09/98          |  |  |
| Oakland, CA 94608                     | Client Con                            | tact: John Riggi   | Date Extracted: 12/10/98 |                      |  |  |
|                                       | Client P.O:                           | ;                  | Date Analyzed            | e Analyzed: 12/10/98 |  |  |
|                                       | Vola                                  | tile Halocarbons   |                          |                      |  |  |
| EPA method 601 or 8010                |                                       |                    |                          |                      |  |  |
| Lab ID                                | 99821                                 |                    |                          |                      |  |  |
| Client ID                             | Comp                                  |                    |                          |                      |  |  |
| Matrix                                | S                                     |                    |                          |                      |  |  |
| Compound                              |                                       | Concentra          | tion                     |                      |  |  |
| Bromodichloromethane                  | ND                                    |                    |                          |                      |  |  |
| Bromoform <sup>(b)</sup>              | ND                                    |                    |                          |                      |  |  |
| Bromomethane                          | ND                                    |                    |                          |                      |  |  |
| Carbon Tetrachloride <sup>(c)</sup>   | ND                                    |                    |                          |                      |  |  |
| Chlorobenzene                         | ND                                    |                    |                          |                      |  |  |
| Chloroethane                          | ND                                    |                    |                          |                      |  |  |
| 2-Chloroethyl Vinyl Ether(d)          | ND                                    |                    |                          |                      |  |  |
| Chloroform (e)                        | ND                                    |                    |                          |                      |  |  |
| Chloromethane                         | ND                                    |                    |                          |                      |  |  |
| Dibromochloromethane                  | ND                                    |                    | •                        |                      |  |  |
| 1,2-Dichlorobenzene                   | ND                                    |                    |                          |                      |  |  |
| 1,3-Dichlorobenzene                   | ND                                    |                    |                          |                      |  |  |
| 1,4-Dichlorobenzene                   | ND                                    |                    |                          |                      |  |  |
| Dichlorodifluoromethane               | ND                                    |                    |                          |                      |  |  |
| 1,1-Dichloroethane                    | ND                                    |                    |                          |                      |  |  |
| 1,2-Dichloroethane                    | ND                                    |                    |                          |                      |  |  |
| 1,1-Dichloroethene                    | ND                                    |                    |                          |                      |  |  |
| cis 1,2-Dichloroethene                | ND                                    |                    |                          |                      |  |  |
| trans 1,2-Dichloroethene              | ND                                    |                    |                          |                      |  |  |
| 1,2-Dichloropropane                   | ND                                    |                    |                          |                      |  |  |
| cis 1,3-Dichloropropene               | ND                                    |                    |                          |                      |  |  |
| trans 1,3-Dichloropropene             | ND                                    |                    |                          |                      |  |  |
| Methylene Chioride <sup>(f)</sup>     | ND<10                                 |                    |                          |                      |  |  |
| 1,1,2,2-Tetrachloroethane             | ND                                    |                    |                          |                      |  |  |
| Tetrachloroethene                     | ND<10                                 |                    |                          |                      |  |  |
| 1,1,1-Trichloroethane                 | ND                                    |                    |                          |                      |  |  |
| 1,1,2-Trichloroethane                 | ND                                    |                    |                          |                      |  |  |
| Trichloroethene                       | ND                                    |                    |                          |                      |  |  |
| Trichlorofluoromethane                | ND                                    |                    |                          |                      |  |  |
| Vinyl Chloride <sup>(g)</sup>         | ND                                    |                    |                          |                      |  |  |
| % Recovery Surrogate                  | 106                                   |                    |                          |                      |  |  |
| Comments                              | ··· · · · · · · · · · · · · · · · · · |                    |                          |                      |  |  |

<sup>\*</sup> water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

<sup>(</sup>b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.



| Cambria En     | vironmental Techno     | logy | Clien    | t Project ID  | : #130-0105; | Date Sampled: 1   | 2/08/98              |
|----------------|------------------------|------|----------|---------------|--------------|-------------------|----------------------|
|                | reet, Suite C          | ~~5] | Wort     | hington       | 123 0100,    | Date Received: 1  | 2/09/98              |
| Oakland, Ca    |                        |      | Clien    | t Contact: Jo | ohn Riggi    | Date Extracted: 1 | 2/09/98              |
|                |                        |      | <u> </u> | t P.O:        |              | Date Analyzed: 1  | .2/10/98             |
|                |                        |      |          | Lea           | ad*          |                   |                      |
| EPA analytical | methods 6010/200.7, 23 | 9.2* |          |               | 1            |                   | 0/ D                 |
| Lab ID         | Client ID              | Matr | rix E    | Extraction °  | -            | Lead*             | % Recovery Surrogate |
| 99821          | Comp                   | s    |          | TTLC          | ļ            | 9.3               | 99                   |
|                |                        |      |          |               |              |                   |                      |
| <u>.</u>       |                        |      |          |               |              |                   |                      |
|                |                        | _    |          |               |              |                   |                      |
|                |                        |      |          |               |              |                   |                      |
|                |                        |      |          |               |              |                   |                      |
|                |                        |      |          |               |              |                   |                      |
|                |                        |      |          |               |              |                   |                      |
|                |                        |      |          |               |              |                   |                      |
|                |                        |      |          |               |              | ·                 |                      |
|                |                        |      |          |               |              |                   |                      |
| <u> </u>       |                        |      |          |               |              |                   | -                    |
|                |                        |      |          |               |              |                   |                      |
|                |                        |      |          |               |              |                   |                      |
|                |                        |      |          |               |              |                   | <u> </u>             |
| Reporting L    | imit unless otherwise  | S    |          | TTLC          | 3.           | 0 mg/kg           | 1                    |

TTLC

STLC,TCLP

0.005 mg/L

0.2 mg/L

stated; ND means not detected above

the reporting limit

<sup>\*</sup> soil and sludge samples are reported in mg/kg, wipe samples in ug/wipe, and water samples and all STLC / SPLP / TCLP extracts in mg/L \*Lead is analysed using EPA method 6010 (ICP) for soils, sludges, STLC & TCLP extracts and method 239.2 (AA Furnace) for water samples

<sup>&</sup>lt;sup>o</sup> EPA extraction methods 1311(TCLP), 3010/3020(water,TTLC), 3040(organic matrices,TTLC), 3050(solids,TTLC); STLC - CA Title 22

<sup>#</sup> surrogate diluted out of range; N/A means surrogate not applicable to this analysis

<sup>&</sup>amp; reporting limit raised due matrix interference

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations.

Date: 12/09/98

Matrix: WATER

|                                    | Concentr     | ation | (mg/L) |               | % Reco | very  |     |
|------------------------------------|--------------|-------|--------|---------------|--------|-------|-----|
| Analyte                            | Sample       |       |        | Amount        |        |       | RPD |
| [<br>[                             | (#99495)<br> | MS    | MSD    | Spiked<br>    | MS<br> | MSD   |     |
| mpu /)                             | 0.0          | 95.7  | 91.4   | 100.0         | 95.7   | 91.4  | 4.7 |
| TPH (gas)                          | !            |       |        |               |        |       | 3.1 |
| Benzene                            | 0.0          | 9.5   | 9.8    | 10.0          | 95.0   | 98.0  |     |
| Toluene                            | 0.0          | 10.0  | 10.0   | 10.0          | 100.0  | 100.0 | 0.0 |
| Ethyl Benzene                      | 0.0          | 10.4  | 10.3   | 10.0          | 104.0  | 103.0 | 1.0 |
| Xylenes<br>                        | 0.0          | 30.9  | 30.7   | 30.0          | 103.0  | 102.3 | 0.6 |
| <br> TPH(diesel)                   | 0.0          | 173   | 160    | 150           | 115    | 106   | 7.9 |
| <br>  TRPH<br>  (oil & grease)<br> | N/A          | N/A   | N/A    | <br>  N/A<br> | N/A    | n/A   | N/A |

% Rec. = (MS - Sample) / amount spiked x 100

Date: 12/10/98-12/11/98 Matrix: WATER

|                     | Concent      | ration | (mg/L) |                | % Reco       | very  |     |
|---------------------|--------------|--------|--------|----------------|--------------|-------|-----|
| Analyte             | Sample       |        |        | Amount         |              |       | RPD |
|                     | (#99778)<br> | MS     | MSD    | Spiked         | MS           | MSD   |     |
| <br>                | <br>         |        |        |                |              |       |     |
| TPH (gas)           | 0.0          | 95.7   | 91.4   | 100.0          | 95.7         | 91.4  | 4.7 |
| Benzene             | 0.0          | 9.5    | 9.8    | 10.0           | 95.0         | 98.0  | 3.1 |
| Toluene             | 0.0          | 10.0   | 10.0   | 10.0           | 100.0        | 100.0 | 0.0 |
| Ethyl Benzene       | 0.0          | 10.4   | 10.3   | 10.0           | 104.0        | 103.0 | 1.0 |
| Xylenes             | 0.0          | 30.9   | 30.7   | 30.0           | 103.0        | 102.3 | 0.6 |
| TPH(diesel)         |              | 161    | 159    | 150            | 108          | 106   | 1.6 |
|                     | ]            | 101    | 1.59   | 130<br>        |              |       |     |
| TRPH (oil & grease) | <br>  0<br>  | 23200  | 23000  | 23700<br>23700 | <br>  98<br> | 97    | 0.9 |
|                     |              |        |        |                | ĺ            |       |     |

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

Date: 12/09/98

Matrix: SOIL

|                          | Concent       | ration | (mg/kg) |            | % Reco | very |         |
|--------------------------|---------------|--------|---------|------------|--------|------|---------|
| Analyte                  | Sample        |        |         | Amount     |        |      | RPD     |
| <u> </u>                 | (#97134)<br>  | MS     | MSD     | Spiked<br> | MS     | MSD  |         |
| mpr                      |               | 0.753  |         | 0.03       | 107    | 102  | 7.4     |
| TPH (gas)                | 0.000         | 2.171  | 2.099   | 2.03       | 107    | 103  | . 3 . 4 |
| Benzene                  | 0.000         | 0.186  | 0.182   | 0.2        | 93     | 91   | 2.2     |
| Toluene                  | 0.000         | 0.200  | 0.190   | 0.2        | 100    | 95   | 5.1     |
| Ethylbenzene             | 0.000         | 0.192  | 0.182   | 0.2        | 96     | 91   | 5.3     |
| Xylenes<br>              | 0.000         | 0.594  | 0.530   | 0.6        | 99     | 88   | 11.4    |
| TPH(diesel)              | 0             | 316    | 327     | 300        | 105    | 109  | 3.4     |
| TRPH<br>(oil and grease) | <br>  N/A<br> | N/A    | N/A     | N/A        | N/A    | N/A  | N/A     |

% Rec. = (MS - Sample) / amount spiked x 100

Date: 12/10/98

Matrix: SOIL

|                           | Concent  | ration | (mg/kg) | ]        | % Reco | very        |      |
|---------------------------|----------|--------|---------|----------|--------|-------------|------|
| Analyte                   | Sample   |        |         | Amount   |        |             | RPD  |
|                           | (#97134) | MS     | MSD     | Spiked   | MS     | MSD         |      |
|                           | <u></u>  |        |         | l        |        | <del></del> |      |
| TPH (gas)                 | 0.000    | 1.873  | 2.177   | 2.03     | 92     | 107         | 15.0 |
| Benzene                   | 0.000    | 0.170  | 0.182   | 0.2      | 85     | 91          | 6.8  |
| Toluene                   | 0.000    | 0.178  | 0.198   | 0.2      | 89     | 99          | 10.6 |
| Ethylbenzene              | 0.000    | 0.164  | 0.190   | 0.2      | 82     | 95          | 14.7 |
| Xylenes                   | 0.000    | 0.490  | 0.588   | 0.6      | 82<br> | 98          | 18.2 |
| TPH(diesel)               | 0        | 315    | 315     | 300      | 105    | 105         | 0.1  |
|                           | <u></u>  |        |         |          |        |             |      |
| TRPH<br> (oil and grease) | 0.0      | 22.7   | 23.3    | 20.8<br> | 109    | 112         | 2.6  |

% Rec. \* (MS - Sample) / amount spiked x 100

#### QC REPORT FOR EPA 8010/8020/EDB .

Date:

12/10/98-12/11/98 Matrix:

SOIL

| -                          | Conce               | entrati  | on (ug/k | 3)               | % Reco | very |      |
|----------------------------|---------------------|----------|----------|------------------|--------|------|------|
| Analyte                    | Sample<br> (#97134) | MS       | MSD      | Amount<br>Spiked | MS     | MSD  | RPD  |
| 1 1 DOE                    | <br>  0             |          | 01       | <br> <br>  100   | 82     | 91   | 10.4 |
| 1,1-DCE<br>Trichloroethene | l 0                 | 82<br>81 | 91<br>82 | 100              | 81     | 82   | 1.2  |
| EDB                        | N/A                 | N/A      | N/A      | N/A              | N/A    | N/A  | N/A  |
| Chlorobenzene              | j o                 | 88       | 89       | 100              | 88     | 89   | 1.1  |
| Benzene                    | <br>  N/A           | N/A      | N/A      | <br>  N/A        | N/A    | N/A  | N/A  |
| Toluene                    | N/A                 | N/A      | N/A      | N/A              | N/A    | N/A  | N/A  |
| Chlorobz (PID)             | N/A                 | N/A      | N/A      | N/A              | N/A    | N/A  | N/A  |
|                            | l                   |          |          | l                |        |      |      |

% Rec. = (MS - Sample) / amount spiked x 100

110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 925-798-1620 Fax: 925-798-1622

### QC REPORT FOR ICP and/or,AA METALS

Date:

12/10/98-12/11/98

Matrix: SOIL

Extraction:

TTLC

|                | Concent:   | ration   |      |            | % Reco | very |     |
|----------------|------------|----------|------|------------|--------|------|-----|
| Analyte        | (mg        | g/kg,mg/ | L)   | Amount     |        |      | RPD |
|                | Sample<br> | MS       | MSD  | Spiked<br> | MS     | MSD  |     |
| Total Lead     | 0.0        | 4.92     | 4.95 | 5.0        | 98     | 99   | 0.6 |
| Total Cadmium  | N/A        | N/A      | N/A  | N/A        | N/A    | N/A  | N/A |
| Total Chromium | N/A        | N/A      | N/A  | N/A        | N/A    | N/A  | N/A |
| Total Nickel   | N/A        | N/A      | N/A  | N/A        | N/A    | N/A  | N/A |
| Total Zinc     | N/A        | N/A      | N/A  | N/A        | N/A    | N/A  | N/A |
| Total Copper   | N/A        | N/A      | N/A  | N/A        | N/A    | N/A  | N/A |
| STLC Lead      | N/A        | N/A      | N/A  | <br>  N/A  | N/A    | N/A  | N/A |

% Rec. = (MS - Sample) / amount spiked x 100

McCAMBELL ANALYTICAL INC. 110 2<sup>™</sup> AVENUE SOUTH, #D7 TURN AROUND TIME 425 PA Telephone: **(\$19)** 798-1620 PACHECO, CA 94553 Fax: (500) 798-1622 RUSH 24 HOUR 48 HOUR 54DAY Bill To: CAMBRIA Report To: J. Ri 661 Analysis Request Other Comments Company: Cambria Environmental Technology Torai Permieum Oil & Grease (5520 E&F/B&F) 1144 65 Street, Suite C Oakland, CA 94608 Total Petroleum Hydrocarbons (418.1) Tele: (510) 420-0700 Fax: (510) 420-9170 Project #: 130-0/05 Project Name: WORLNG TOW Project Location: 70 55, 35th EPA 608 / 8080 PCB's ONLY 1 OAKLAND Lead (7240/7421/239,2/6010) Sampler Signature: EPA 624 / 8240 / 8260 TPH as Diesel (8015) MATRIX SAMPLING PRESERVED EPA 601 / 8010 EPA 608 / 8080 # Containers SAMPLE ID LOCATION Shudge Other Fee HCI HNO, Time Date Water Soil 99817 MW-Z 12.8 2000 Mrs - 1 210 99818 mw-3 720 99819 730 Comp Received By:/ Relinquished By: Time: Date: Remarks: K. McD 4:30 VOAS | O&G | METALS | OTHER Relinquished Dy: Time: 940 PRESERVATION • **APPROPRIATE** Relinguished By: Time: Date:

13a60 x1380

# WELL DEPTH MEASUREMENTS

|    | Well ID | Time  | Product<br>Depth | Water Depth                           | Product<br>Thickness | Well Depth | Comments                              |
|----|---------|-------|------------------|---------------------------------------|----------------------|------------|---------------------------------------|
|    | MM-S    | 11:32 |                  | 14.8                                  |                      | 27.35      | ·                                     |
|    | mw-1    | 11:37 |                  | 15.62                                 |                      | 27.2       |                                       |
| .  | MM - 3  | 11:40 |                  | 11.2                                  |                      | 24.92      |                                       |
| _} | MW - 4  | 11:47 |                  | 13.45                                 |                      | 30.        |                                       |
| ĺ  |         |       |                  | , , , , , , , , , , , , , , , , , , , |                      |            |                                       |
|    |         |       |                  |                                       |                      |            |                                       |
|    |         | *     |                  |                                       |                      |            | · · · · · · · · · · · · · · · · · · · |
|    |         |       |                  |                                       |                      |            |                                       |
|    |         |       |                  |                                       |                      |            |                                       |
|    |         |       |                  |                                       |                      |            |                                       |
|    |         |       |                  |                                       |                      |            |                                       |
|    |         |       |                  |                                       |                      |            |                                       |
|    |         |       |                  |                                       |                      |            |                                       |
|    |         | -     |                  |                                       |                      |            |                                       |
| Ī  |         |       |                  |                                       |                      |            |                                       |

| Measured By   | K. N. Donald   | 1 |  |
|---------------|----------------|---|--|
| micasurea ny. | 1111 00. 4.010 | · |  |

| Date: | 12-8-98 |  |
|-------|---------|--|
| Date: | 12-8-98 |  |

| Project Name: Worthington                   | Cambria Mgr: RAS       | Well ID: Nw-               |  |  |
|---|------------------------|----------------------------|--|--|
| Project Number: 130-0105                    | Date: 12-8-98          | Well Yield:                |  |  |
| Site Address:                               | Sampling Method:       | Well Diameter: 2""pvc      |  |  |
| 3055 35 <sup>th</sup> Street<br>Oakland, CA | Disposable bailers     | Technician(s): K.M. M.     |  |  |
| Initial Depth to Water: 15.62               | Total Well Depth: 27.2 | Water Column Height: // 58 |  |  |
| Volume/ft: 0./6                             | 1 Casing Volume: 1,85  | Casing Volumes: 7          |  |  |
| Purging Device: BANER                       | Did Well Dewater?: 40  | Total Gallons Purged: 734/ |  |  |
| Start Purge Time: 12: 40                    | Stop Purge Time: 100   | Total Time: 18 M.N         |  |  |

| 1 Casing Volume = Water column height x Volume/ ft. | DO = | Mg/L | 2" | 0.16 | 4" | 0.65 | 6" | 1.47

| Time  | Casing<br>Volume | Temp.  | pН  | Cond. | Comments |
|-------|------------------|--|-----|-------|----------|
| 12:47 | 1.8              | 16.8   | 7.0 | 1152  |          |
| 17:48 |                  | 152  | 6.8 | 1198  |          |
| 12:54 |                  | 15.6   | 6.8 | 1/64  |          |
| 1:00  | <b>V</b>         | 15.2   | 6.8 | 17246 |          |
|       |                  |  | ·   |       |          |
|       |                  |  |     |       |          |
|       |                  | · <del> </del> · · · · · · · · · · · · · · · · · · · |     |       |          |
|       |                  |  |     |       |          |
| ·     |                  |  |     |       | -        |

| Sample ID | Date    | Time | Container<br>Type | Preservative | Analytes                 | Analytic Method |
|-----------|---------|------|-------------------|--------------|--------------------------|-----------------|
| Mw-1.     | 12-8-98 | 210  | ųVOA's            | HCL ,        | TPHg, BTEX, MTBE<br>TPHd | 8015/8020       |
|           |         |      |                   |              |                          |                 |
|           |         | -6 . |                   |              |                          |                 |
|           |         | J.   | Ilmb              |              |                          |                 |

| Project Name: Worthington                   | Cambria Mgr: RAS        | Well ID: Nw-Z               |
|---|-------------------------|-----------------------------|
| Project Number: 130-0105                    | Date: 12-8-18           | Well Yield:                 |
| Site Address:                               | Sampling Method:        | Well Diameter: Z "pvc       |
| 3055 35 <sup>th</sup> Street<br>Oakland, CA | Disposable bailers      | Technician(s): K. M. Dove L |
| Initial Depth to Water: 14.8                | Total Well Depth: 27.35 | Water Column Height: 12.5   |
| Volume/ft: 0.16                             | 1 Casing Volume: 20     | Casing Volumes: 8           |
| Purging Device:                             | Did Well Dewater?: 1/0  | Total Gallons Purged: 894/. |
| Start Purge Time: 12:15                     | Stop Purge Time: 12:40  | Total Time: 25 min          |

1 Casing Volume = Water column height x Volume/ft. DO = Mg/L 0.16 4" 0.65 6" 1.47

| Time  | Casing<br>Volume | Temp. | pН       | Cond. | Comments |
|-------|------------------|-------|----------|-------|----------|
| 12:15 | 2.0              | 17.3  | 7.7      | 1160  |          |
| 17:23 |                  | 16-1  | 7.3      | 876   |          |
| 17:38 |                  | 17.3  | 7-2      | 1213  |          |
| 12:37 | 1                | 16.2  | 7.1      | 1214  |          |
|       |                  |       | <u> </u> |       |          |
|       |                  |       |          |       |          |
|       |                  |       |          |       |          |
|       |                  |       |          |       |          |
|       | L                |       |          |       |          |

| Sample ID | Date . | Time | Container<br>Type | Preservative | Analytes                 | Analytic Method |
|-----------|--------|------|-------------------|--------------|--------------------------|-----------------|
| Mw-2      | 12-8   | 200  | NOA's             | HCL          | TPHg, BTEX, MTBE<br>TPHd | 8015/8020       |
|           |        |      |                   |              |                          |                 |
|           |        |      |                   | 1            |                          |                 |
|           |        | 1    | Ilano             | •            | <u></u>                  |                 |

| Project Name: Worthington                   | Cambria Mgr: RAS        | Well ID: MW-13                                  |  |
|---|-------------------------|---|--|
| Project Number: 130-0105                    | Date: 12-8-98           | Well Yield:                                     |  |
| Site Address:                               | Sampling Method:        | Well Diameter: 7" "pvc  Technician(s): K. M. J. |  |
| 3055 35 <sup>th</sup> Street<br>Oakland, CA | Disposable bailers      |   |  |
| Initial Depth to Water: 11. Z               | Total Well Depth: 24.97 | Water Column Height: ソス.72                      |  |
| Volume/ft: 0./6                             | 1 Casing Volume: 2.20   | Casing Volumes: 8                               |  |
| Purging Device: , Barley                    | Did Well Dewater?: 10   | Total Gallons Purged: 83AL.                     |  |
| Start Purge Time: /:05                      | Stop Purge Time: 1:20   | Total Time: /5min                               |  |

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

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

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2" 0.16
4" 0.65
6" 1.47

| Time | Casing<br>Volume | Temp. | рН  | Cond. | Comments                               |
|------|------------------|-------|-----|-------|--|
| 1:05 | 2.2              | 16.1  | 6.8 | 18 27 |  |
| 1:12 |                  | 17.6  | 6.8 | 1840  |  |
| 1:18 |                  | 16.6  | 6.8 | 1850  | ······································ |
| 1:20 | 4                | 17.8  | 6.8 | 1801  |  |
|      |                  |       |     |       |  |
|      |                  |       |     |       |  |
|      |                  |       |     |       |  |
|      |                  |       |     |       |  |
|      |                  |       |     |       |  |

| Sample ID | Date | Time | Container<br>Type | Preservative | Analytes                 | Analytic Method |
|-----------|------|------|-------------------|--------------|--------------------------|-----------------|
| Mw-3      | 12-8 | 220  | VOA's             | HCL          | TPHg, BTEX, MTBE<br>TPHd | 8015/8020       |
|           |      |      |                   |              |                          |                 |
| <u> </u>  |      |      |                   | *¿           |                          |                 |

| Project Name: Worthington                   | Cambria Mgr: RAS      | Well ID: Mwi 4                               |  |
|---|-----------------------|--|--|
| Project Number: 130-0105                    | Date: 12-8-98 ·       | Well Yield:                                  |  |
| Site Address:                               | Sampling Method:      | Well Diameter: ""pvc  Technician(s): K.M.D.( |  |
| 3055 35 <sup>th</sup> Street<br>Oakland, CA | Disposable bailers    |  |  |
| Initial Depth to Water: 13.45               | Total Well Depth: 30  | Water Column Height: 16.60                   |  |
| Volume/ft: 0./6                             | 1 Casing Volume: 2.66 | Casing Volumes: /0                           |  |
| Purging Device: BAL/EL)                     | Did Well Dewater?: No | Total Gallons Purged: 10 54/                 |  |
| Start Purge Time: 1:25                      | Stop Purge Time: /:50 | Total Time: Zomw                             |  |

Well Diam. Volume/ft (gallons) Mg/L DO = 1 Casing Volume = Water column height x Volume/ ft. 0.16

0.65 1.47

| Time    | Casing<br>Volume | Temp. | pН  | Cond. | Comments |
|---------|------------------|-------|-----|-------|----------|
| 1:25    | 2-6              | 15.9  | 6.7 | 1118  |          |
| 1:32    |                  | 16.41 | 6.7 | 1146  |          |
| 1:40    |                  | 13.8  | 6.8 | 1147  |          |
| 1:45    |                  | 15.8  | 6.8 | 1098  |          |
|         |                  |       |     | ·     |          |
|         |                  |       |     |       |          |
|         |                  |       |     |       |          |
|         |                  |       |     |       |          |
| <u></u> |                  |       |     |       |          |

| Sample ID | Date | Time | Container<br>Type | Preservative | Analytes                 | Analytic Method |
|-----------|------|------|-------------------|--------------|--------------------------|-----------------|
| mw-14     | 12-8 | 230  | ηVOA's            | HCL          | TPHg, BTEX, MTBE<br>TPHd | 8015/8020       |
| 7.        |      |      |                   |              |                          |                 |
|           |      |      |                   |              |                          |                 |
|           | •    |      | land              |              |                          |                 |