

CAMBRIA

August 4, 2000

Barney Chan
Alameda Health Care Services Agency
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

• Shell's Audit Study 3/9/00

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RECEIVED
TECHNICAL

Re: **Second Quarter 2000 Monitoring And Remediation System Performance Report**
ARCO Service Station No. 2035
1001 San Pablo Avenue
Albany, California
Cambria Project #436-1608

#3858

Dear Mr. Chan:



On behalf of ARCO, Cambria Environmental Technology, Inc. (Cambria) is submitting the attached report which presents the results of the second quarter 2000 groundwater monitoring program at ARCO Service Station No. 2035, located at 1001 San Pablo Avenue, Albany, California. Operation and performance data for the site's soil-vapor extraction system (SVE) and groundwater remediation system are also presented. The monitoring program complies with the Alameda County Health Care Services Agency (ACHCSA) requirements regarding underground tank investigations.

Please call if you have questions.

Sincerely,
Cambria Environmental Technology, Inc.

Darryk Ataide, REA
Senior Project Manager

Attachment: Quarterly Groundwater Monitoring Report, Second Quarter 2000
SVE Quarterly Operation and Performance, Second Quarter 2000

cc: Paul Supple, ARCO
James A. Lestrangle, Property Owner
Muriel & Emile Turpin, Trustees

Oakland, CA
San Ramon, CA
Sonoma, CA
Portland, OR

Cambria Environmental Technology, Inc.

1144 65th Street
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Oakland, CA 94608
Tel (510) 420-0700
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Q
ARCOS policy
if SW seen exposed
no purge, if
submerged purged.
other purge
8760 on impactal
OK 2
OK 3
Who's monitoring well 1 (SVE)?
next to Arco prop?
D.A. says Arco should
Restart SVE & Air Sparging
system, does this include
stop then RW-13. will get
back to me..

C A M B R I A

Quarterly Groundwater Monitoring Report

Second Quarter 2000

**ARCO Service Station No. 2035
1001 San Pablo Avenue
Albany, California
Cambria Project #436-1608**



Prepared For:

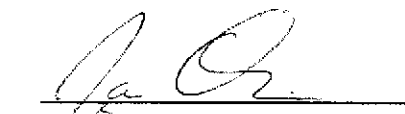
Mr. Paul Supple
ARCO

August 4, 2000


Prepared By:

Cambria Environmental Technology, Inc.
1144 65th St Suite B
Oakland, California 94608

Written by:



Jason D. Olson
Staff Environmental Scientist



Ron Scheele, RG
Senior Project Manager

Date: August 4, 2000
 Quarter: 2nd Quarter, 2000

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Station No.: 2035 Address: 1001 San Pablo Avenue, Albany, California
 ARCO Environmental Engineer Paul Supple
 Consulting Co./Contact Person: Cambria Environmental Technology, Inc./Darryk Ataide
 Consultant Project No.: 436-1608
 Primary Agency/Regulatory ID No.: ACHCSA

WORK PERFORMED THIS QUARTER (SECOND - 2000):

1. Performed groundwater monitoring and sampling for second quarter 2000.
2. Restarted Air Sparge bubbler system (RW-1).

WORK PROPOSED FOR NEXT QUARTER (THIRD - 2000):

1. Prepare and submit groundwater monitoring report for second quarter 2000.
2. Restart SVE and operate through third quarter.
3. Operate Air Sparge bubbler system through third quarter. - RW-1 + other wells? ^{AS}

MONITORING:

| | |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Current Phase of Project: | Groundwater Monitoring and Operation and Maintenance of Remediation Systems SVE and Enhanced Bioremediation |
| Frequency of Sampling: | Annual (2nd quarter): MW-5 Semi-annual (2nd/4 th quarter): MW-1 through MW-4, MW-6, RW-1 |
| Frequency of Monitoring: | Semi-Annual (groundwater), Monthly (SVE) |
| Is Free Product (FP) Present On-Site: | No |
| Cumulative FP Recovered to Date | 27.9 gallons, Wells AS-1, AS-2, RW-1, VW-1, VW-2, and VW-7 |
| FP Recovered This Quarter : | None |
| Bulk Soil Removed to Date : | 605 cubic yards of TPH impacted soil |
| Water Wells or Surface Waters, Within 2000 ft., impacted by site: | None |
| Current Remediation Techniques: | SVE, and Air Bubbling in RW-1 |
| Average Depth to Groundwater: | 10.32 feet |
| Groundwater Flow Direction and Gradient (Average): | 0.023 ft/ft toward West |

SVE - from new tank pit only.
 Air sparge RW-1 + others(?).

Date: August 4, 2000
 Quarter: 2nd Quarter, 2000

SVE QUARTERLY OPERATION AND PERFORMANCE

| | |
|--------------------------------------------|-------------------------------------------------------------------|
| Equipment Inventory: | Therm Tech Model VAC-10 Thermal/Catalytic Oxidizer |
| Operating Mode: | Catalytic Oxidation |
| BAAQMD Permit #: | 10931 |
| TPH Conc. End of Period (lab): | 54 ppmv (3/1/00) |
| Benzene Conc. End of Period (lab): | 1.3 ppmv (3/1/00) |
| SVE Flowrate End of Period: | Not Available |
| Total HC Recovered This Period: | 0 pounds |
| Total HC Recovered to Date: | 3,761 pounds |
| Utility Usage | |
| Electric (kWh): | Not available |
| Gas (Therms): | Not available |
| Operating Hours This Period (SVE): | 0 hours |
| Operating Hours to Date (SVE): | 11557.23 hours |
| Percent Operational (SVE): | 0% |
| Operating Hours This Period (GWE): | 0.0 hours |
| Percent Operational (GWE): | 0.0% |
| Unit Maintenance: | Routine monthly maintenance |
| Number of Auto Shut Downs: | 0 |
| Destruction Efficiency Permit Requirement: | 98.5% (POC >2,000 ppmv); 97% (POC >200 ppmv); 90% (POC <200 ppmv) |
| Percent TPH Conversion: | Not Available |
| Average Stack Temperature: | Not Available |
| Average SVE Source Flow: | Not Available |
| Average SVE Process Flow: | Not Available |
| Average Source Vacuum: | Not Available |

DISCUSSION:

- SVE data not available due to system shut down. System will be restarted during third quarter 2000.

ATTACHMENTS:

- Table 1 - Groundwater Monitoring Data
- Table 2 - Groundwater Flow Direction and Gradient
- Table 3 - Operational Uptime Information for the SVE System
- Table 4 - Flow Rates and Analytical Results of Air Samples
- Table 5 - Extraction Rates, Emission Rates, Destruction Efficiency, and Mass Removed
- Figure 1 - Groundwater Analytical Summary and Elevation Contour Map
- Appendix A - Sampling and Analysis Procedures
- Appendix B - Certified Analytical Reports and Chain-of-Custody Documentation
- Appendix C - Field Data Sheets

**Table 1
Groundwater Monitoring Data**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Well Number | Date Gauged | TOC | Depth | FP | Groundwater | Date Sampled | TPH | | | Ethyl- | Total | MTBE | MTBE | Dissolved | | Purged/ |
|--------------|-----------------|--------------------|-----------------|------------------|------------------------|-----------------|------------------------------------------------------------------------------|----------------|-----------------|----------------|-----------------|-----------------|------------------|-------------|---------------|-------------------|
| | | Elevation (ft-MSL) | to Water (feet) | Thickness (feet) | Elevation [1] (ft-MSL) | | Gasoline (µg/L) | Benzene (µg/L) | Toluene (µg/L) | benzene (µg/L) | Xylenes (µg/L) | 8021B* (µg/L) | 8240/8260 (µg/L) | TRPH (µg/L) | Oxygen (mg/L) | Not Purged (P/NP) |
| MW-1 | 03-24-95 | 41.41 | 6.21 | ND | 35.20 | 03-24-95 | 8,800 | 3,600 | <50 | 62 | 99 | -- | -- | -- | | |
| MW-1 | 05-24-95 | 41.41 | 9.37 | ND | 32.04 | 05-24-95 | 4,800 | 2,000 | <20 | 52 | <20 | -- | -- | -- | | |
| MW-1 | 08-22-95 | 41.41 | 10.30 | ND | 31.11 | 08-22-95 | 780 | 310 | <2.5 | 12 | <2.5 | 14 | -- | -- | | |
| MW-1 | 11-09-95 | 41.41 | 12.25 | ND | 29.16 | 11-09-95 | 58 | 14 | <0.5 | <0.5 | <0.5 | -- | -- | -- | | |
| MW-1 | 02-27-96 | 41.41 | 9.08 | ND | 32.33 | 02-27-96 | 2,700 | 930 | 12 | 18 | 32 | 51 | -- | -- | | |
| MW-1 | 04-22-96 | 41.41 | 9.11 | ND | 32.30 | 04-22-96 | 2,700 | 1,000 | <10 | 22 | <10 | <60 | -- | -- | | |
| MW-1 | 08-15-96 | 41.41 | 10.37 | ND | 31.04 | 08-15-96 | 300 | 52 | <0.5 | 0.9 | <0.5 | 22 | -- | -- | | |
| MW-1 | 12-10-96 | 41.41 | 8.79 | ND | 32.62 | 12-10-96 | 270 | 63 | 0.7 | <0.5 | 1 | 25 | -- | -- | | |
| MW-1 | 03-27-97 | 41.41 | 9.80 | ND | 31.61 | 03-27-97 | 1,500 | 610 | <5 | 15 | 7 | 56 | -- | -- | | |
| MW-1 | 05-22-97 | 41.41 | 9.65 | ND | 31.76 | 05-22-97 | 110 | 6 | <0.5 | <0.5 | 0.7 | 10 | -- | -- | | |
| MW-1 | 09-04-97 | 41.41 | 10.22 | ND | 31.19 | 09-04-97 | 180 | 40 | <0.5 | 1.2 | 0.5 | 26 | -- | -- | | |
| MW-1 | 11-03-97 | 41.41 | 10.68 | ND | 30.73 | 11-03-97 | 83 | 8 | <0.5 | <0.5 | <0.5 | 13 | -- | -- | | |
| MW-1 | 02-20-98 | 41.41 | 6.92 | ND | 34.49 | 02-20-98 | 1,800 | 540 | 7 | 27 | 31 | 46 | -- | -- | | |
| MW-1 | 05-18-98 | 41.41 | 9.28 | ND | 32.13 | 05-18-98 | 4,500 | 1,300 | 20 | 57 | 20 | <60 | -- | -- | | |
| MW-1 | 08-20-98 | 41.41 | 10.05 | ND | 31.36 | 08-21-98 | 530 | 110 | <5 | <5 | <5 | 400 | -- | -- | | |
| MW-1 | 10-20-98 | 41.41 | 10.42 | ND | 30.99 | 10-20-98 | 66 | 9.1 | <0.5 | <0.5 | <0.5 | 8 | -- | -- | | |
| MW-1 | 02-16-99 | 41.41 | 8.10 | ND | 33.31 | 02-16-99 | 1,200 | 390 | <5 | <5 | 6 | 45 | -- | -- | | |
| MW-1 | 05-24-99 | 41.41 | 9.53 | ND | 31.88 | 05-24-99 | 1,300 | 600 | 3 | 13 | 3 | 26 | -- | -- | | |
| MW-1 | 08-24-99 | 41.41 | 10.03 | ND | 31.38 | 08-24-99 | 100 | 21 | 1.3 | <0.5 | <0.5 | 8 | -- | -- | 0.55 | P |
| MW-1 | 11-16-99 | 41.41 | 9.80 | ND | 31.61 | 11-16-99 | 99 | 10 | 0.6 | <0.5 | <1 | 7 | -- | -- | 2.1 | P |
| MW-1 | 02-01-00 | 41.41 | 8.82 | ND | 32.59 | 02-02-00 | 400 | 93 | 1.6 | 3.6 | 3.7 | 19 | -- | -- | 1.0 | P |
| DUP 1 | 06-21-00 | -- | -- | -- | -- | 06-21-00 | 416 | 88.4 | <2.50 | 4.61 | 1.56 | <5.00 | -- | -- | -- | -- |
| MW-1 | 06-21-00 | 41.41 | 9.60 | ND | 31.81 | 06-21-00 | 444 | 100 | <2.50 | 4.15 | <2.50 | 15.9 | -- | -- | 1.7 | P |
| MW-2 | 03-24-95 | 40.38 | 6.96 | ND | 33.42 | 03-24-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | | |
| MW-2 | 05-24-95 | 40.38 | 10.02 | ND | 30.36 | 05-24-95 | Not sampled: well sampled semi-annually, during the first and third quarters | | | | | | | | | |
| MW-2 | 08-22-95 | 40.38 | 10.87 | ND | 29.51 | 08-22-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-2 | 11-09-95 | 40.38 | 13.12 | ND | 27.26 | 11-09-95 | Not sampled: well sampled semi-annually, during the first and third quarters | | | | | | | | | |
| MW-2 | 02-27-96 | 40.38 | 10.25 | ND | 30.13 | 02-27-96 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-2 | 04-22-96 | 40.38 | 9.98 | ND | 30.40 | 04-22-96 | Not sampled: well sampled semi-annually, during the first and third quarters | | | | | | | | | |

**Table 1
Groundwater Monitoring Data**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Well Number | Date Gauged | TOC Elevation (ft-MSL) | Depth to Water (feet) | FP Thickness (feet) | Groundwater Elevation [1] (ft-MSL) | Date Sampled | TPH | | | | Total Xylenes (µg/L) | MTBE 8021B* (µg/L) | MTBE 8240/8260 (µg/L) | TRPH (µg/L) | Dissolved Oxygen (mg/L) | Purged/ Not Purged (P/NP) |
|-------------|-----------------|------------------------|-----------------------|---------------------|------------------------------------|-----------------|------------------------------------------------------------------------------|------------------|------------------|----------------------|----------------------|--------------------|-----------------------|-------------|-------------------------|---------------------------|
| | | | | | | | Gasoline (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | | | | | | |
| MW-2 | 08-15-96 | 40.38 | 11.10 | ND | 29.28 | 08-15-96 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 4 | -- | -- | | |
| MW-2 | 12-10-96 | 40.38 | 10.00 | ND | 30.38 | 12-10-96 | Not sampled: well sampled semi-annually, during the first and third quarters | | | | | | | | | |
| MW-2 | 03-27-97 | 40.38 | 10.38 | ND | 30.00 | 03-27-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 12 | -- | -- | | |
| MW-2 | 05-22-97 | 40.38 | 10.65 | ND | 29.73 | 05-22-97 | Not sampled: well sampled semi-annually, during the first and third quarters | | | | | | | | | |
| MW-2 | 09-04-97 | 40.38 | 10.87 | ND | 29.51 | 09-04-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 19 | -- | -- | | |
| MW-2 | 11-03-97 | 40.38 | 11.25 | ND | 29.13 | 11-03-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 18 | -- | -- | | |
| MW-2 | 02-20-98 | 40.38 | 7.69 | ND | 32.69 | 02-20-98 | <50 | 0.5 | <0.5 | <0.5 | <0.5 | 12 | -- | -- | | |
| MW-2 | 05-18-98 | 40.38 | 9.88 | ND | 30.50 | 05-18-98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | -- | -- | | |
| MW-2 | 08-20-98 | 40.38 | 10.62 | ND | 29.76 | 08-21-98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 3 | -- | -- | | |
| MW-2 | 10-20-98 | 40.38 | 11.00 | ND | 29.38 | 10-20-98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 31 | -- | -- | | |
| MW-2 | 02-16-99 | 40.38 | 9.04 | ND | 31.34 | 02-16-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 13 | -- | -- | | |
| MW-2 | 05-24-99 | 40.38 | 9.90 | ND | 30.48 | 05-24-99 | <50 | 0.6 | <0.5 | <0.5 | <0.5 | 47 | -- | -- | | |
| MW-2 | 08-24-99 | 40.38 | 10.60 | ND | 29.78 | 08-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 20 | -- | -- | 0.88 | P |
| MW-2 | 11-16-99 | 40.38 | 10.45 | ND | 29.93 | 11-16-99 | <50 | <0.5 | <0.5 | <0.5 | <1 | <3 | -- | -- | 2.5 | P |
| MW-2 | 02-01-00 | 40.38 | 9.49 | ND | 30.89 | 02-02-00 | <50 | <0.5 | <0.5 | <0.5 | <1 | 59 | -- | -- | 1.0 | P |
| MW-2 | 06-21-00 | 40.38 | 10.30 | ND | 30.08 | 06-21-00 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | 4.17 | -- | -- | 1.5 | P |
| | | | | | | | | | | | | | | | | |
| MW-3 | 03-24-95 | 41.44 | 7.29 | ND | 34.15 | 03-24-95 | 51 | 0.8 | <0.5 | 2.4 | <0.5 | -- | -- | <500 | | |
| MW-3 | 05-24-95 | 41.44 | 9.53 | ND | 31.91 | 05-24-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | <500 | | |
| MW-3 | 08-22-95 | 41.44 | 11.19 | ND | 30.25 | 08-22-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 79 | -- | <500 | | |
| MW-3 | 11-09-95 | 41.44 | 12.77 | ND | 28.67 | 11-09-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | 600 | | |
| MW-3 | 02-27-96 | 41.44 | 9.41 | ND | 32.03 | 02-27-96 | 120 | 3.6 | <0.5 | 2.2 | 3.7 | 90 | -- | <0.5 | | |
| MW-3 | 04-22-96 | 41.44 | 9.63 | ND | 31.81 | 04-22-96 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 90 | -- | -- | | |
| MW-3 | 08-15-96 | 41.44 | 11.12 | ND | 30.32 | 08-15-96 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 54 | -- | -- | | |
| MW-3 | 12-10-96 | 41.44 | 10.34 | ND | 31.10 | 12-10-96 | 71 | <0.5 | <0.5 | <0.5 | <0.5 | 130 | -- | -- | | |
| MW-3 | 03-27-97 | 41.44 | 10.28 | ND | 31.16 | 03-27-97 | <100 | <1 | <1 | <1 | <1 | 170 | -- | -- | | |
| MW-3 | 05-22-97 | 41.44 | 10.40 | ND | 31.04 | 05-22-97 | <100 | <1 | <1 | <1 | <1 | 95 | -- | -- | | |
| MW-3 | 09-04-97 | 41.44 | 10.75 | ND | 30.69 | 09-04-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 37 | -- | -- | | |
| MW-3 | 11-03-97 | 41.44 | 11.44 | ND | 30.00 | 11-03-97 | <200 | <2 | <2 | <2 | <2 | 130 | -- | -- | | |
| MW-3 | 02-20-98 | 41.44 | 7.48 | ND | 33.96 | 02-20-98 | <200 | <2 | 5 | <2 | 8 | 140 | -- | <0.5 | | |

**Table 1
Groundwater Monitoring Data**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Well Number | Date Gauged | TOC | Depth | FP | Groundwater | Date Sampled | TPH | | | Ethyl- | Total | MTBE | MTBE | Dissolved Oxygen | Purged/ Not Purged (P/NP) | |
|-------------|-------------|--------------------|-----------------|------------------|------------------------|--------------|--------------------------------------------------------------|----------------|----------------|----------------|----------------|---------------|------------------|------------------|---------------------------|-------------|
| | | Elevation (ft-MSL) | to Water (feet) | Thickness (feet) | Elevation [1] (ft-MSL) | | Gasoline (µg/L) | Benzene (µg/L) | Toluene (µg/L) | benzene (µg/L) | Xylenes (µg/L) | 8021B* (µg/L) | 8240/8260 (µg/L) | | | TRPH (µg/L) |
| MW-3 | 05-18-98 | 41.44 | 9.87 | ND | 31.57 | 05-18-98 | <100 | <1 | <1 | <1 | <1 | 150 | -- | <0.5 | | |
| MW-3 | 08-20-98 | 41.44 | 10.72 | ND | 30.72 | 08-21-98 | <200 | <2 | <2 | <2 | <2 | 210 | -- | <0.5 | | |
| MW-3 | 10-20-98 | 41.44 | 11.30 | ND | 30.14 | 10-20-98 | <200 | <2 | <2 | <2 | <2 | 270 | -- | <0.5 | | |
| MW-3 | 02-16-99 | 41.44 | 8.60 | ND | 32.84 | 02-16-99 | <500 | <5 | <5 | <5 | <5 | 700 | -- | -- | | |
| MW-3 | 05-24-99 | 41.44 | 9.87 | ND | 31.57 | 05-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 150 | 140 | -- | | |
| MW-3 | 08-24-99 | 41.44 | 10.83 | ND | 30.61 | 08-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 54 | 71 | -- | 0.41 P | |
| MW-3 | 11-16-99 | 41.44 | 10.54 | ND | 30.90 | 11-16-99 | 100 | <0.5 | 3.3 | <0.5 | <1 | 500 | -- | -- | 6.2 P | |
| MW-3 | 02-01-00 | 41.44 | 5.69 | ND | 35.75 | 02-02-00 | 18,000 | 1,000 | 45 | 1,500 | 940 | 100 | -- | -- | 2.12 P | |
| MW-3 | 06-21-00 | 41.44 | 9.99 | ND | 31.45 | 06-21-00 | 90.9 | 1.52 | <0.500 | <0.500 | <0.500 | 187 | -- | -- | 2.6 P | |
| MW-4 | 03-24-95 | 40.33 | 5.92 | ND | 34.41 | 03-24-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | | |
| MW-4 | 05-24-95 | 40.33 | 9.23 | ND | 31.10 | 05-24-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | | |
| MW-4 | 08-22-95 | 40.33 | 10.61 | ND | 29.72 | 08-22-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 99 | -- | -- | | |
| MW-4 | 11-09-95 | 40.33 | 11.97 | ND | 28.36 | 11-09-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | 89 | -- | | |
| MW-4 | 02-27-96 | 40.33 | 8.84 | ND | 31.49 | 02-27-96 | <50 | 0.8 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-4 | 04-22-96 | 40.33 | 9.15 | ND | 31.18 | 04-22-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-4 | 08-15-96 | 40.33 | 10.35 | ND | 29.98 | 08-15-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-4 | 12-10-96 | 40.33 | 8.70 | ND | 31.63 | 12-10-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-4 | 03-27-97 | 40.33 | 9.75 | ND | 30.58 | 03-27-97 | <5,000 | <50 | <50 | <50 | <50 | 4,200 | -- | -- | | |
| MW-4 | 05-22-97 | 40.33 | 9.91 | ND | 30.42 | 05-22-97 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-4 | 09-04-97 | 40.33 | 10.25 | ND | 30.08 | 09-04-97 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-4 | 11-03-97 | 40.33 | 10.79 | ND | 29.54 | 11-03-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-4 | 02-20-98 | 40.33 | 6.78 | ND | 33.55 | 02-20-98 | <2,000 | <20 | <20 | <20 | <20 | 3,300 | -- | -- | | |
| MW-4 | 05-18-98 | 40.33 | 9.26 | ND | 31.07 | 05-18-98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-4 | 08-20-98 | 40.33 | 10.10 | ND | 30.23 | 08-21-98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 9 | -- | -- | | |
| MW-4 | 10-20-98 | 40.33 | 10.43 | ND | 29.90 | 10-20-98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 17 | -- | -- | | |
| MW-4 | 02-16-99 | 40.33 | 8.56 | ND | 31.77 | 02-16-99 | <500 | <5 | <5 | <5 | <5 | 400 | -- | -- | | |
| MW-4 | 05-24-99 | 40.33 | 9.52 | ND | 30.81 | 05-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 10 | 7.6 | -- | | |
| MW-4 | 08-24-99 | 40.33 | 9.99 | ND | 30.34 | 08-24-99 | <2,500 | <25 | <25 | <25 | <25 | 1,200 | 1,300 | -- | 0.84 NP | |
| MW-4 | 11-16-99 | 40.33 | 9.80 | ND | 30.53 | 11-16-99 | <50 | <0.5 | <0.5 | <0.5 | <1 | <3 | -- | -- | 0.0 NP | |

**Table 1
Groundwater Monitoring Data**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Well Number | Date Gauged | TOC | Depth | FP | Groundwater | Date Sampled | TPH | | | Ethyl- | Total | MTBE | MTBE | Dissolved | | Purged/ |
|-------------|-----------------|--------------------|-----------------|------------------|------------------------|-----------------|---------------------------------------------------------------|------------------|------------------|------------------|------------------|-----------------|------------------|-------------|---------------|-------------------|
| | | Elevation (ft-MSL) | to Water (feet) | Thickness (feet) | Elevation [1] (ft-MSL) | | Gasoline (µg/L) | Benzene (µg/L) | Toluene (µg/L) | benzene (µg/L) | Xylenes (µg/L) | 8021B* (µg/L) | 8240/8260 (µg/L) | TRPH (µg/L) | Oxygen (mg/L) | Not Purged (P/NP) |
| MW-4 | 02-01-00 | 40.33 | 9.11 | ND | 31.22 | 02-02-00 | <50 | <0.5 | <0.5 | <0.5 | <1 | 1,200 | -- | -- | 1.0 | NP |
| MW-4 | 06-21-00 | 40.33 | 9.60 | ND | 30.73 | 06-21-00 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | 60.5 | -- | -- | 1.3 | NP |
| MW-5 | 03-24-95 | 41.84 | 6.23 | ND | 35.61 | 03-24-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | | |
| MW-5 | 05-24-95 | 41.84 | 9.61 | ND | 32.23 | 05-24-95 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 08-22-95 | 41.84 | 11.12 | ND | 30.72 | 08-22-95 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 11-09-95 | 41.84 | 12.52 | ND | 29.32 | 11-09-95 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 02-27-96 | 41.84 | 9.52 | ND | 32.32 | 02-27-96 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-5 | 04-22-96 | 41.84 | 9.44 | ND | 32.40 | 04-22-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 08-15-96 | 41.84 | 10.83 | ND | 31.01 | 08-15-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 12-10-96 | 41.84 | 9.20 | ND | 32.64 | 12-10-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 03-27-97 | 41.84 | 10.10 | ND | 31.74 | 03-27-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-5 | 05-22-97 | 41.84 | 10.28 | ND | 31.56 | 05-22-97 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 09-04-97 | 41.84 | 10.73 | ND | 31.11 | 09-04-97 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 11-03-97 | 41.84 | 11.23 | ND | 30.61 | 11-03-97 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 02-20-98 | 41.84 | 6.67 | ND | 35.17 | 02-20-98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-5 | 05-18-98 | 41.84 | 9.61 | ND | 32.23 | 05-18-98 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 08-20-98 | 41.84 | 10.58 | ND | 31.26 | 08-21-98 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 10-20-98 | 41.84 | 10.66 | ND | 31.18 | 10-20-98 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-5 | 02-16-99 | 41.84 | 8.35 | ND | 33.49 | 02-16-99 | Not sampled | | | | | | | | | |
| MW-5 | 05-24-99 | 41.84 | 9.95 | ND | 31.89 | 05-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-5 | 08-24-99 | 41.84 | 10.51 | ND | 31.33 | 08-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | 0.79 | NP |
| MW-5 | 11-16-99 | 41.84 | 10.37 | ND | 31.47 | 11-16-99 | Not sampled: well sampled annually, during the second quarter | | | | | | | | | |
| MW-5 | 02-01-00 | 41.84 | 9.35 | ND | 32.49 | 02-02-00 | <50 | <0.5 | <0.5 | <0.5 | <1 | <3 | -- | -- | 1.0 | NP |
| MW-5 | 06-21-00 | 41.84 | 10.03 | ND | 31.81 | 06-21-00 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | <2.50 | -- | -- | 3.1 | NP |
| MW-6 | 03-24-95 | 40.13 | 9.03 | ND | 31.10 | 03-24-95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | | |
| MW-6 | 05-24-95 | 40.13 | 12.45 | ND | 27.68 | 05-24-95 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-6 | 08-22-95 | 40.13 | 13.32 | ND | 26.81 | 08-22-95 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-6 | 11-09-95 | 40.13 | 14.13 | ND | 26.00 | 11-09-95 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |

**Table 1
Groundwater Monitoring Data**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Well Number | Date Gauged | TOC | Depth | FP | Groundwater | Date Sampled | TPH | | | | Total Xylenes (µg/L) | MTBE 8021B* (µg/L) | MTBE 8240/8260 (µg/L) | TRPH (µg/L) | Dissolved Oxygen (mg/L) | Purged/Not Purged (P/NP) |
|-------------|-----------------|--------------------|-----------------|------------------|------------------------|-----------------|--------------------------------------------------------------|------------------|------------------|----------------------|----------------------|--------------------|-----------------------|-------------|-------------------------|--------------------------|
| | | Elevation (ft-MSL) | to Water (feet) | Thickness (feet) | Elevation [1] (ft-MSL) | | Gasoline (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | | | | | | |
| MW-6 | 02-27-96 | 40.13 | 11.86 | ND | 28.27 | 02-27-96 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-6 | 04-22-96 | 40.13 | 12.35 | ND | 27.78 | 04-22-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-6 | 08-15-96 | 40.13 | 13.18 | ND | 26.95 | 08-15-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-6 | 12-10-96 | 40.13 | 11.94 | ND | 28.19 | 12-10-96 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-6 | 03-27-97 | 40.13 | 13.10 | ND | 27.03 | 03-27-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | -- | -- | | |
| MW-6 | 05-22-97 | 40.13 | 13.00 | ND | 27.13 | 05-22-97 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-6 | 09-04-97 | 40.13 | 13.30 | ND | 26.83 | 09-04-97 | Not sampled: well sampled annually, during the first quarter | | | | | | | | | |
| MW-6 | 11-03-97 | 40.13 | 13.42 | ND | 26.71 | 11-03-97 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 19 | -- | -- | | |
| MW-6 | 02-20-98 | 40.13 | 10.57 | ND | 29.56 | 02-20-98 | <100 | <1 | <1 | <1 | <1 | 95 | -- | -- | | |
| MW-6 | 05-18-98 | 40.13 | 12.64 | ND | 27.49 | 05-18-98 | <100 | <1 | <1 | <1 | <1 | 180 | -- | -- | | |
| MW-6 | 08-20-98 | 40.13 | 13.13 | ND | 27.00 | 08-21-98 | <100 | <1 | <1 | <1 | <1 | 180 | -- | -- | | |
| MW-6 | 10-20-98 | 40.13 | 13.48 | ND | 26.65 | 10-20-98 | <100 | <1 | <1 | <1 | <1 | 180 | -- | -- | | |
| MW-6 | 02-16-99 | 40.13 | 11.92 | ND | 28.21 | 02-16-99 | <200 | <2 | <2 | <2 | <2 | 200 | -- | -- | | |
| MW-6 | 05-24-99 | 40.13 | 12.80 | ND | 27.33 | 05-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 120 | -- | -- | | |
| MW-6 | 08-24-99 | 40.13 | 13.03 | ND | 27.10 | 08-24-99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 44 | -- | -- | 0.46 | NP |
| MW-6 | 11-16-99 | 40.13 | 12.70 | ND | 27.43 | 11-16-99 | <50 | <0.5 | <0.5 | <0.5 | <1 | 17 | 17 | -- | 0.0 | NP |
| MW-6 | 02-01-00 | 40.13 | 8.61 | ND | 31.52 | 02-02-00 | <50 | <0.5 | <0.5 | <0.5 | <1 | 6 | -- | -- | 1.0 | NP |
| MW-6 | 06-21-00 | 40.13 | 12.88 | ND | 27.25 | 06-21-00 | <50.0 | <0.500 | <0.500 | <0.500 | <0.500 | 2.57 | -- | -- | 2.8 | NP |
| RW-1 | 03-24-95 | 40.33 | 9.32 | 0.01 | 31.02 | 03-24-95 | 11,000 | 560 | 660 | 150 | 1,700 | -- | -- | -- | | |
| RW-1 | 05-24-95 | 40.33 | 9.75 | 0.03 | 30.60 | 05-24-95 | Not sampled: well contained floating product | | | | | | | | | |
| RW-1 | 08-22-95 | 40.33 | 10.86 | 0.02 | 29.48 | 08-22-95 | Not sampled: well contained floating product | | | | | | | | | |
| RW-1 | 11-09-95 | 40.33 | 20.61 | ND | 19.72 | 11-09-95 | 1,600 | 79 | 46 | 13 | 240 | -- | -- | -- | | |
| RW-1 | 02-27-96 | 40.33 | 16.56 | ND | 23.77 | 02-27-96 | 210 | 44 | 7.5 | 2.5 | 24 | 29 | -- | -- | | |
| RW-1 | 04-22-96 | 40.33 | 9.65 | ND | 30.68 | 04-22-96 | 36,000 | 7,400 | 3,700 | 580 | 3,400 | <300 | -- | -- | | |
| RW-1 | 08-15-96 | 40.33 | 10.60 | ND | 29.73 | 08-15-96 | 1,800 | 31 | 38 | 15 | 150 | <30 | -- | -- | | |
| RW-1 | 12-10-96 | 40.33 | 8.72 | ND | 31.61 | 12-10-96 | 25,000 | 1,900 | 1,000 | 330 | 3,200 | <100 | -- | -- | | |
| RW-1 | 03-27-97 | 40.33 | 10.33 | ND | 30.00 | 03-27-97 | 7,200 | 1,900 | 59 | 95 | 240 | 480 | -- | -- | | |
| RW-1 | 05-22-97 | 40.33 | 10.10 | ND | 30.23 | 05-22-97 | 3,000 | 630 | 84 | 45 | 340 | <60 | -- | -- | | |
| RW-1 | 09-04-97 | 40.33 | 10.42 | ND | 29.91 | 09-04-97 | 7,100 | 120 | 55 | 14 | 160 | <60 | -- | -- | | |

**Table 1
Groundwater Monitoring Data**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Well Number | Date Gauged | TOC | Depth | FP | Groundwater | Date Sampled | TPH | | | | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE 8021B* (µg/L) | MTBE 8240/8260 (µg/L) | TRPH (µg/L) | Dissolved Oxygen (mg/L) | Purged/Not Purged (P/NP) |
|-------------|-----------------|--------------------|-----------------|------------------|------------------------|-----------------|-----------------|----------------|-----------------|-------------|----------------------|----------------------|--------------------|-----------------------|-------------|-------------------------|--------------------------|
| | | Elevation (ft-MSL) | to Water (feet) | Thickness (feet) | Elevation [1] (ft-MSL) | | Gasoline (µg/L) | Benzene (µg/L) | Toluene (µg/L) | | | | | | | | |
| RW-1 | 11-03-97 | 40.33 | 9.10 | ND | 31.23 | 11-03-97 | <200 | 14 | 19 | 3 | 19 | 140 | -- | -- | | | |
| RW-1 | 02-20-98 | 40.33 | 7.49 | ND | 32.84 | 02-20-98 | 3,800 | 1,000 | 85 | 64 | 220 | 950 | -- | -- | | | |
| RW-1 | 05-18-98 | 40.33 | 8.90 | ND | 31.43 | 05-18-98 | <200 | 45 | <2 | 2 | 4 | 220 | -- | -- | | | |
| RW-1 | 08-20-98 | 40.33 | 11.06 | ND | 29.27 | 08-21-98 | 480 | 200 | <2 | <2 | 30 | 180 | -- | -- | | | |
| RW-1 | 10-20-98 | 40.33 | 11.12 | ND | 29.21 | 10-20-98 | 110 | 36 | 2.9 | <0.5 | 4.1 | 5 | -- | -- | | | |
| RW-1 | 02-16-99 | 40.33 | 7.70 | ND | 32.63 | 02-17-99 | 250 | 61 | 2 | 2 | 19 | 94 | -- | -- | | | |
| RW-1 | 05-24-99 | 40.33 | 11.12 | ND | 29.21 | 05-24-99 | 4,500 | 2,000 | 7 | <2 | 180 | 35 | -- | -- | | | |
| RW-1 | 08-24-99 | 40.33 | 10.15 | ND | 30.18 | 08-24-99 | 2,600 | 1,100 | 6.3 | 2.3 | 17 | 39 | -- | -- | 0.52 | NP | |
| RW-1 | 11-16-99 | 40.33 | 9.95 | ND | 30.38 | 11-16-99 | 1,200 | 2,600 | 16 | 86 | 41 | 140 | -- | -- | 1.4 | P | |
| RW-1 | 02-01-00 | 40.33 | 11.88 | ND | 28.45 | 02-02-00 | 11,000 | 980 | 230 | 200 | 1,400 | 38 | -- | -- | 1.0 | NP | |
| RW-1 | 06-21-00 | 40.33 | 9.83 | ND | 30.50 | 06-21-00 | 899 | 278 | <2.50 | 8.70 | 8.46 | 61.1 | -- | -- | 1.3 | NP | |

**Table 1
Groundwater Monitoring Data**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Well Number | Date Gauged | TOC Elevation (ft-MSL) | Depth to Water (feet) | FP Thickness (feet) | Groundwater Elevation [1] (ft-MSL) | Date Sampled | TPH Gasoline ($\mu\text{g/L}$) | Benzene ($\mu\text{g/L}$) | Toluene ($\mu\text{g/L}$) | Ethyl-benzene ($\mu\text{g/L}$) | Total Xylenes ($\mu\text{g/L}$) | MTBE 8021B* ($\mu\text{g/L}$) | MTBE 8240/8260 ($\mu\text{g/L}$) | TRPH ($\mu\text{g/L}$) | Dissolved Oxygen (mg/L) | Purged/Not Purged (P/NP) |
|-------------|-------------|------------------------|-----------------------|---------------------|------------------------------------|--------------|----------------------------------|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------|---------------------------------|------------------------------------|--------------------------|-------------------------|--------------------------|
|-------------|-------------|------------------------|-----------------------|---------------------|------------------------------------|--------------|----------------------------------|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------|---------------------------------|------------------------------------|--------------------------|-------------------------|--------------------------|

TOC: top of casing

ft-MSL: elevation in feet, relative to mean sea level

TPH: total petroleum hydrocarbons as gasoline, California DHS LUFT Method

BTEX: benzene, toluene, ethylbenzene, total xylenes by EPA method 8021B. (EPA method 8020 prior to 11/16/99).

MTBE: Methyl tert-butyl ether

TRPH: total recoverable petroleum hydrocarbons, by EPA method 418.1

$\mu\text{g/L}$: micrograms per liter

mg/L : milligrams per liter

ND: none detected

--: not analyzed or not applicable

<: denotes concentration not present at or above laboratory detection limit stated to the right.

[1] = Computed by adding correction factor to groundwater elevation. Correction factor = free product thickness times 0.73 (approximate specific gravity of gasoline).

*: EPA method 8020 prior to 11/16/99

** : For previous historical groundwater elevation and analytical data please refer to *Fourth Quarter 1995 Groundwater Monitoring Program Results and Remediation System Performance Evaluation Report, ARCO Service Station 2035, Albany, California*, (EMCON, March 25, 1996).

Table 2
Groundwater Flow Direction and Gradient

ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California

| Date Measured | Average Flow Direction | Average Hydraulic Gradient |
|------------------|---------------------------|-------------------------------|
| 03-24-95 | Northwest | 0.037 |
| 05-24-95 | West-Northwest | 0.013 |
| 08-22-95 | Southwest | 0.012 |
| 11-09-95 | West-Southwest | 0.01 |
| 02-27-96 | Southwest | 0.009 |
| 04-22-96 | West-Southwest | 0.014 |
| 08-15-96 | Southwest | 0.011 |
| 12-10-96 | West-Southwest | 0.023 |
| 03-27-97 | West-Southwest | 0.026 |
| 05-22-97 | West-Southwest | 0.024 |
| 09-04-97 | West | 0.019 |
| 11-03-97 | Southwest | 0.038 |
| 02-20-98 | West | 0.031 |
| 05-18-98 | West | 0.02 |
| 08-20-98 | West | 0.02 |
| 10-20-98 | West | 0.02 |
| 02-16-99 | West | 0.03 |
| 05-24-99 | West-Southwest | 0.03 |
| 08-24-99 | West-Southwest | 0.01 |
| 11-16-99 | West-Southwest | 0.02 |
| 02-01-00 | Northwest | 0.08 |
| 06-21-00 | West | 0.023 |

**Table 3
Operational Uptime Information for the
Soil Vapor Extraction System (1997 - present)**

**ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California**

| Date End | Hr-Meter Arrival | Operating Hours To Date | No. of Days Between Site Visits | | | Percent Uptime | Cumulative Days (begin 12/93) | |
|-------------|-------------------------------------------|----------------------------|---------------------------------|--------|-----------|-------------------|-------------------------------|--------------|
| | | | Total Days | Uptime | Days Down | | Total Days | Total Uptime |
| 11/01/97 | | 6873.20 | | | | | 1425 | 335 |
| 12/01/97 | 11484.46 | 7211.10 | 30 | 14 | 16 | 47% | 1455 | 349 |
| 01/27/98 | 11484.46 | 7211.10 | 57 | 0 | 57 | 0% | 1512 | 349 |
| 08/12/98 | 11484.46 | 7211.10 | 197 | 0 | 197 | 0% | 1709 | 349 |
| 09/02/98 | 11484.69 | 7211.33 | 21 | 0 | 21 | 0% | 1730 | 349 |
| 10/19/98 | 12279.71 | 8006.35 | 47 | 33 | 14 | 70% | 1777 | 382 |
| 11/10/98 | 12809.36 | 8536.00 | 22 | 22 | 0 | 100% | 1799 | 404 |
| 01/22/99 | 12809.36 | 8536.00 | 73 | 0 | 73 | 0% | 1872 | 404 |
| 02/11/99 | 12809.53 | 8536.17 | 20 | 0 | 20 | 0% | 1892 | 404 |
| 04/01/99 | 12809.64 | 8536.28 | 49 | 0 | 49 | 0% | 1941 | 404 |
| 06/10/99 | 12810.03 | 8536.67 | 70 | 0 | 70 | 0% | 2011 | 404 |
| 06/24/99 | 13146.19 | 8872.83 | 14 | 14 | 0 | 100% | 2025 | 418 |
| 08/17/99 | 13146.19 | 8872.83 | 54 | 0 | 54 | 0% | 2079 | 418 |
| 09/09/99 | 13146.76 | 8873.40 | 23 | 0 | 23 | 0% | 2102 | 418 |
| 09/21/99 | 13435.42 | 9162.06 | 12 | 12 | 0 | 100% | 2114 | 430 |
| 10/06/99 | 13450.28 | 9176.92 | 15 | 1 | 14 | 4% | 2129 | 431 |
| 10/20/99 | 13474.88 | 9201.52 | 14 | 1 | 13 | 7% | 2143 | 432 |
| 11/03/99 | 13811.70 | 9538.34 | 14 | 14 | 0 | 100% | 2157 | 446 |
| 11/17/99 | 14148.06 | 9874.70 | 14 | 14 | 0 | 100% | 2171 | 460 |
| 12/01/99 | 14391.11 | 10117.75 | 14 | 10 | 4 | 72% | 2185 | 470 |
| 12/16/99 | 14751.38 | 10478.02 | 15 | 15 | 0 | 100% | 2200 | 485 |
| 01/05/00 | 14751.41 | 10478.05 | 20 | 0 | 20 | 0% | 2220 | 485 |
| 01/19/00 | 15087.10 | 10813.74 | 14 | 14 | 0 | 100% | 2234 | 499 |
| 02/21/00 | 15087.15 | 10813.79 | 33 | 0 | 33 | 0% | 2267 | 499 |
| 03/01/00 | 15303.43 | 11030.07 | 9 | 9 | 0 | 100% | 2276 | 508 |
| 03/23/00 | 15830.59 | 11557.23 | 22 | 22 | 0 | 100% | 2298 | 530 |
| 4/00 | -----System Down. Readings not taken----- | | | | | | | |

Table 3
Operational Uptime Information for the
Soil Vapor Extraction System (1997 - present)

ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California

| Date | Hr-Meter | Operating Hours | | No. of Days Between Site Visits | | | Percent | Cumulative Days (begin 12/93) | |
|------|-------------------------------------------|-----------------|---------|---------------------------------|------------|--------|---------|-------------------------------|--------|
| | | End | Arrival | To Date | Total Days | Uptime | | Days Down | Uptime |
| 5/00 | -----System Down. Readings not taken----- | | | | | | | | |
| 6/00 | -----System Down. Readings not taken----- | | | | | | | | |

Table 4
Soil Vapor Extraction System
Flow Rates and Analytical Results of Air Samples (1997 - present)

Arco Service Station No. 2035
1001 San Pablo Avenue, Albany, California

| Date | Sample Location | Vacuum (in. H2O) | Velocity (fpm) | Flowrate ¹ (scfm) | Analyses (ppmv) | | | | | |
|-------------|-----------------|-------------------------------------------|----------------|------------------------------|-----------------|---------|---------|--------------|--------|------|
| | | | | | TPHG | Benzene | Toluene | Ethylbenzene | Xylene | MTBE |
| 12/01/97 | Influent | | | 221.4 | 160 | 0.6 | <0.1 | 1.6 | 2.5 | |
| | Effluent | | | | 8 | <0.1 | 0.1 | <0.1 | 0.3 | |
| 01/27/98 | Influent | NA | NA | NA | NA | NA | NA | NA | NA | |
| | Effluent | | | | | | | | | |
| 08/12/98 | Influent | NA | NA | NA | NA | NA | NA | NA | NA | |
| | Effluent | | | | | | | | | |
| 09/02/98 | Influent | 30 | 600 | 27 | 610 | <1 | <1 | 2 | 3 | |
| | Effluent | | 1050 | 92.4 | 9 | <0.1 | <0.1 | 0.1 | <0.2 | |
| 10/19/98 | Influent | 20 | 500 | 23 | 64 | <0.1 | 0.7 | <0.1 | <0.2 | |
| | Effluent | | 1200 | 106.5 | <5 | <0.1 | <0.1 | <0.1 | <0.2 | |
| 11/10/98 | Influent | 20 | 500 | 23 | 8 | <0.1 | 0.1 | <0.1 | <0.2 | |
| | Effluent | | 1200 | 106.5 | <5 | <0.1 | <0.1 | <0.1 | <0.2 | |
| 06/10/99 | Influent | 35 | 1500 | 67 | 100 | 0.5 | 3 | <0.1 | 0.9 | <1 |
| | Effluent | | 975 | 74.9 | <5 | <0.1 | <0.1 | <0.1 | <0.2 | <1 |
| 09/09/99 | Influent | 15.4 | 1900 | 90 | <49 | 0.7 | 1.1 | <0.1 | <0.2 | 33 |
| | Effluent | | 1200 | 92.1 | <5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.8 |
| 10/06/99 | Influent | 16 | 1825 | 86 | 240 | 1 | 2.9 | <0.1 | 0.7 | 67 |
| | Effluent | | 900 | 69.1 | 9 | <0.1 | 0.1 | 0.1 | <0.2 | <0.8 |
| 12/01/99 | Influent | 11 | 1900 | 91 | 210 | 0.7 | 0.8 | <0.2 | 0.2 | 61 |
| | Effluent | | 1500 | 115.2 | <5 | <0.1 | <0.1 | <0.1 | <0.2 | 1.4 |
| 01/05/00 | Influent | 9.8 | 800 | 38 | 90 | 0.4 | 0.7 | 0.1 | <0.2 | 33 |
| | Effluent | | 1450 | 111.3 | <5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.8 |
| 03/01/00 | Influent | 9.8 | 2000 | 96 | 54 | 1.3 | 4.8 | 1.1 | 7.2 | 19 |
| | Effluent | | 1500 | 115.2 | <5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.8 |
| 4/00 | Influent | -----System Down. Readings not taken----- | | | | | | | | |
| | Effluent | | | | | | | | | |
| 5/00 | Influent | -----System Down. Readings not taken----- | | | | | | | | |
| | Effluent | | | | | | | | | |

Table 4
Soil Vapor Extraction System
Flow Rates and Analytical Results of Air Samples (1997 - present)

Arco Service Station No. 2035
1001 San Pablo Avenue, Albany, California

| Date | Sample Location | Vacuum (in. H2O) | Velocity (fpm) | Flowrate ¹ (scfm) | Analyses (ppmv) | | | | |
|------|----------------------|-------------------------------------------|----------------|------------------------------|-----------------|---------|---------|--------------|--------|
| | | | | | TPHG | Benzene | Toluene | Ethylbenzene | Xylene |
| 6/00 | Influent Effluent | -----System Down. Readings not taken----- | | | | | | | |

¹ Influent Flow Rate, cfm = (Velocity, fpm)(Influent Pipe Area, sq. ft.)(406.8 in.H2O - Vacuum, in.H2O) / (406.8 in.H2O)

where Influent Pipe Diameter = 3"

Effluent Flow Rate, cfm = (Velocity, fpm)(Effluent Pipe Area, sq.ft.)/[(460° R + 77° F)/(460° R + Vapor Temp F)]

where Effluent (after blower) Pipe Diameter = 4"

Table 5
Soil Vapor Extraction System
Extraction Rates, Emission Rates, Destruction Efficiency, and Mass Removed
(1997 - present)

ARCO Service Station No. 2035
1001 San Pablo Avenue, Albany, California

| Date End | Extraction Rate from Wellfield ¹ | | Emission Rate to Atmosphere ² | | Destruction Efficiency ³ | | Period Removal ⁴ | | Cumulative Removal | |
|-------------|----------------------------------------------------|----------------------|------------------------------------------|----------------------|-------------------------------------|----------------|-----------------------------|------------------|--------------------|------------------|
| | TPHG (lbs/day) | Benzene (lbs/day) | TPHG (lbs/day) | Benzene (lbs/day) | TPHG (%) | Benzene (%) | TPHG (lbs) | Benzene (lbs) | TPHG (lbs) | Benzene (lbs) |
| 12/01/97 | 13.02 | 0.0381 | 0.6508 | <0.0064 | 95% | NC | 0.000 | 0.000 | 3023 | 251 |
| 09/02/98 | 6.11 | 0.0000 | 0.3057 | <0.0027 | 95% | NC | 135 | 0.000 | 3157 | 251 |
| 10/19/98 | 0.549 | 0.0000 | <0.1956 | <0.0031 | NC | NC | 0.000 | 0.000 | 3157 | 251 |
| 11/10/98 | 0.069 | 0.0000 | <0.1956 | <0.0031 | NC | NC | 0.000 | 0.000 | 3157 | 251 |
| 06/10/99 | 2.47 | 0.0097 | <0.1375 | <0.0021 | 94% | NC | 34.7 | 0.135 | 3192 | 251 |
| 09/09/99 | 0.0000 | 0.0180 | <0.1693 | <0.0026 | NC | NC | 0.000 | 0.217 | 3192 | 251 |
| 10/06/99 | 7.59 | 0.0247 | 0.2285 | <0.0020 | 97% | 92% | 316 | 1.03 | 3509 | 252 |
| 12/01/99 | 7.00 | 0.0182 | <0.2116 | <0.0033 | 97% | 82% | 176 | 0.458 | 3685 | 252 |
| 01/05/00 | 1.27 | 0.0044 | <0.2046 | <0.0032 | NC | NC | 18 | 0.062 | 3702 | 252 |
| 03/01/00 | 1.90 | 0.0357 | <0.2116 | <0.0033 | NC | NC | 59 | 1.11 | 3761 | 254 |
| 4/00 | ----- System Down. Readings not taken ----- | | | | | | | | | |
| 5/00 | ----- System Down. Readings not taken ----- | | | | | | | | | |
| 6/00 | ----- System Down. Readings not taken ----- | | | | | | | | | |

¹ Extraction Rate, lbs/day = (Influent Flow, cfm)(Influent conc., ppmv)(g/mole)(60 min/hr)(24 hr/day)(28.3 L/cf) / (10⁶)(24.45 moles/L)(453.6 g/lb)

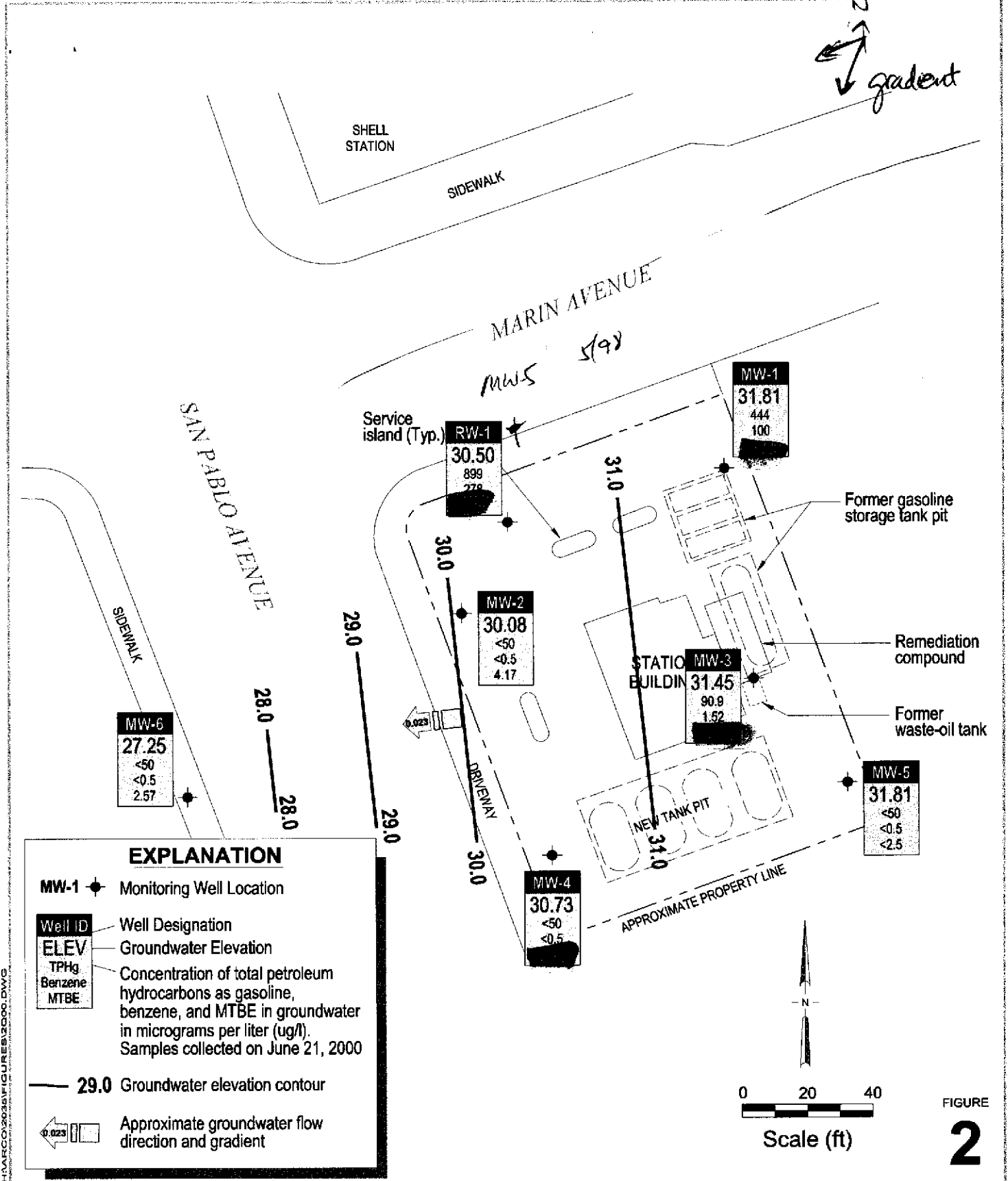
where TPHG = 100 g/mole and Benzene = 78.1 g/mole; Influent conc. = 0, if reported as non-detect

² Emission Rate, lbs/day = (Effluent Flow, cfm)(Effluent conc., ppmv)(g/mole)(60 min/hr)(24 hr/day)(28.3 L/cf) / (10⁶)(24.45 moles/L)(453.6 g/lb)

where TPHG = 100 g/mole and Benzene = 78.1 g/mole; Effluent conc. = Method Reporting Limit, if reported as non-detect

³ Destruction Efficiency, % = (Extraction Rate - Emission Rate)(100) / (Extraction Rate); NC = Not Calculated due to non-detection.

⁴ Period Removal, lbs = (Extraction Rate)(Uptime)



H:\ARCO\2035\FIGURES\2000.DWG

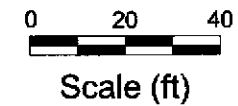


FIGURE
2

ARCO Service Station 2035
1001 San Pablo Avenue
Albany, California



Groundwater Elevation Contour Map
June 21, 2000

APPENDIX A

SAMPLING AND ANALYSIS PROCEDURES

APPENDIX A

SAMPLING AND ANALYSIS PROCEDURES

The sampling and analysis procedures for water quality monitoring programs are contained in this appendix. The procedures provided for consistent and reproducible sampling methods, proper application of analytical methods, and accurate and precise analytical results. Finally, these procedures provided guidelines so that the overall objectives of the monitoring program were achieved.

The following documents have been used as guidelines for developing these procedures:

- Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities, Environmental Protection Agency (EPA)-530/SW-611, August 1977
- Resource Conservation and Recovery Act (RCRA) Groundwater Monitoring Technical Enforcement Guidance Document, Office of Solid Waste and Emergency Response (OSWER) 9950.1, September 1986
- Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA SW-846, 3rd edition, November 1986
- Methods for Organic Chemical Analysis of Municipal and Industrial Waste Water, EPA-600/4-82-057, July 1982
- Methods for Organic Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised March 1983
- Leaking Underground Fuel Tank (LUFT) Field Manual, California State Water Resources Control Board, revised October 1989

Sample Collection

Sample collection procedures include equipment cleaning, water level and total well depth measurements, and well purging and sampling.

Equipment Cleaning

Before the sampling event was started, equipment that was used to sample groundwater was disassembled and cleaned with detergent water and then rinsed with tap water. During field sampling, equipment surfaces that were placed in the well or came into contact with groundwater during field sampling were washed with detergent and double rinsed with tap water before the next well was purged or sampled.

Water Level, Floating Hydrocarbon, and Total Well Depth Measurements

Before purging and sampling occurred, the depth to water, floating hydrocarbon thickness and total well depth were measured using an oil/water interface measuring system. The oil/water interface measuring system consists of a probe that emits a continuous audible tone when immersed in a nonconductive fluid, such as oil or gasoline and an intermittent tone when immersed in a conductive fluid, such as water. The floating hydrocarbon thickness and water level were measured by lowering the probe into the well. Liquid levels were recorded relative to the tone emitted at the groundwater surface. The sonic probe was decontaminated after each use. A bottom-filling, clear disposable bailer was used to verify floating hydrocarbon thickness measurements of less than 0.02 foot. Alternatively, an electric sounder and a bottom-filling Teflon bailer may have been used to record floating hydrocarbon thickness and depth to water.

The electric sounder is a transistorized instrument that uses a reel-mounted, two-conductor, coaxial cable that connects the control panel to the sensor. Cable markings are stamped at 1-foot intervals. The water level was measured by lowering the sensor into the monitoring well. A low-current circuit was completed when the sensor contacted the water, which served as an electrolyte. The current was amplified and fed into an indicator light and audible buzzer, signaling when water had been contacted. A sensitivity control compensated for highly saline or conductive water. The electric sounder was decontaminated after each use. The bailer was lowered to a point just below the liquid level, retrieved, and observed for floating hydrocarbon.

Liquid measurements were recorded to the nearest 0.01 foot on the depth to water/floating product survey form. The groundwater elevation at each monitoring well was calculated by subtracting the measured depth to water from the surveyed elevation of the top of the well casing. (Every attempt was made to measure depth to water for all wells on the same day.) Total well depth was then measured by lowering the sensor to the bottom of the well. Total well depth, used to calculate purge volumes and to determine whether the well screen was partially obstructed by silt, was recorded to the nearest 0.1 foot on the depth to water/floating product survey form.

Well Purging

If the depth to groundwater was above the top of screens of the monitoring wells, then the wells were purged, otherwise non-purge groundwater samples were collected. Before sampling occurred, a polyvinyl chloride (PVC) bailer, centrifugal pump, low-flow submersible pump, or disposable bailer was used to purge standing water in the casing and gravel pack from the monitoring well. In most monitoring wells, the amount of water purged before sampling was greater than or equal to three casing volumes. Some monitoring wells were expected to be evacuated to dryness after removing fewer than three casing volumes. These low-yield monitoring wells were allowed to recharge for up to 24 hours. Samples were obtained as soon as the monitoring wells recharged to a level sufficient for sample collection. If insufficient water recharged after 24 hours, the monitoring well was recorded as dry for the sampling event.

Groundwater purged from the monitoring wells was transported in a 240-gallon truck-mounted tank to ARCO's Harbor water treatment location in Sacramento for disposal.

Field measurements of pH, specific conductance, and temperature were recorded in a waterproof field logbook. Field data sheets were reviewed for completeness by the sampling coordinator after the sampling event was completed.

The pH, specific conductance, and temperature meter were calibrated each day before field activities were begun. The calibration was checked once each day to verify meter performance. Field meter calibrations were recorded on the water sample field data sheet.

Well Sampling

A disposable bailer was the only equipment acceptable for well sampling. When samples for volatile organic analysis were being collected, the flow of groundwater from the bailer was regulated to minimize turbulence and aeration. Glass bottles of at least 40-milliliters volume and fitted with Teflon-lined septa were used in sampling for volatile organics. These bottles were filled completely to prevent air from remaining in the bottle. A positive meniscus formed when the bottle was completely full. A convex Teflon septum was placed over the positive meniscus to eliminate air. After the bottle was capped, it was inverted and tapped to verify that it contained no air bubbles. The sample containers for other parameters were filled, filtered as required, and capped.

When required, dissolved concentrations of metals were determined using appropriate field filtration techniques. The sample was filtered by emptying the contents of the disposable bailer into a pressure transfer vessel. A disposable 0.45-micron acrylic copolymer filter was threaded onto the transfer vessel at the discharge point, and the vessel was sealed. Pressure was applied to the vessel with a hand pump and the filtrate directed into the appropriate containers. Each filter was used once and discarded.

Sample Preservation and Handling

The following section specifies sample containers, preservation methods, and sample handling procedures.

Sample Containers and Preservation

Sample containers vary with each type of analytical parameter. Container types and materials were selected to be nonreactive with the particular analytical parameter tested.

Sample Handling

Sample containers were labeled immediately prior to sample collection. Samples were kept cool with cold packs or ice until received by the laboratory. At the time of sampling, each sample was logged on an ARCO chain-of-custody record that accompanied the sample to the laboratory. Samples that required overnight storage prior to shipping to the laboratory were kept cool (4°C) in a refrigerator.

Samples were transferred from Cambria to an ARCO-approved laboratory by courier or taken directly to the laboratory by the environmental sampler. Sample shipments from Cambria to laboratories performing the selected analyses routinely occurred within 24 hours of sample collection.

Sample Documentation

The following procedures were used during sampling and analysis to provide chain-of-custody control during sample handling from collection through storage. Sample documentation included the use of the following:

- Water sample field data sheets to document sampling activities in the field
- Labels to identify individual samples
- Chain-of-custody record sheets for documenting possession and transfer of samples
- Laboratory analysis request sheets for documenting analyses to be performed

Field Logbook

In the field, the sampler recorded the following information on the water sample field data sheet (see Figure A-2) for each sample collected:

- Project number
- Client's name
- Location
- Name of sampler
- Date and time
- Well accessibility and integrity
- Pertinent well data (e.g., casing diameter, depth to water, well depth)
- Calculated and actual purge volumes
- Purging equipment used
- Sampling equipment used
- Appearance of each sample (e.g., color, turbidity, sediment)
- Results of field analyses (temperature, pH, specific conductance)
- General comments

The water sample field data sheet was signed by the sampler and reviewed by the sampling coordinator.

Labels

Sample labels contained the following information:

- Project number
- Sample number (i.e., well designation)
- Sample depth
- Sampler's initials
- Date and time of collection
- Type of preservation used (if any)

Sampling and Analysis Chain-of-Custody Record

The ARCO chain-of-custody record initiated at the time of sampling contained, at a minimum, the sample designation (including the depth at which the sample was collected), sample type, analytical request, date of sampling, and the name of the sampler. The record sheet was signed, timed, and dated by the sampler when transferring the samples. The number of custodians in the chain of possession was minimized. A copy of the ARCO chain-of-custody record was returned to Cambria with the analytical results.

Groundwater Sampling and Analysis Request Form

A groundwater sampling and analysis request form (see Figure A-3) was used to communicate to the environmental sampler the requirements of the monitoring event. At a minimum, the groundwater sampling and analysis request form included the following information:

- Date scheduled
- Site-specific instructions
- Specific analytical parameters
- Well number
- Well specifications (expected total depth, depth of water, and product thickness)

APPENDIX B

CERTIFIED ANALYTICAL REPORTS,

AND CHAIN-OF-CUSTODY DOCUMENTATION



July 9, 2000

Darryk Ataide
Cambria Environmental - Oakland
1144 65th Street, Ste. B
Oakland, CA 94608

RE: ARCO 2035, Albany/S006296

Dear Darryk Ataide

Enclosed are the results of analyses for sample(s) received by the laboratory on June 22, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sandra R. Hanson
Client Services Representative

Lito Diaz
Laboratory Director

CA ELAP Certificate Number 1624





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

ANALYTICAL REPORT FOR S006296

| Sample Description | Laboratory Sample Number | Sample Matrix | Date Sampled |
|--------------------|--------------------------|---------------|--------------|
| MW 5 | S006296-01 | Water | 6/21/00 |
| MW 6 | S006296-02 | Water | 6/21/00 |
| MW 3 | S006296-03 | Water | 6/21/00 |
| MW 2 | S006296-04 | Water | 6/21/00 |
| MW 4 | S006296-05 | Water | 6/21/00 |
| MW 1 | S006296-06 | Water | 6/21/00 |
| RW 1 | S006296-07 | Water | 6/21/00 |
| DUP 01 | S006296-08 | Water | 6/21/00 |





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Sacramento**

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|-----------------------------------|--------------|---------------|---------------|-------------------|-----------------|--------|--------------|--------|
| | | | | S006296-01 | | | Water | |
| Purgeable Hydrocarbons | 0070041 | 7/3/00 | 7/3/00 | | 50.0 | ND | ug/l | |
| Benzene | " | " | " | | 0.500 | ND | " | |
| Toluene | " | " | " | | 0.500 | ND | " | |
| Ethylbenzene | " | " | " | | 0.500 | ND | " | |
| Xylenes (total) | " | " | " | | 0.500 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 2.50 | ND | " | |
| Surrogate: a,a,a-Trifluorotoluene | " | " | " | 60.0-140 | | 98.3 | % | |
| | | | | S006296-02 | | | Water | |
| Purgeable Hydrocarbons | 0070041 | 7/3/00 | 7/3/00 | | 50.0 | ND | ug/l | |
| Benzene | " | " | " | | 0.500 | ND | " | |
| Toluene | " | " | " | | 0.500 | ND | " | |
| Ethylbenzene | " | " | " | | 0.500 | ND | " | |
| Xylenes (total) | " | " | " | | 0.500 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 2.50 | 2.57 | " | |
| Surrogate: a,a,a-Trifluorotoluene | " | " | " | 60.0-140 | | 100 | % | |
| | | | | S006296-03 | | | Water | |
| Purgeable Hydrocarbons | 0070041 | 7/3/00 | 7/3/00 | | 50.0 | 90.9 | ug/l | 1 |
| Benzene | " | " | " | | 0.500 | 1.52 | " | |
| Toluene | " | " | " | | 0.500 | ND | " | |
| Ethylbenzene | " | " | " | | 0.500 | ND | " | |
| Xylenes (total) | " | " | " | | 0.500 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 2.50 | 187 | " | |
| Surrogate: a,a,a-Trifluorotoluene | " | " | " | 60.0-140 | | 94.4 | % | |
| | | | | S006296-04 | | | Water | |
| Purgeable Hydrocarbons | 0070041 | 7/3/00 | 7/3/00 | | 50.0 | ND | ug/l | |
| Benzene | " | " | " | | 0.500 | ND | " | |
| Toluene | " | " | " | | 0.500 | ND | " | |
| Ethylbenzene | " | " | " | | 0.500 | ND | " | |
| Xylenes (total) | " | " | " | | 0.500 | ND | " | |
| Methyl tert-butyl ether | " | " | " | | 2.50 | 4.17 | " | |
| Surrogate: a,a,a-Trifluorotoluene | " | " | " | 60.0-140 | | 96.3 | % | |
| | | | | S006296-05 | | | Water | |
| Purgeable Hydrocarbons | 0070041 | 7/3/00 | 7/3/00 | | 50.0 | ND | ug/l | |
| Benzene | " | " | " | | 0.500 | ND | " | |
| Toluene | " | " | " | | 0.500 | ND | " | |
| Ethylbenzene | " | " | " | | 0.500 | ND | " | |
| Xylenes (total) | " | " | " | | 0.500 | ND | " | |





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT
Sequoia Analytical - Sacramento**

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|------------------------------------------|--------------|---------------|---------------|-------------------|-----------------|-------------|--------------|--------|
| MW 4 (continued) | | | | S006296-05 | | | Water | |
| Methyl tert-butyl ether | 0070041 | 7/3/00 | 7/3/00 | | 2.50 | 60.5 | ug/l | |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | " | " | " | 60.0-140 | | 100 | % | |
| MW 1 | | | | S006296-06 | | | Water | |
| Purgeable Hydrocarbons | 0070060 | 7/5/00 | 7/5/00 | | 250 | 444 | ug/l | 1,D |
| Benzene | " | " | " | | 2.50 | 100 | " | D |
| Toluene | " | " | " | | 2.50 | ND | " | D |
| Ethylbenzene | " | " | " | | 2.50 | 4.15 | " | D |
| Xylenes (total) | " | " | " | | 2.50 | ND | " | D |
| Methyl tert-butyl ether | " | " | " | | 12.5 | 15.9 | " | D |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | " | " | " | 60.0-140 | | 87.5 | % | |
| RW 1 | | | | S006296-07 | | | Water | |
| Purgeable Hydrocarbons | 0070060 | 7/5/00 | 7/5/00 | | 250 | 899 | ug/l | 1,D |
| Benzene | " | " | " | | 2.50 | 278 | " | D |
| Toluene | " | " | " | | 2.50 | ND | " | D |
| Ethylbenzene | " | " | " | | 2.50 | 8.70 | " | D |
| Xylenes (total) | " | " | " | | 2.50 | 8.46 | " | D |
| Methyl tert-butyl ether | " | " | " | | 12.5 | 61.1 | " | D |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | " | " | " | 60.0-140 | | 90.2 | % | |
| DUP 01 | | | | S006296-08 | | | Water | |
| Purgeable Hydrocarbons | 0070060 | 7/5/00 | 7/5/00 | | 100 | 416 | ug/l | 1,D |
| Benzene | " | " | " | | 1.00 | 88.4 | " | D |
| Toluene | " | " | " | | 1.00 | ND | " | D |
| Ethylbenzene | " | " | " | | 1.00 | 4.61 | " | D |
| Xylenes (total) | " | " | " | | 1.00 | 1.56 | " | D |
| Methyl tert-butyl ether | " | " | " | | 5.00 | ND | " | D |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | " | " | " | 60.0-140 | | 83.7 | % | |





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

**MTBE by EPA Method 8260A
Sequoia Analytical - Sacramento**

| Analyte | Batch Number | Date Prepared | Date Analyzed | Surrogate Limits | Reporting Limit | Result | Units | Notes* |
|-------------------------|--------------|---------------|---------------|-------------------|-----------------|--------|--------------|--------|
| MW 6 | | | | S006296-02 | | | Water | |
| Methyl tert-butyl ether | 0060286 | 6/29/00 | 6/29/00 | | 2.00 | ND | ug/l | |
| Surrogate: 1,2-DCA-d4 | " | " | " | 60.0-140 | | 109 | % | |





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
 Sequoia Analytical - Sacramento**

| Analyte | Date Analyzed | Spike Level | Sample Result | QC Result | Units | Reporting Limit Recov. Limits | Recov. % | RPD Limit | RPD % | Notes* |
|-----------------------------------|---------------|------------------------------|---------------|-------------------|--------------------------------------------|----------------------------------|-------------|--------------|----------|--------|
| Batch: 0070041 | | Date Prepared: 7/3/00 | | | Extraction Method: EPA 5030B (MeOH) | | | | | |
| Blank | | 0070041-BLK1 | | | | | | | | |
| Purgeable Hydrocarbons | 7/3/00 | | | ND | ug/l | 50.0 | | | | |
| Benzene | " | | | ND | " | 0.500 | | | | |
| Toluene | " | | | ND | " | 0.500 | | | | |
| Ethylbenzene | " | | | ND | " | 0.500 | | | | |
| Xylenes (total) | " | | | ND | " | 0.500 | | | | |
| Methyl tert-butyl ether | " | | | ND | " | 2.50 | | | | |
| Surrogate: a,a,a-Trifluorotoluene | " | 10.0 | | 10.6 | " | 60.0-140 | 106 | | | |
| LCS | | 0070041-BS1 | | | | | | | | |
| Benzene | 7/3/00 | 10.0 | | 11.0 | ug/l | 70.0-130 | 110 | | | |
| Toluene | " | 10.0 | | 10.7 | " | 70.0-130 | 107 | | | |
| Ethylbenzene | " | 10.0 | | 10.8 | " | 70.0-130 | 108 | | | |
| Xylenes (total) | " | 30.0 | | 32.4 | " | 70.0-130 | 108 | | | |
| Methyl tert-butyl ether | " | 10.0 | | 11.7 | " | 70.0-130 | 117 | | | |
| Surrogate: a,a,a-Trifluorotoluene | " | 10.0 | | 10.5 | " | 60.0-140 | 105 | | | |
| Matrix Spike | | 0070041-MS1 | | S006254-02 | | | | | | |
| Benzene | 7/3/00 | 10.0 | ND | 10.4 | ug/l | 60.0-140 | 104 | | | |
| Toluene | " | 10.0 | ND | 10.6 | " | 60.0-140 | 106 | | | |
| Ethylbenzene | " | 10.0 | ND | 10.7 | " | 60.0-140 | 107 | | | |
| Xylenes (total) | " | 30.0 | ND | 31.9 | " | 60.0-140 | 106 | | | |
| Methyl tert-butyl ether | " | 10.0 | ND | 8.66 | " | 60.0-140 | 86.6 | | | |
| Surrogate: a,a,a-Trifluorotoluene | " | 10.0 | | 10.0 | " | 60.0-140 | 100 | | | |
| Matrix Spike Dup | | 0070041-MSD1 | | S006254-02 | | | | | | |
| Benzene | 7/3/00 | 10.0 | ND | 10.2 | ug/l | 60.0-140 | 102 | 25.0 | 1.94 | |
| Toluene | " | 10.0 | ND | 10.3 | " | 60.0-140 | 103 | 25.0 | 2.87 | |
| Ethylbenzene | " | 10.0 | ND | 10.3 | " | 60.0-140 | 103 | 25.0 | 3.81 | |
| Xylenes (total) | " | 30.0 | ND | 30.8 | " | 60.0-140 | 103 | 25.0 | 2.87 | |
| Methyl tert-butyl ether | " | 10.0 | ND | 11.4 | " | 60.0-140 | 114 | 25.0 | 27.3 | 2 |
| Surrogate: a,a,a-Trifluorotoluene | " | 10.0 | | 10.2 | " | 60.0-140 | 102 | | | |
| Batch: 0070060 | | Date Prepared: 7/5/00 | | | Extraction Method: EPA 5030B (MeOH) | | | | | |
| Blank | | 0070060-BLK1 | | | | | | | | |
| Purgeable Hydrocarbons | 7/5/00 | | | ND | ug/l | 50.0 | | | | |
| Benzene | " | | | ND | " | 0.500 | | | | |
| Toluene | " | | | ND | " | 0.500 | | | | |
| Ethylbenzene | " | | | ND | " | 0.500 | | | | |
| Xylenes (total) | " | | | ND | " | 0.500 | | | | |
| Methyl tert-butyl ether | " | | | ND | " | 2.50 | | | | |





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

**Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT/Quality Control
Sequoia Analytical - Sacramento**

| Analyte | Date Analyzed | Spike Level | Sample Result | QC Result | Units | Reporting Limit Recov. Limits | Recov. % | RPD Limit | RPD % | Notes* |
|------------------------------------------|---------------|-------------|---------------|-----------|-------|----------------------------------|----------|-----------|-------|--------|
| Blank (continued) | | | | | | | | | | |
| 0070060-BLK1 | | | | | | | | | | |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | 7/5/00 | 10.0 | | 9.25 | ug/l | 60.0-140 | 92.5 | | | |
| LCS | | | | | | | | | | |
| 0070060-BS1 | | | | | | | | | | |
| Benzene | 7/5/00 | 10.0 | | 8.91 | ug/l | 70.0-130 | 89.1 | | | |
| Toluene | " | 10.0 | | 9.43 | " | 70.0-130 | 94.3 | | | |
| Ethylbenzene | " | 10.0 | | 9.24 | " | 70.0-130 | 92.4 | | | |
| Xylenes (total) | " | 30.0 | | 25.6 | " | 70.0-130 | 85.3 | | | |
| Methyl tert-butyl ether | " | 10.0 | | 9.24 | " | 70.0-130 | 92.4 | | | |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | " | 10.0 | | 9.03 | " | 60.0-140 | 90.3 | | | |
| Matrix Spike | | | | | | | | | | |
| 0070060-MS1 S006299-04 | | | | | | | | | | |
| Benzene | 7/5/00 | 10.0 | ND | 8.98 | ug/l | 60.0-140 | 89.8 | | | |
| Toluene | " | 10.0 | ND | 9.97 | " | 60.0-140 | 99.7 | | | |
| Ethylbenzene | " | 10.0 | ND | 9.07 | " | 60.0-140 | 90.7 | | | |
| Xylenes (total) | " | 30.0 | ND | 24.8 | " | 60.0-140 | 82.7 | | | |
| Methyl tert-butyl ether | " | 10.0 | ND | 10.8 | " | 60.0-140 | 108 | | | |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | " | 10.0 | | 10.2 | " | 60.0-140 | 102 | | | |
| Matrix Spike Dup | | | | | | | | | | |
| 0070060-MSD1 S006299-04 | | | | | | | | | | |
| Benzene | 7/5/00 | 10.0 | ND | 9.01 | ug/l | 60.0-140 | 90.1 | 25.0 | 0.334 | |
| Toluene | " | 10.0 | ND | 9.13 | " | 60.0-140 | 91.3 | 25.0 | 8.80 | |
| Ethylbenzene | " | 10.0 | ND | 9.06 | " | 60.0-140 | 90.6 | 25.0 | 0.110 | |
| Xylenes (total) | " | 30.0 | ND | 24.8 | " | 60.0-140 | 82.7 | 25.0 | 0 | |
| Methyl tert-butyl ether | " | 10.0 | ND | 10.7 | " | 60.0-140 | 107 | 25.0 | 0.930 | |
| <i>Surrogate: a,a,a-Trifluorotoluene</i> | " | 10.0 | | 10.4 | " | 60.0-140 | 104 | | | |





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

**MTBE by EPA Method 8260A/Quality Control
Sequoia Analytical - Sacramento**

| Analyte | Date Analyzed | Spike Level | Sample Result | QC Result | Units | Reporting Limit Recov. Limits | Recov. % | RPD Limit | RPD % | Notes* |
|-------------------------|-------------------------------|-------------|-------------------------------------------|-----------|-------|----------------------------------|----------|-----------|-------|--------|
| Batch: 0060286 | Date Prepared: 6/29/00 | | Extraction Method: EPA 5030B [P/T] | | | | | | | |
| Blank | 0060286-BLK1 | | | | | | | | | |
| Methyl tert-butyl ether | 6/29/00 | | | ND | ug/l | 2.00 | | | | |
| Surrogate: 1,2-DCA-d4 | " | 50.0 | | 51.4 | " | 60.0-140 | 103 | | | |
| LCS | 0060286-BS1 | | | | | | | | | |
| Methyl tert-butyl ether | 6/29/00 | 50.0 | | 50.0 | ug/l | 70.0-130 | 100 | | | |
| Surrogate: 1,2-DCA-d4 | " | 50.0 | | 52.8 | " | 60.0-140 | 106 | | | |
| LCS Dup | 0060286-BSD1 | | | | | | | | | |
| Methyl tert-butyl ether | 6/29/00 | 50.0 | | 49.6 | ug/l | 70.0-130 | 99.2 | 25.0 | 0.803 | |
| Surrogate: 1,2-DCA-d4 | " | 50.0 | | 52.8 | " | 60.0-140 | 106 | | | |
| Matrix Spike | 0060286-MS1 | | S006320-05 | | | | | | | |
| Methyl tert-butyl ether | 6/29/00 | 50.0 | ND | 52.0 | ug/l | 60.0-140 | 104 | | | |
| Surrogate: 1,2-DCA-d4 | " | 50.0 | | 53.8 | " | 60.0-140 | 108 | | | |
| Matrix Spike Dup | 0060286-MSD1 | | S006320-05 | | | | | | | |
| Methyl tert-butyl ether | 6/29/00 | 50.0 | ND | 53.6 | ug/l | 60.0-140 | 107 | 25.0 | 2.84 | |
| Surrogate: 1,2-DCA-d4 | " | 50.0 | | 56.4 | " | 60.0-140 | 113 | | | |





| | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Cambria Environmental - Oakland 1144 65th Street, Ste. B Oakland, CA 94608 | Project: ARCO 2035, Albany Project Number: 436-1608 Project Manager: Darryk Ataide | Sampled: 6/21/00 Received: 6/22/00 Reported: 7/9/00 |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|

Notes and Definitions

| # | Note |
|--------|------------------------------------------------------------------------------------------------------------------------------|
| D | Data reported from a dilution. |
| 1 | Chromatogram Pattern: Weathered Gasoline C6-C12 |
| 2 | The RPD and/or spike recovery for this QC sample is outside of established control limits due to sample matrix interference. |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| Recov. | Recovery |
| RPD | Relative Percent Difference |



| | | |
|-----------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|
| ARCO Facility no. 2035 | City (Facility) ALBANY | Project manager (Consultant) DAIRYK ATAIDE |
| ARCO engineer Paul Supple RAT 8 | Telephone no. (ARCO) 925 299 8991 | Telephone no. (Consultant) 510 420 3339 |
| Consultant name CAMBRIDIA ENV. TECH | Address (Consultant) 1144 65th St. Suite B, DALLAND | Fax no. (Consultant) 510 420 9170 |

Laboratory name
SEQUOIA

Contract number
436-1608

| Sample I.D. | Lab no. | Container no. | Matrix | | | Preservation | | Sampling date | Sampling time | BTEX 602/EPA 8020 | BTEX/TPH/MTBE EPA 1631/8020/8015 | TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/> | Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/> | TPH EPA 418.1/SM500E | EPA 801/8010 | EPA 824/8240 | EPA 825/8270 | Semi Metals VOA <input type="checkbox"/> YOA <input type="checkbox"/> | CAN Metals EPA 801/807000 TLC <input type="checkbox"/> STLC <input type="checkbox"/> | Lead Org. DHS Lead EPA 7420/7421 <input type="checkbox"/> | MTBE X 8260 | | | |
|-------------|---------|---------------|--------|-------|-------|--------------|------|---------------|---------------|----------------------|-------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------|--------------|--------------|--------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------|--|--|--|
| | | | Soil | Water | Other | Ice | Acid | | | | | | | | | | | | | | | | | |
| MW5 | | 3 | | X | | | X | 6-21-00 | 1308 | | X | | | | | | | | | | | | | |
| MW6 | | | | | | | | | 1316 | | | | | | | | | | | | | | | |
| MW3 | | | | | | | | | 1346 | | | | | | | | | | | | | | | |
| MW2 | | | | | | | | | 1425 | | | | | | | | | | | | | | | |
| MW4 | | | | | | | | | 1431 | | | | | | | | | | | | | | | |
| MW1 | | | | | | | | | 1502 | | | | | | | | | | | | | | | |
| RW1 | | | | | | | | | 1544 | | | | | | | | | | | | | | | |
| Dup-01* | | | | | | | | | | | | | | | | | | | | | | | | |

Method of shipment
COURIER

Special detection Limit/reporting

5000 296.01

Special QA/QC

Remarks
*Pls. add Dup-01 to roc and run for g/B/m as per Domy 6/26/00 per

| | | | |
|---------------------------------------------|------------------------|-----------------------|--------------------------------------------|
| Condition of sample: | | Temperature received: | |
| Relinquished by sampler <i>Monica G.</i> | Date 6-22-00 | Time 1320 | Received by |
| Relinquished by | Date | Time | Received by |
| Relinquished by | Date | Time | Received by laboratory Monica G. |

| | |
|-----------------|---------------------------------------------------------------|
| Turnaround time | Priority Rush 1 Business Day <input type="checkbox"/> |
| | Rush 2 Business Days <input type="checkbox"/> |
| | Expedited 5 Business Days <input type="checkbox"/> |
| | Standard 10 Business Days <input checked="" type="checkbox"/> |

APPENDIX C
FIELD DATA SHEETS

WELL DEPTH MEASUREMENTS

| Well ID | Order | Time | Top of Screen | DTB | DTP | DTW | DO | Casing Dia | Comment |
|---------|-------|------|---------------|-------|-----|-------|-----|------------|----------|
| MW-1 | 6 | 1252 | 15' | 30.1' | | 9.60 | 1.7 | 4" | |
| MW-2 | 4 | 1241 | 20' | 29.1' | | 10.30 | 1.5 | 4" | |
| MW-3 | 3 | 1236 | 12.5' | 33.5' | | 9.99 | 2.6 | 4" | |
| MW-4 | 5 | 1247 | 8.5' | 25.8' | | 9.60 | 1.3 | 4" | NO PURGE |
| MW-5 | 1 | 1223 | 8.5' | 25.1' | | 10.03 | 3.1 | 4" | NO PURGE |
| MW-6 | 2 | 1230 | 8' | 24.8' | | 12.88 | 2.8 | 2" | NO PURGE |
| RW-1 | 7 | 1259 | 11' | 25.4' | | 9.83 | 1.3 | 6" | |
| | | | | | | | | | |
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| | | | | | | | | | |

Project Name: ARCO 2035 _____

Project Number: 436-1608 _____

Measured By: MC

Date: 6/21/00

WELL SAMPLING FORM

| | | |
|------------------------------------------------------------------------------|----------------------------|----------------------------|
| Project Name: ARCO 2035 | Cambria Mgr: Darryk Ataide | Well ID: RW-1 |
| Project Number: 436 - 1608 | Date: 6-21-00 | Well Yield: |
| Site Address: 1001 San Pablo Ave, Albany | Sampling Method: | Well Diameter: 6" pvc |
| | Disposable bailer | Technician(s): |
| Initial Depth to Water: 9.83 | Total Well Depth: 25.4 | Water Column Height: 15.57 |
| Volume/ft: 1.47 | 1 Casing Volume: 22.88 | 3 Casing Volumes: 68.6 |
| <input checked="" type="checkbox"/> Purge <input type="checkbox"/> No Purge: | | |
| Purging Device: Submersible Pump | Did Well Dewater?: NO | Total Gallons Purged: 47 |
| Start Purge Time: 15 10 | Stop Purge Time: 15 34 | Total Time: 40 |

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. C | pH | Cond. uS | Comments |
|------------------------------------------------|---------------|---------|-----|----------|----------|
| 1525 | 30 | 20.3 | 7.7 | 287 | |
| 1530 | 40 | 20.2 | 7.6 | 284 | |
| 1531 | 42 | 20.1 | 7.6 | 284 | |
| 1532 | 44 | 20.0 | 7.6 | 286 | |
| 1533 | 46 | 20.1 | 7.6 | 286 | |
| PARAMETERS STABLE, INTO AQUIFER STOP PURGE. | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|------------------|-----------------|
| RW-1 | 6-21-00 | 1544 | 3 VOA | HCL | TPHg, BTEX, MTBE | 8021B |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|-------------------------------------------------|-----------------------------------|----------------------------------|
| Project Name: ARCO 2035 | Cambria Mgr: Darryk Ataide | Well ID: MW-1 |
| Project Number: 436 - 1608 | Date: 6/21/00 | Well Yield: |
| Site Address: 1001 San Pablo Ave, Albany | Sampling Method: | Well Diameter: 4" pvc |
| | Disposable bailer | Technician(s): |
| Initial Depth to Water: 9.60 | Total Well Depth: 30.1 | Water Column Height: 20.5 |
| Volume/ft: .65 | 1 Casing Volume: 13.32 | 3 Casing Volumes: 39.97 |
| <u>Purge</u> /No Purge: | | |
| Purging Device: Submersible Pump | Did Well Dewater?: NO | Total Gallons Purged: 29 |
| Start Purge Time: 1437 | Stop Purge Time: 1452 | Total Time: 29 |

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. C | pH | Cond. uS | Comments |
|--------------------------------|---------------|---------|-----|----------|----------|
| 1447 | 20 | 19.9 | 6.6 | 267 | |
| 1449 | 24 | 19.8 | 6.7 | 263 | |
| 1450 | 26 | 19.8 | 6.7 | 260 | |
| 1451 | 28 | 19.8 | 6.7 | 265 | |
| | | | | | |
| PARAMETERS STABLE INTO Aquifer | | | | | |
| STOP PURGE | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|------------------|-----------------|
| MW-1 | 6-21-00 | 1502 | 30 VOA | HCL | TPHg, BTEX, MTBE | 8021B |
| DPO1 | 6-21-00 | --- | " | " | " | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|------------------------------------------------------------------------|----------------------------|----------------------------|
| Project Name: ARCO 2035 | Cambria Mgr: Darryk Ataide | Well ID: MW-2 |
| Project Number: 436 - 1608 | Date: 6-21-00 | Well Yield: - |
| Site Address: 1001 San Pablo Ave, Albany | Sampling Method: | Well Diameter: 4" pvc |
| | Disposable bailer | Technician(s): MK |
| Initial Depth to Water: 10.30 | Total Well Depth: 29.1 | Water Column Height: 18.8 |
| Volume/ft: .65 | 1 Casing Volume: 12.22 | 3 Casing Volumes: 36.66 |
| <input checked="" type="radio"/> Purge <input type="radio"/> No Purge: | | |
| Purging Device: Submersible Pump | Did Well Dewater?: NO | Total Gallons Purged: ± 31 |
| Start Purge Time: 13:59 | Stop Purge Time: 14:15 | Total Time: 25 |

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. C | pH | Cond. uS | Comments |
|-------------------------------------|---------------|---------|-----|----------|----------|
| 1409 | 20 | 20.3 | 6.7 | 463 | |
| 1412 | 26 | 20.2 | 6.8 | 442 | |
| 1413 | 28 | 20.1 | 6.8 | 438 | |
| 1414 | 30 | 20.1 | 6.8 | 437 | |
| PARAMETERS STABILIZED, INTO Aquifer | | | | | |
| STOP PURGE | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|------------------|-----------------|
| MW-2 | 6-21-00 | 1425 | VOA | HCL | TPHg, BTEX, MTBE | 8021B |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|------------------------------------------|----------------------------|----------------------------|
| Project Name: ARCO 2035 | Cambria Mgr: Darryk Ataide | Well ID: MW-3 |
| Project Number: 436 - 1608 | Date: 6-21-00 | Well Yield: |
| Site Address: 1001 San Pablo Ave, Albany | Sampling Method: | Well Diameter: 4" pvc |
| | Disposable bailer | Technician(s): MK |
| Initial Depth to Water: 9.99 | Total Well Depth: 33.5 | Water Column Height: 23.51 |
| Volume/ft: 165 | 1 Casing Volume: 15.28 | 3 Casing Volumes: 45.84 |
| Purge/No Purge: | | |
| Purging Device: Submersible Pump | Did Well Dewater?: NO | Total Gallons Purged: 34 |
| Start Purge Time: 1324 | Stop Purge Time: 1336 | Total Time: 25 |

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. C | pH | Cond. uS | Comments |
|------------------------------------|---------------|---------|-----|----------|----------|
| 1329 | 20 | 19.8 | 7.0 | 666 | |
| 1333 | 28 | 19.3 | 6.9 | 653 | |
| 1334 | 30 | 19.3 | 6.9 | 650 | |
| 1335 | 32 | 19.3 | 6.9 | 652 | |
| PARAMETERS STABILIZED INTO Aquifer | | | | | |
| STOP PURGE | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|------------------|-----------------|
| MW-3 | 6-21-00 | 1346 | VOA | HCL | TPHg, BTEX, MTBE | 8021B |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|------------------------------------------|----------------------------|-------------------------|
| Project Name: ARCO 2035 | Cambria Mgr: Darryk Ataide | Well ID: MW-4 |
| Project Number: 436 - 1608 | Date: 6-21-00 | Well Yield: |
| Site Address: 1001 San Pablo Ave, Albany | Sampling Method: | Well Diameter: 4 " pvc |
| | Disposable bailer | Technician(s): |
| Initial Depth to Water: 9.60 | Total Well Depth: 25.9 | Water Column Height: / |
| Volume/ft: / | 1 Casing Volume: / | 3 Casing Volumes: / |
| Purge/No Purge: | | |
| Purging Device: Submersible Pump | Did Well Dewater?: / | Total Gallons Purged: / |
| Start Purge Time: / | Stop Purge Time: / | Total Time: 10 |

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. C | pH | Cond. uS | Comments |
|---------------|---------------|---------|----|----------|----------|
| GRAB NO PURGE | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|------------------|-----------------|
| MW-4 | 6-21-00 | 1431 | 3 • VOA | HCL | TPHg, BTEX, MTBE | 8021B |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|-------------------------------------------------|-----------------------------------|--------------------------------|
| Project Name: ARCO 2035 | Cambria Mgr: Darryk Ataide | Well ID: MW-5 |
| Project Number: 436 - 1608 | Date: 6-21-00 | Well Yield: - |
| Site Address: 1001 San Pablo Ave, Albany | Sampling Method: | Well Diameter: 4" pvc |
| | Disposable bailer | Technician(s): |
| Initial Depth to Water: 10.03 | Total Well Depth: 25.1 | Water Column Height: - |
| Volume/ft: - | 1 Casing Volume: - | 3 Casing Volumes: - |
| Purge/No Purge: - | | |
| Purging Device: Submersible Pump | Did Well Dewater?: - | Total Gallons Purged: - |
| Start Purge Time: - | Stop Purge Time: - | Total Time: 10 |

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. C | pH | Cond. uS | Comments |
|----------------------|---------------|---------|----|----------|----------|
| GRAB NO PURGE | | | | | |
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| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|------------------|--------------|------------------|-----------------|
| MW-5 | 6-21-00 | 1308 | ³ VOA | HCL | TPHg, BTEX, MTBE | 8021B |
| | | | | | | |
| | | | | | | |
| | | | | | | |

WELL SAMPLING FORM

| | | |
|-------------------------------------------------|-----------------------------------|--------------------------------|
| Project Name: ARCO 2035 | Cambria Mgr: Darryk Ataide | Well ID: MW-6 |
| Project Number: 436 - 1608 | Date: 6-21-00 | Well Yield: — |
| Site Address: 1001 San Pablo Ave, Albany | Sampling Method: | Well Diameter: 2" pvc |
| | Disposable bailer | Technician(s): |
| Initial Depth to Water: 12.88 | Total Well Depth: 24.8 | Water Column Height: — |
| Volume/ft: — | 1 Casing Volume: — | 3 Casing Volumes: — |
| Purge/No Purge: | | |
| Purging Device: Submersible Pump | Did Well Dewater?: — | Total Gallons Purged: — |
| Start Purge Time: — | Stop Purge Time: — | Total Time: 10 |

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. C | pH | Cond. uS | Comments |
|----------------------------------------|---------------|---------|----|----------|----------|
| <p>GRAB NO PURGE</p> | | | | | |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|------------------|--------------|------------------|-----------------|
| MW-6 | 6-21-00 | 1316 | ³ VOA | HCL | TPHg, BTEX, MTBE | 8021B / 8260 |
| | | | | | | |
| | | | | | | |