



SO 10/12/92 12:12

January 13, 1993

Juliet Shin
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621-1426

Re: Shell Service Station
WIC #204-0072-0403
1601 Webster Street
Alameda, California 94501
WA Job #81-434-201

Dear Ms. Shin:

This letter describes recently completed and anticipated activities at the Shell service station referenced above (Figure 1). This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are descriptions and results of activities performed in the fourth quarter 1992 and proposed work for the first quarter 1993.

Fourth Quarter 1992 Activities:

- EMCON Associates (EMCON) of San Jose, California measured ground water depths and collected water samples from the three site wells. EMCON's report describing these sampling activities and presenting analytic results for ground water is included as Attachment A.
- Weiss Associates (WA) used EMCON's ground water elevation calculations to prepare a ground water elevation contour map (Figure 2).

- WA also collected soil and ground water samples from seven soil borings as outlined in our August 17, 1992 workplan. Boring locations are shown on figure 3. Analytic results for soil and water samples collected from the borings are presented in tables 1 and 2. Since the extent of hydrocarbons in soil and ground water east and north of the site was not defined by the seven borings, WA is currently selecting locations for additional borings to define the leading edge of hydrocarbons in soil and ground water.
- WA will submit a map showing the proposed additional boring locations shortly.

Anticipated First Quarter 1993 Activities:

- WA will submit a report presenting the results of the first quarter 1993 ground water sampling and depth measurements. The reports will include tabulated chemical analytic results and a ground water elevation contour map.
- WA will evaluate the analytical results from the additional borings and install ground water monitoring wells beyond the leading edge of hydrocarbons in ground water. After the wells are installed, we will prepare a report presenting the results of the soil boring sampling and well installations.

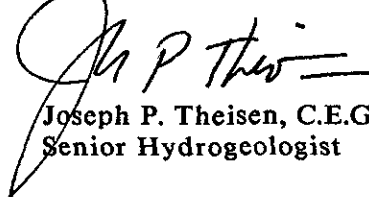
Please call if you have any questions.



Sincerely,
Weiss Associates



J. Michael Asport
Technical Assistant



Joseph P. Theisen, C.E.G.
Senior Hydrogeologist

JMA/JPT:jma

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Attachments: Figures
Tables
A - EMCON Associates' Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Lester Feldman, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

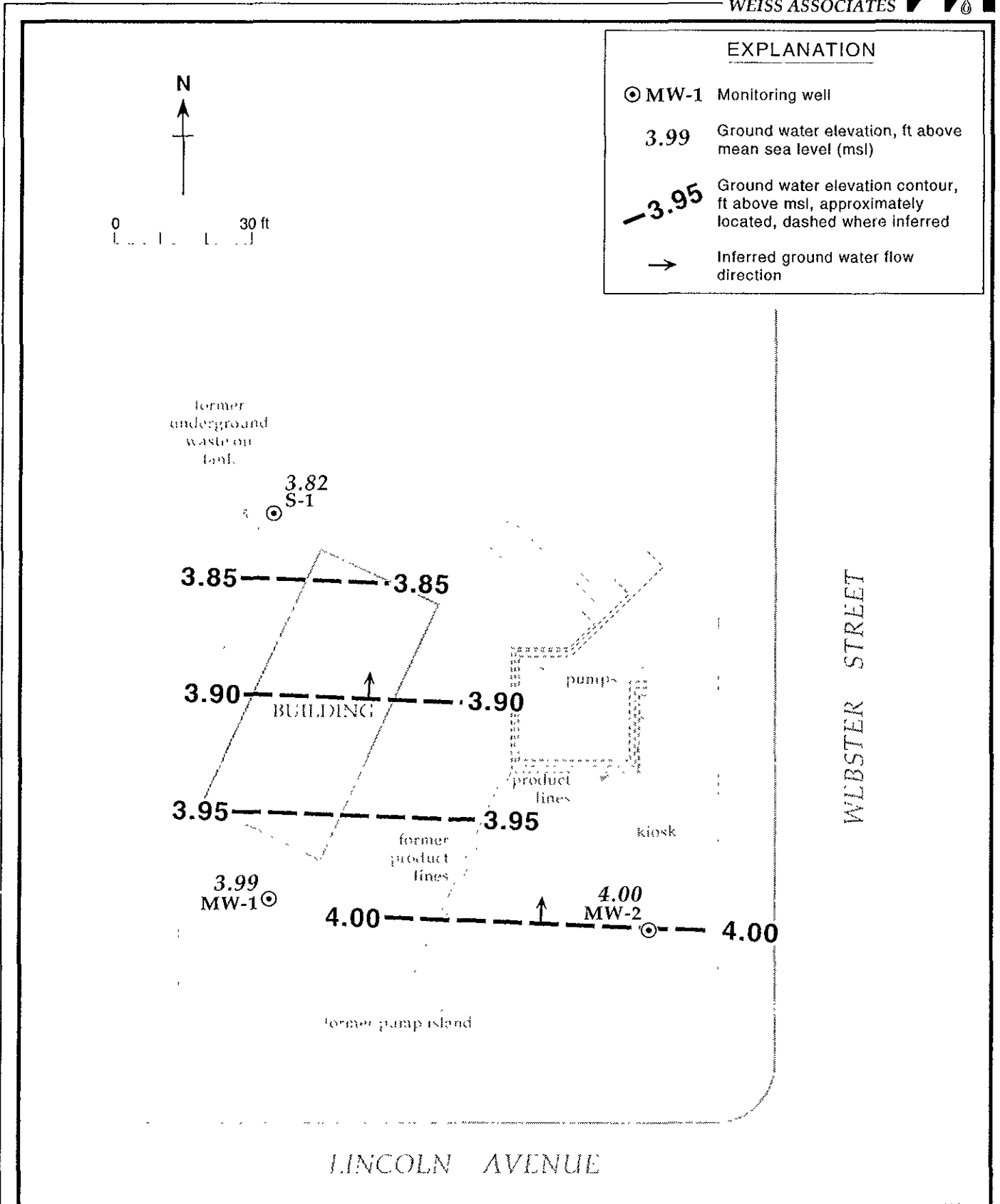


Figure 2. Monitoring Well Locations and Ground Water Elevations - October 2, 1992 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

Table 1. Analytic Results for Soil - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

| Soil Boring (Well ID) | Sample Depth (ft) | Date Sampled | Approximate Ground Water Depth (ft) | TPH-G | TPH-D* | B | E | T | X | HVOCs | TOG |
|--------------------------|-------------------------|-----------------|---|-------------------------------------|-----------------|---------|---------|--------|---------|---------------------|-----|
| | | | | -----parts per million (mg/kg)----- | | | | | | | |
| BH-A (MW-1) | 4.8 | 4-3-90 | 8.5 | <1 | --- | <0.0025 | <0.0025 | 0.0032 | 0.0030 | --- | --- |
| | 7.8 | 4-3-90 | | <1 | <1 ^a | <0.0025 | <0.0025 | 0.0029 | <0.0025 | ND | <50 |
| | 10.8 | 4-3-90 | | <1 | --- | 0.0026 | <0.0025 | 0.010 | 0.0037 | --- | --- |
| BH-B (MW-2) | 5.2 | 4-3-90 | 7.5 | <1 | --- | <0.0025 | <0.0025 | 0.0048 | 0.013 | --- | --- |
| | 6.8 | 4-3-90 | | 1.3 | <1 ^a | 0.0034 | 0.010 | 0.017 | 0.079 | ND | <50 |
| | 10.2 | 4-3-90 | | 20 | --- | 0.530 | 0.750 | 3.800 | 4.000 | --- | --- |
| | 15.2 | 4-3-90 | | 32 | --- | 0.15 | 0.67 | 1.8 | 2.6 | --- | --- |
| | 20.2 | 4-3-90 | | <1 | --- | 0.0049 | 0.0047 | 0.023 | 0.029 | --- | --- |
| BH-C | 5.5 | 10-12-92 | 9.5 | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |
| | 11.0 | 10-12-92 | | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | 0.0017 ^b | <30 |
| BH-D | 5.5 | 10-12-92 | 9.5 | 100 | --- | <0.005 | 1.8 | <0.005 | 5.4 | ND | <30 |
| | 10.5 | 10-12-92 | | <0.5 | --- | <0.005 | 0.007 | <0.005 | 0.032 | ND | <30 |
| BH-E | 5.5 | 10-22-92 | 10.0 | 14 | --- | 0.026 | 0.20 | 0.40 | 1.2 | 0.072 | <30 |
| | 10.5 | 10-22-92 | | 170 | --- | <0.005 | 3.6 | 3.0 | 22 | ND | 110 |
| | 13.5 | 10-22-92 | | 0.87 | --- | 0.11 | 0.019 | 0.097 | 0.089 | ND | <30 |
| BH-F | 5.5 | 10-22-92 | 10.5 | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |
| | 10.5 | 10-22-92 | | 26 | --- | 0.065 | 0.65 | 0.27 | 3.6 | 0.070 | 47 |
| BH-G | 5.5 | 10-22-92 | 10.5 | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |
| | 10.0 | 10-22-92 | | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |
| BH-H | 5.5 | 10-22-92 | 10.5 | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |
| | 10.0 | 10-22-92 | | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |
| BH-I | 5.5 | 10-22-92 | 10.5 | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |
| | 10.5 | 10-22-92 | | <0.5 | --- | <0.005 | <0.005 | <0.005 | <0.005 | ND | <30 |

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
 TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
 B = Benzene by EPA Method 8020
 E = Ethylbenzene by EPA Method 8020
 T = Toluene by EPA Method 8020
 X = Xylenes by EPA Method 8020
 HVOCs = Halogenated volatile organic compounds by EPA Method 8010
 TOG = Total oil and grease by APHA Standard Method 503D&E
 ppm = parts per million

ND = No VOCs detected.

<n = Not detected at detection limits of n ppm

Notes:

a = Total petroleum hydrocarbons as motor oil (TPH-MO) were not detected at a detection limit of 10 ppm.
 b = Methylene Chloride detected at 0.0017 ppm

Samples from borings BH-A and BH-B were analyzed by National Environmental Testing (NET) Pacific, Inc., Santa Rosa, California. Samples from borings BH-C through BH-I were analyzed by Anametrix, Inc. of San Jose, California.



Table 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California

| Sample ID | Date Sampled | Approximate Ground Water Depth (ft) | TPH-G | TPH-D | B | E | T | X | VOCs | TOG | Metals / Other |
|-----------|--------------|-------------------------------------|-------------------------------------|--------------------|---------|---------|-------------------|---------|---------------------|-----|----------------|
| | | | -----parts per million (mg/kg)----- | | | | | | | | |
| MW-1 | 04-11-90 | 8.5 | <0.05 | <0.05 ^a | <0.0005 | <0.0005 | <0.0005 | <0.0005 | b | <10 | --- |
| MW-2 | 04-11-90 | 7.5 | 0.58 | 0.43 ^a | 20 | 0.0012 | 0.0049 | 0.073 | 0.0011 ^c | <10 | --- |
| S-1 | 04-11-90 | d | <0.05 | <0.05 ^a | <0.0005 | <0.0005 | <0.0005 | <0.0005 | e | <10 | --- |
| BH-C | 10-12-92 | 9.5 | 0.074 | --- | 0.0005 | <0.0005 | <0.0005 | <0.0005 | b | --- | --- |
| BH-D | 10-12-92 | 9.5 | 24 | --- | 4.2 | 4.4 | <0.0005 | 2.8 | b | --- | --- |
| BH-E | 10-22-92 | 10.0 | 26 | --- | 6.9 | 2.2 | 13 | 12 | b | <7 | --- |
| BH-F | 10-22-92 | 10.5 | 3.1 | --- | 0.17 | 0.31 | 0.11 | 0.55 | b | <14 | --- |
| BH-G | 10-22-92 | 10.5 | 0.15 | --- | 0.0039 | 0.0038 | 0.0098 | 0.013 | b | <6 | --- |
| BH-H | 10-22-92 | 10.5 | 26 | --- | 1.6 | 1.9 | 0.28 | 2.8 | b | <6 | --- |
| BH-I | 10-22-92 | 10.5 | 0.053 | --- | 0.0014 | 0.0031 | 0.0013 | 0.053 | b | <8 | --- |
| DHS MCLs | | | NE | NE | 0.001 | 0.680 | 0.10 ^f | 1.750 | 0.05 ^g | NE | --- |

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by modified EPA Method 8015
 TPH-D = Total petroleum hydrocarbons as diesel by modified EPA Method 8015
 B = Benzene by EPA Method 8020
 E = Ethylbenzene by EPA Method 8020
 T = Toluene by EPA Method 8020
 X = Xylenes by EPA Method 8020
 VOCs = Volatile organic compounds including halogenated volatile organic compounds by EPA Method 624
 SVOCs = Semi-volatile organic compounds by EPA Method 625
 TOG = Total oil and grease by APHA Standard Method 5030&E
 ppm = parts per million
 <n = Not detected at laboratory reporting limit of n ppm
 DHS MCL = Department of Health Services Maximum Contaminant Level
 NE = DHS action levels not established
 --- = Not analyzed or not applicable

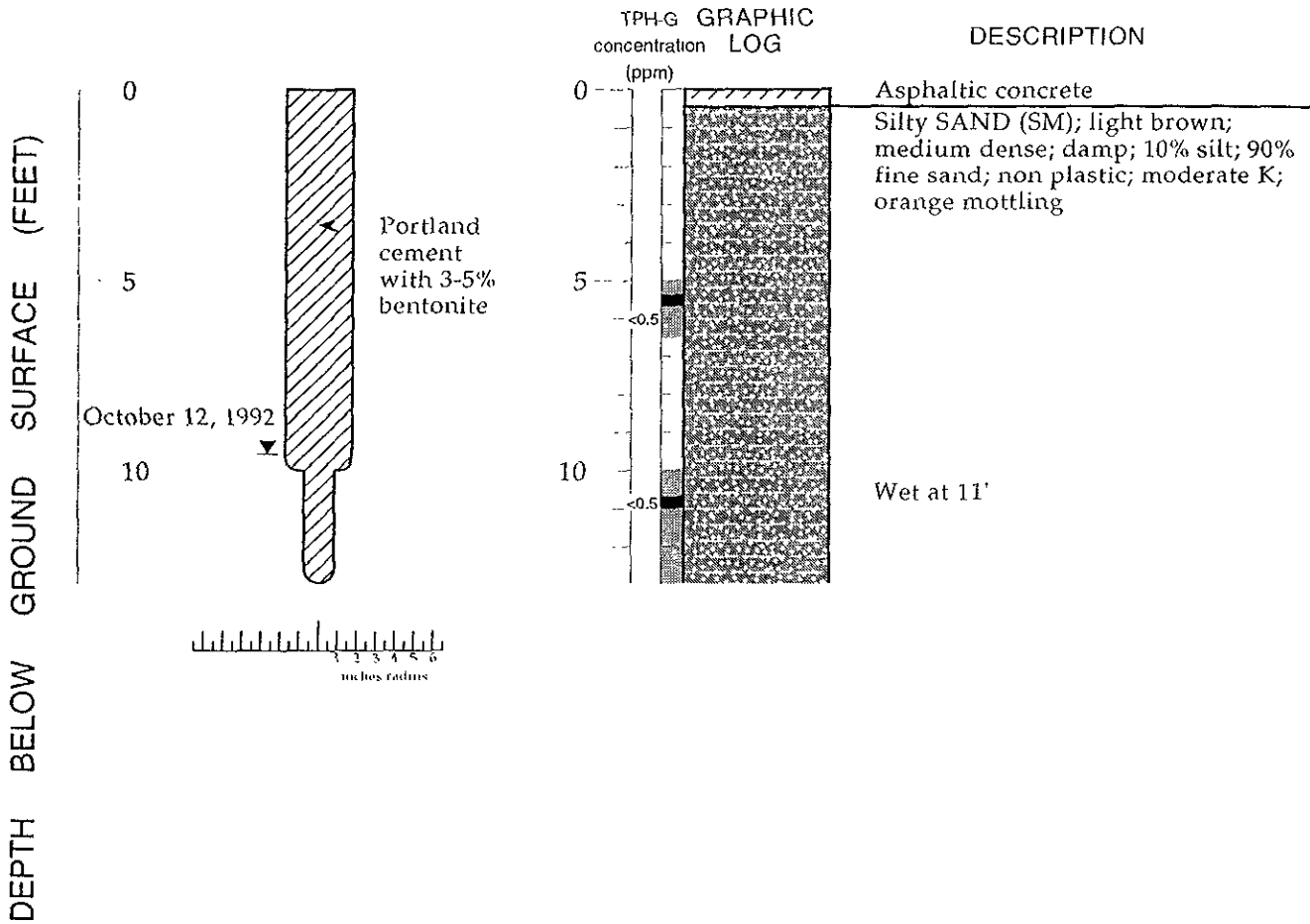
Notes:

a = Total petroleum hydrocarbons as motor oil (TPH-MO) were not detected at a detection limit of 0.05 ppm.
 b = No VOCs detected
 c = 1,2-dichloroethane detected at 0.0011 ppm
 d = Acetone detected at 0.12 ppm
 e = Ground water depth not available
 f = DHS recommended action level for drinking water
 g = MCL for 1,2-dichloroethane

Samples from wells MW-1, MW-2 and S-1 were analyzed by National Environmental Testing (NET) Pacific, Inc., Santa Rosa, California. Samples from borings BH-C through BH-I were analyzed by Anametrix, Inc. of San Jose, California.



BORING BH-C



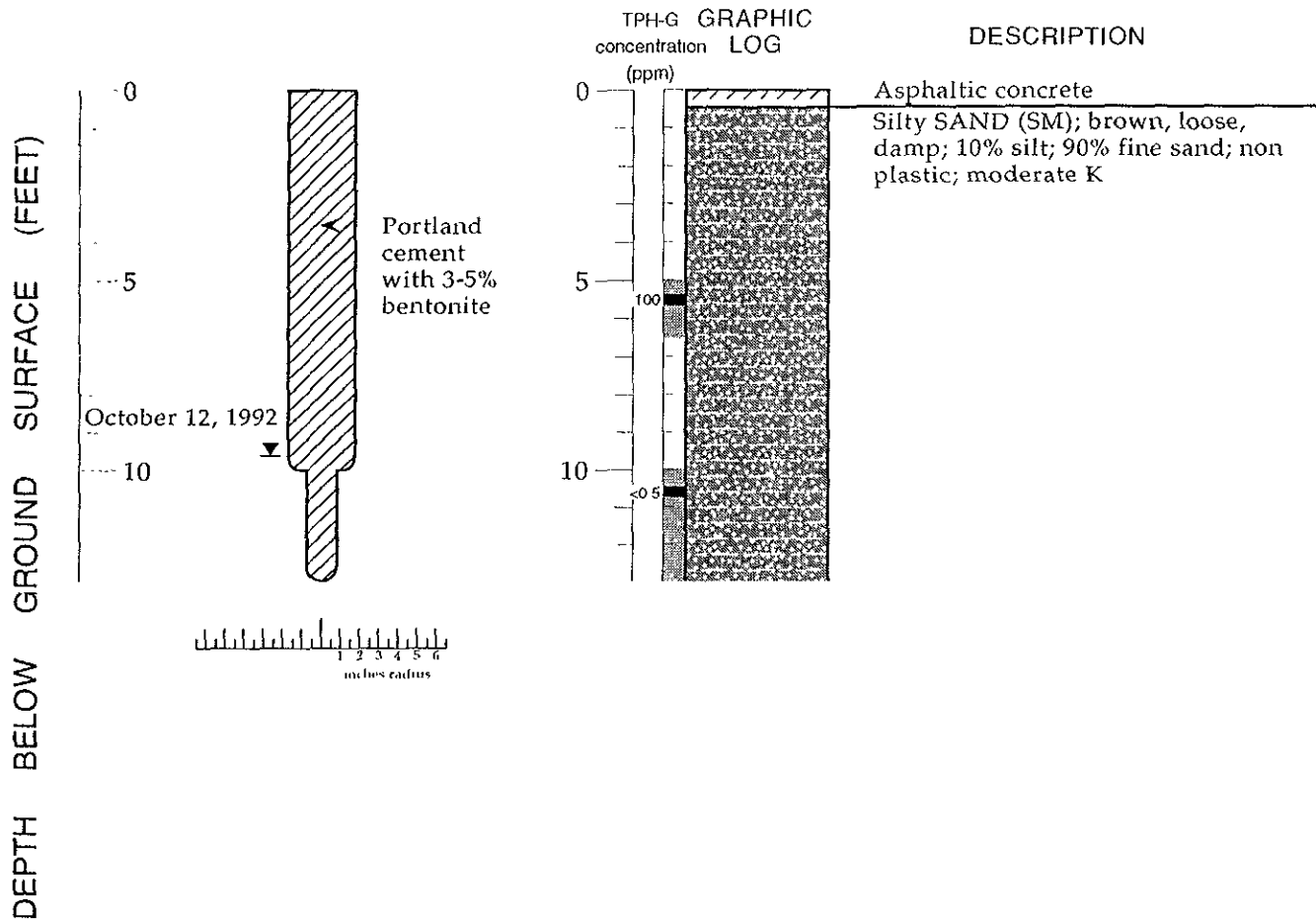
EXPLANATION

- ▼ Water level during drilling (date)
- ∇ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- ▨ Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
 Supervisor: N. Scott MacLeod
 Drilling Company: Soils Exploration Drilling, Vacaville, CA
 License Number: C57-582696
 Driller: Scott Fitchie & Chad Little
 Drilling Method: Cuttingless system
 Date Drilled: October 12, 1992
 Type of Sampler: Split barrel (2" ID)
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-C - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

BORING BH-D



EXPLANATION

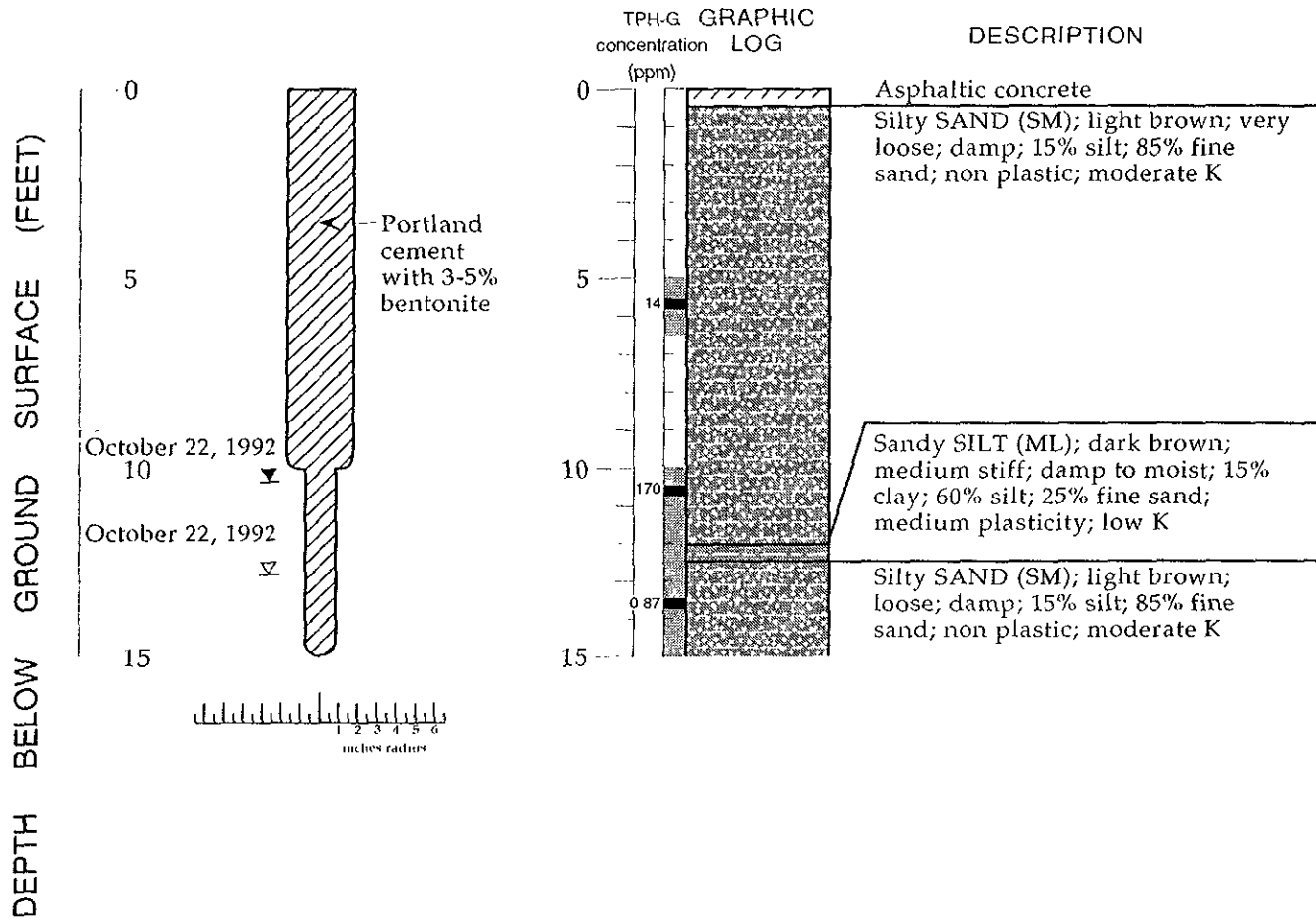
- ▼ Water level during drilling (date)
- ▽ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //// Gradational contact
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- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
 Supervisor: N. Scott MacLeod
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 License Number: C57-582696
 Driller: Scott Fitchie & Chad Little
 Drilling Method: Cuttingless system
 Date Drilled: October 12, 1992
 Type of Sampler: Split barrel (2" ID)
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-D - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California



BORING BH-E



EXPLANATION

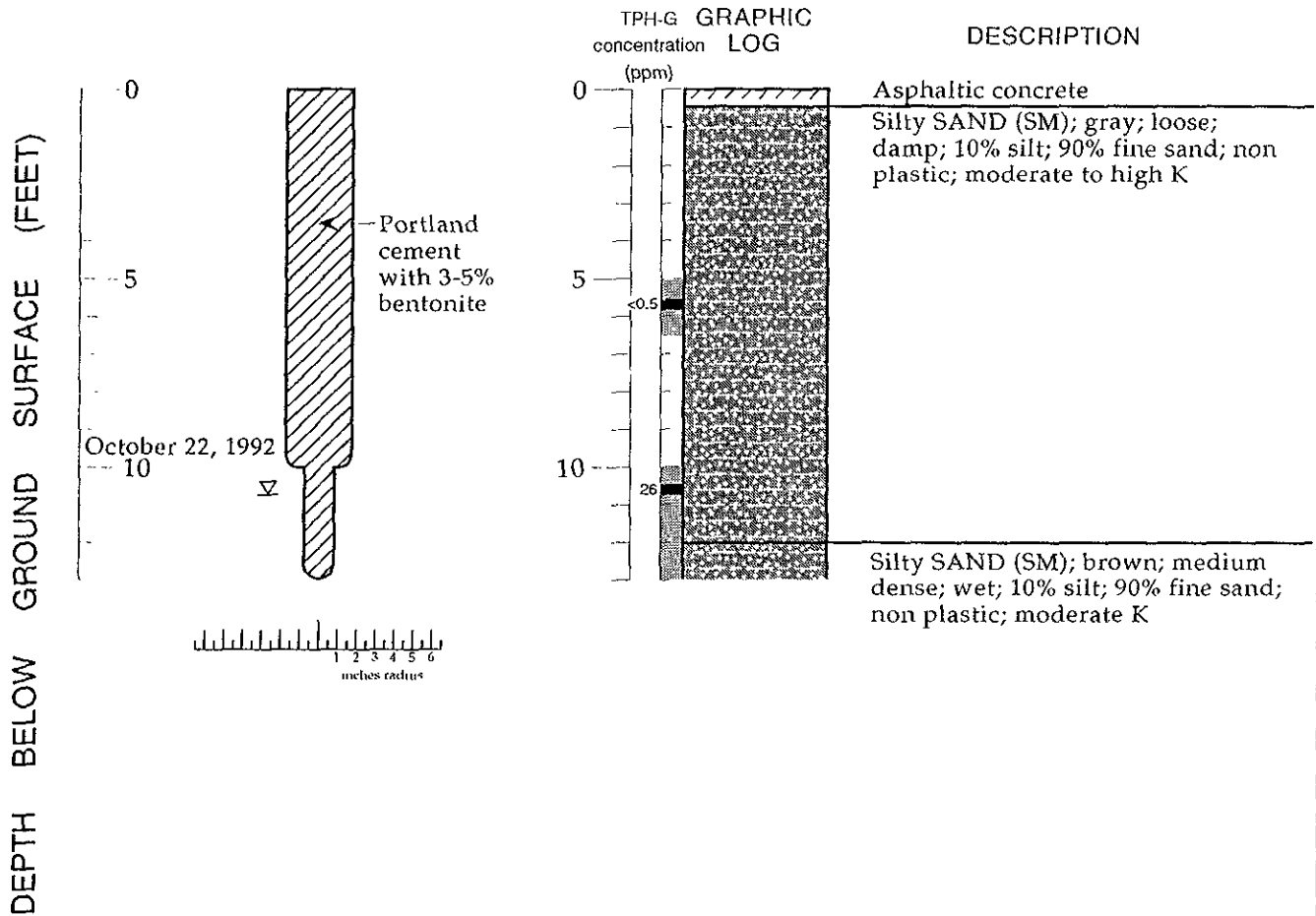
- ▼ Water level during drilling (date)
- ∇ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //// Gradational contact
- ⊙ Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- ⊗ Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
 Supervisor: N. Scott MacLeod
 Drilling Company: Soils Exploration Drilling, Vacaville, CA
 License Number: C57-582696
 Driller: Mike Duffy & John Sousa
 Drilling Method: Cuttingless system
 Date Drilled: October 22, 1992
 Type of Sampler: Split barrel (2" ID)
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-E - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California



BORING BH-F



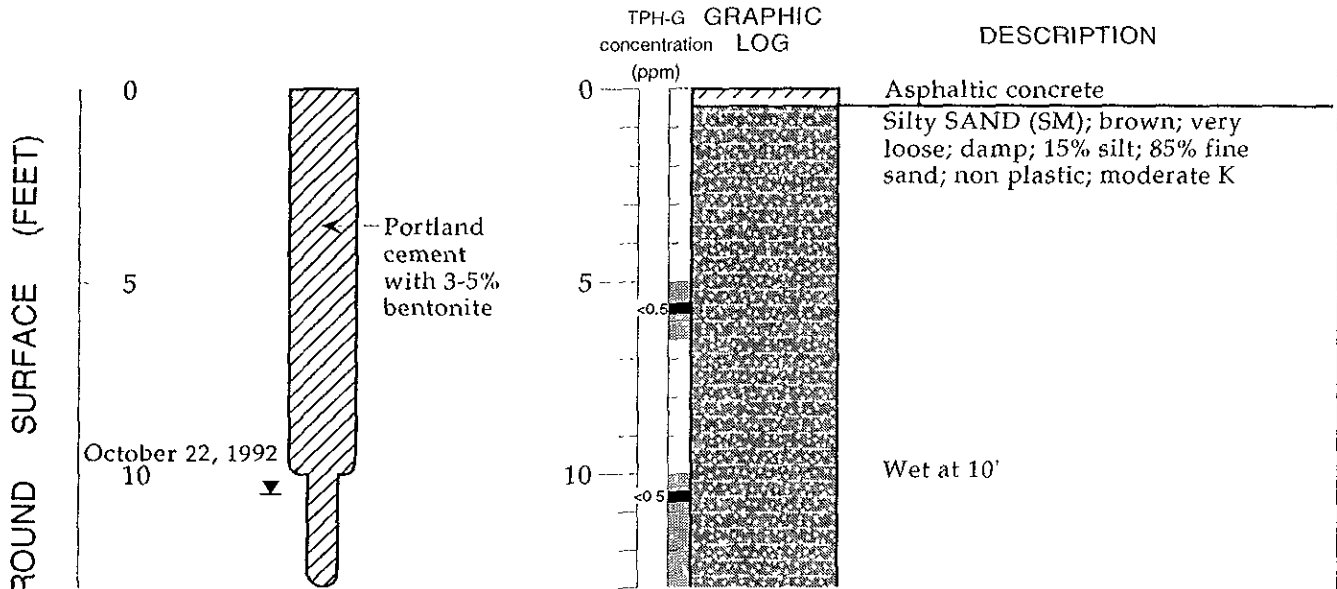
EXPLANATION

- ▼ Water level during drilling (date)
- ▽ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //// Gradational contact
- ||||| Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- ▣ Cutting sample
- K = Estimated hydraulic conductivity









Logged By: Joyce E. Fremstad
 Supervisor: N. Scott MacLeod
 Drilling Company: Soils Exploration Drilling, Vacaville, CA
 License Number: C57-582696
 Driller: Mike Duffy & John Sousa
 Drilling Method: Cuttingless system
 Date Drilled: October 22, 1992
 Type of Sampler: Split barrel (2" ID)
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-F - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

BORING BH-G

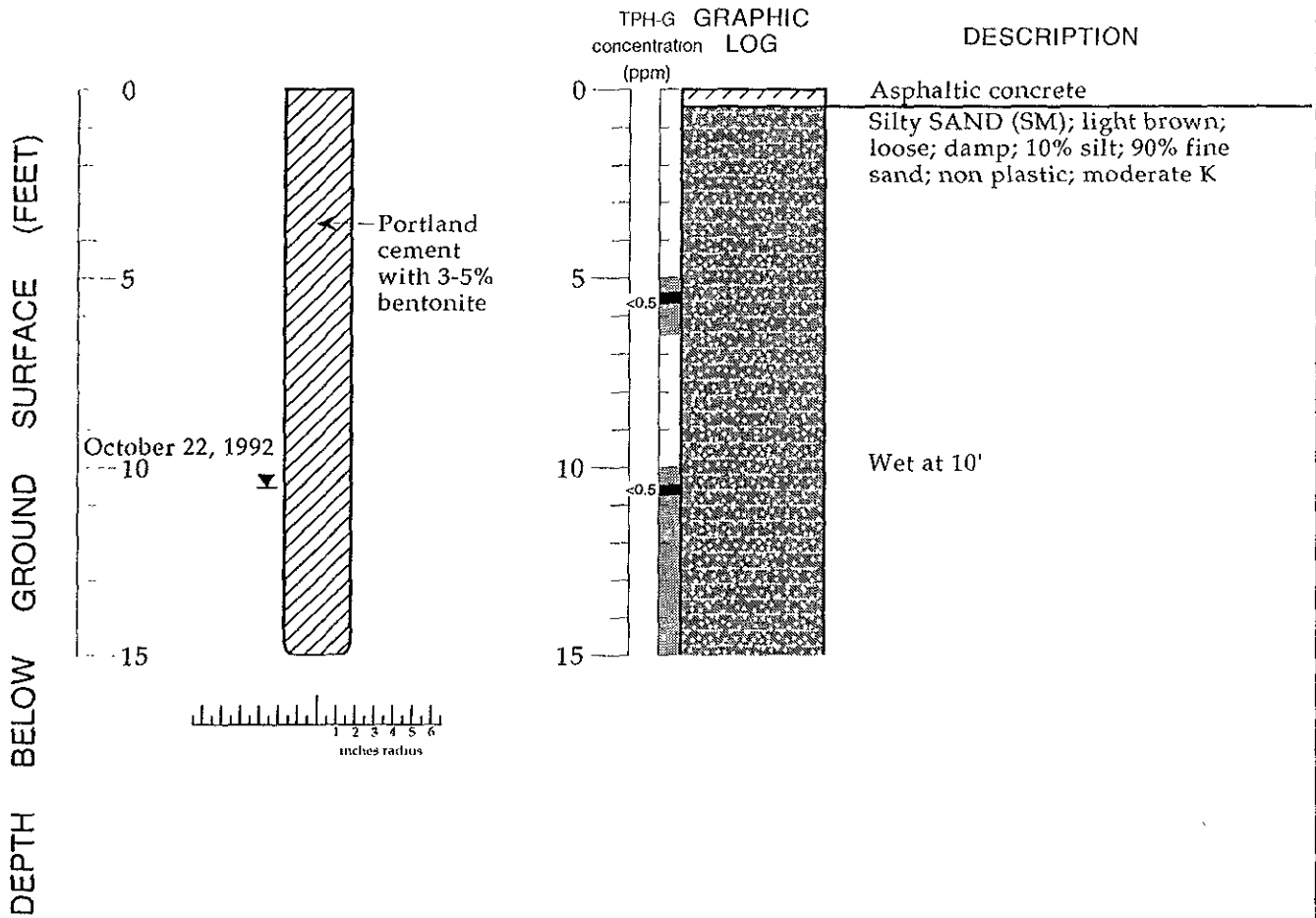


EXPLANATION

- | | |
|--|--|
| <ul style="list-style-type: none">  Water level during drilling (date)  Water level (date)  Contact (dotted where approximate)  Uncertain contact  Gradational contact  Location of recovered drive sample  Location of drive sample sealed for chemical analysis  Cutting sample K = Estimated hydraulic conductivity | <p>Logged By: Joyce E. Fremstad Supervisor: N. Scott MacLeod Drilling Company: Soils Exploration Drilling, Vacaville, CA License Number: C57-582696 Driller: Mike Duffy & John Sousa Drilling Method: Solid flight auger Date Drilled: October 22, 1992 Type of Sampler: Split barrel (2" ID) TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015</p> |
|--|--|

Boring Log and Well Construction Details - Boring BH-G - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

BORING BH-H



EXPLANATION

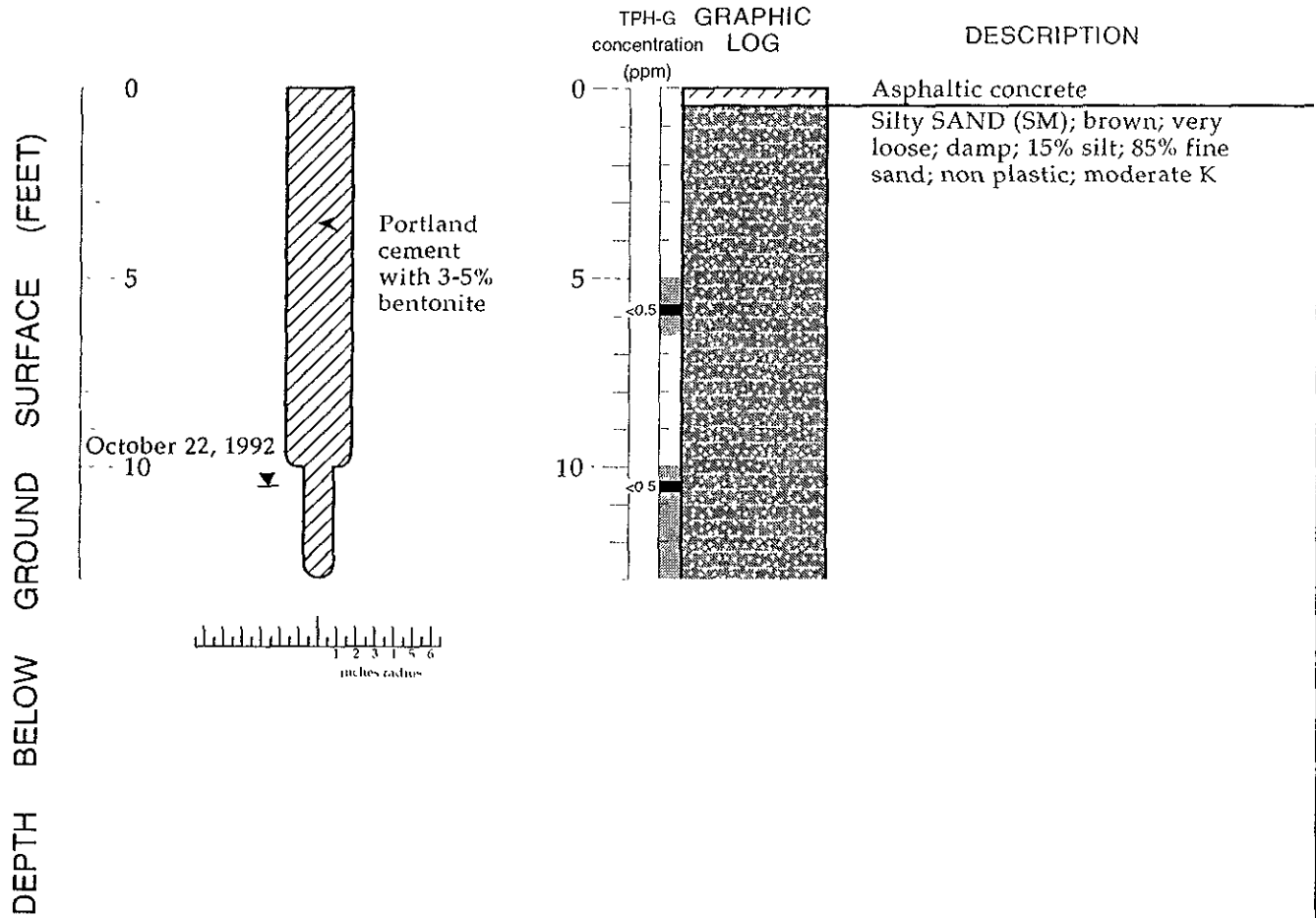
- ▼ Water level during drilling (date)
- ▽ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //// Gradational contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
 Supervisor: N. Scott MacLeod
 Drilling Company: Soils Exploration Drilling, Vacaville, CA
 License Number: C57-582696
 Driller: Mike Duffy & John Sousa
 Drilling Method: Solid flight auguer
 Date Drilled: October 22, 1992
 Type of Sampler: Split barrel (2" ID)
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-H - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California



BORING BH-1



EXPLANATION

- ▼ Water level during drilling (date)
- ⋈ Water level (date)
- Contact (dotted where approximate)
- ?-?-? Uncertain contact
- //// Gradational contact
- ⊠ Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- ⊞ Cutting sample
- K = Estimated hydraulic conductivity

Logged By: Joyce E. Fremstad
 Supervisor: N. Scott MacLeod
 Drilling Company: Soils Exploration Drilling, Vacaville, CA
 License Number: C57-582696
 Driller: Mike Duffy & John Sousa
 Drilling Method: Solid flight auger
 Date Drilled: October 22, 1992
 Type of Sampler: Split barrel (2" ID)
 TPH-G: Total petroleum hydrocarbon as gasoline in soil by modified EPA Method 8015

Boring Log and Well Construction Details - Boring BH-1 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

ATTACHMENT A
GROUND WATER MONITORING REPORT AND ANALYTIC REPORT



EMCON
ASSOCIATES

Consultants in Wastes
Management and
Environmental Control

November 12, 1992
Project: 0G67-029.01
WIC#: 204-0072-0403

Mr. David Elias
Weiss Associates
5500 Shellmound Street
Emeryville, California 94608-2411

Re: Fourth quarter 1992 ground-water monitoring report, Shell Oil
Company, 1601 Webster Street, Alameda, California

Dear Mr. Elias:

This letter presents the results of the fourth quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 1601 Webster Street, Alameda, California (figure 1). Fourth quarter monitoring was conducted on October 2, 1992. The site is monitored quarterly.

GROUND-WATER LEVEL SURVEY

A water-level survey preceded the purging and sampling of the monitoring wells. The wells included in the survey are identified in figure 2 (supplied by Weiss Associates). During the survey, wells MW-1, MW-2, and S-1 were measured for depth to water, floating product thickness, and total depth. Depth to water and floating product thickness were measured to the nearest 0.01 foot with an oil/water interface probe. No floating product was observed in any wells. Total depth was measured to the nearest 0.1 foot. Results of the fourth quarter water-level survey, and available data from four previous surveys, are summarized in table 1.

SAMPLING AND ANALYSIS

Ground-water samples were collected from wells MW-1, MW-2, and S-1 on October 2, 1992. Prior to sample collection, the wells were purged with polyvinyl chloride bailers. During the purging operation, ground water was monitored for pH, electrical conductivity, and temperature as a function of volume of water removed. Purging continued until these parameters were stable and a minimum of three casing volumes of ground water were removed. Well S-1 was evacuated to dryness before the removal of three casing volumes. The well was allowed to recharge for up to 24 hours. Samples were collected after the well had recharged to a sufficient level. Field measurements from fourth quarter monitoring, and available measurements from four previous monitoring events, are summarized in table 1. Purge water from the monitoring wells was con-

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tained in a 55-gallon drum. The drum was identified with a Shell-approved label and secured for on-site storage.

Ground-water samples were collected with a Teflon® bailer, labeled, placed on ice, and transported to Anametrix Inc. for analysis. Shell chain-of-custody documents accompanied all samples to the laboratory.

All equipment that was placed down a well or that came in contact with ground water was steam cleaned with deionized water prior to use at each well.

Quality control samples for fourth quarter monitoring included a trip blank (TB), a field blank (FB), and a duplicate well sample (MW-2D) collected from well MW-2. All water samples collected during fourth quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Additional ground-water samples collected from wells MW-1 and MW-2 were analyzed for halogenated volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) method 601.

ANALYTICAL RESULTS

Analytical results for the fourth quarter 1992 monitoring event, and available results from four previous monitoring events, are summarized in table 2 (TPH-g and BTEX) and table 3 (VOCs). The original certified analytical report and final chain-of-custody document are attached.

If you have any questions, please call.

Very truly yours,

EMCON Associates



David Larsen
Environmental Sampling Coordinator



Orrin Childs
Environmental Sampling Supervisor

DL/OC:dl

Attachments: Table 1 - Monitoring well field measurement data
Table 2 - Summary of analytical results (TPH-g and BTEX)
Table 3 - Summary of analytical results (VOCs)
Figure 1 - Site location map
Figure 2 - Monitoring well locations
Certified analytical report
Chain-of-custody document

Table 1
Monitoring Well Field Measurement Data
Fourth Quarter 1992

Shell Station: 1601 Webster St.
Alameda, California
WIC #: 204-0072-0403

Date: 11/12/92
Project Number: G67-29.01

| Well Designation | Water Level Field Date | TOC Elevation (ft-MSL) | Depth to Water (feet) | Ground-water Elevation (ft-MSL) | Total Well Depth (feet) | Floating Product Thickness (feet) | Water Sample Field Date | pH (std. units) | Electrical Conductivity (micromhos/cm) | Temperature (degrees F) | Turbidity (NTU) |
|------------------|------------------------|------------------------|-----------------------|---------------------------------|-------------------------|-----------------------------------|-------------------------|-----------------|--|-------------------------|-----------------|
| MW-1 | 10/17/91 | 13.80 | 10.47 | 3.33 | NR | NR | 10/17/91 | NR | NR | NR | NR |
| MW-1 | 01/24/92 | 13.80 | 9.18 | 4.62 | 21.0 | ND | 01/24/92 | 6.49 | 685 | 61.3 | >200 |
| MW-1 | 04/23/92 | 13.80 | 6.95 | 6.85 | 20.8 | ND | 04/23/92 | 6.38 | 928 | 63.3 | >200 |
| MW-1 | 07/02/92 | 13.80 | 8.01 | 5.79 | 20.8 | ND | 07/02/92 | 5.90 | 983 | 67.2 | 711 |
| MW-1 | 10/02/92 | 13.80 | 9.81 | 3.99 | 20.8 | ND | 10/02/92 | 6.35 | 748 | 68.1 | 504 |
| MW-2 | 10/17/91 | 13.20 | 9.89 | 3.31 | NR | NR | 10/17/91 | NR | NR | NR | NR |
| MW-2 | 01/24/92 | 13.20 | 8.60 | 4.60 | 19.9 | ND | 01/24/92 | 6.46 | 1211 | 65.1 | >200 |
| MW-2 | 04/23/92 | 13.20 | 6.48 | 6.72 | 19.9 | ND | 04/23/92 | 6.68 | 1166 | 66.2 | >200 |
| MW-2 | 07/02/92 | 13.20 | 7.37 | 5.83 | 19.9 | ND | 07/02/92 | 6.29 | 1284 | 71.4 | 284 |
| MW-2 | 10/02/92 | 13.20 | 9.20 | 4.00 | 19.8 | ND | 10/02/92 | 6.47 | 1176 | 72.2 | >1000 |
| S-1 | 10/17/91 | 13.77 | 10.62 | 3.15 | NR | NR | 10/17/91 | NR | NR | NR | NR |
| S-1 | 01/24/92 | 13.77 | 9.32 | 4.45 | 20.0 | ND | 01/24/92 | 6.51 | 806 | 60.7 | >200 |
| S-1 | 04/23/92 | 13.77 | 7.27 | 6.50 | 19.9 | ND | 04/23/92 | 6.46 | 801 | 60.7 | >200 |
| S-1 | 07/02/92 | 13.77 | 8.19 | 5.58 | 19.9 | ND | 07/02/92 | 6.19 | 918 | 67.4 | 862 |
| S-1 | 10/02/92 | 13.77 | 9.95 | 3.82 | 19.8 | ND | 10/02/92 | 6.34 | 924 | 66.5 | >1000 |

TOC = top of casing

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

std. units = standard pH units

micromhos/cm = micromhos per centimeter

degrees F = degrees Fahrenheit

NTU = nephelometric turbidity units

NR = Not reported; data not available

ND = None detected

Table 2
 Summary of Analytical Results
 Fourth Quarter 1992
 milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 1601 Webster St.
 Alameda, California
 WIC #: 204-0072-0403

Date: 11/12/92
 Project Number: G67-29.01

| Sample Designation | Water Sample Field Date | TPH-g (mg/l) | Benzene (mg/l) | Toluene (mg/l) | Ethyl-benzene (mg/l) | Total Xylenes (mg/l) |
|--------------------|-------------------------|-----------------|-------------------|-------------------|-------------------------|-------------------------|
| MW-1 | 10/17/91 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1 | 01/24/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1 | 04/23/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1 | 07/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-1 | 10/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| MW-2 | 10/17/91 | 2.1 | 0.18 | 0.26 | 0.15 | 0.52 |
| MW-2 | 01/24/92 | 7.1 | 0.45 | 0.96 | 0.45 | 1.6 |
| MW-2 | 04/23/92 | 16. | 0.32 | 0.74 | 0.65 | 2.6 |
| MW-2 | 07/02/92 | 33. | 2.5 | 3.7 | 2.0 | 9.6 |
| MW-2 | 10/02/92 | 7.0 | 0.96 | 0.65 | 0.57 | 1.2 |
| MW-2D | 07/02/92 | 26. | 2.9 | 4.8 | 1.8 | 10. |
| MW-2D | 10/02/92 | 15. | 0.99 | 1.2 | 0.99 | 2.8 |
| S-1 | 10/17/91 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| S-1 | 01/24/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| S-1 | 04/23/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| S-1 | 07/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| S-1 | 10/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| FB | 07/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| FB | 10/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| TB | 10/17/91 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| TB | 01/24/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| TB | 04/23/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| TB | 07/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| TB | 10/02/92 | <0.05 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |

TPH-g = total petroleum hydrocarbons as gasoline

Table 3
 Summary of Analytical Results
 Volatile Organic Compounds by EPA Method 601
 Fourth Quarter 1992
 milligrams per liter (mg/L) or parts per million (ppm)

Shell Station: 1601 Webster St.
 Alameda, California
 WIC #: 204-0072-0403

Date: 11/12/92
 Project Number: G67-29.01

| Sample Designation | Water Sample Field Date | cis-1,2-DCE | 1,2-DCA |
|--------------------|-------------------------|-------------|---------|
| | | (mg/l) | (mg/l) |
| MW-1 | 10/17/91 | 0.0072 | <0.0005 |
| MW-1 | 01/24/92 | 0.0014 | <0.0005 |
| MW-1 | 04/23/92 | <0.0005 | <0.0005 |
| MW-1 | 07/02/92 | <0.0005 | <0.0005 |
| MW-1 | 10/02/92 | 0.002 | <0.0005 |
| MW-2 | 10/17/91 | <0.0005 | 0.0006 |
| MW-2 | 01/24/92 | <0.0005 | <0.0005 |
| MW-2 | 05/20/92 | <0.0025 | <0.0025 |
| MW-2 | 07/02/92 | <0.05 | <0.05 |
| MW-2 | 10/02/92 | <0.005 | <0.005 |

cis-1,2-DCE = cis-1,2-Dichloroethene
 1,2-DCA = 1,2-Dichloroethane

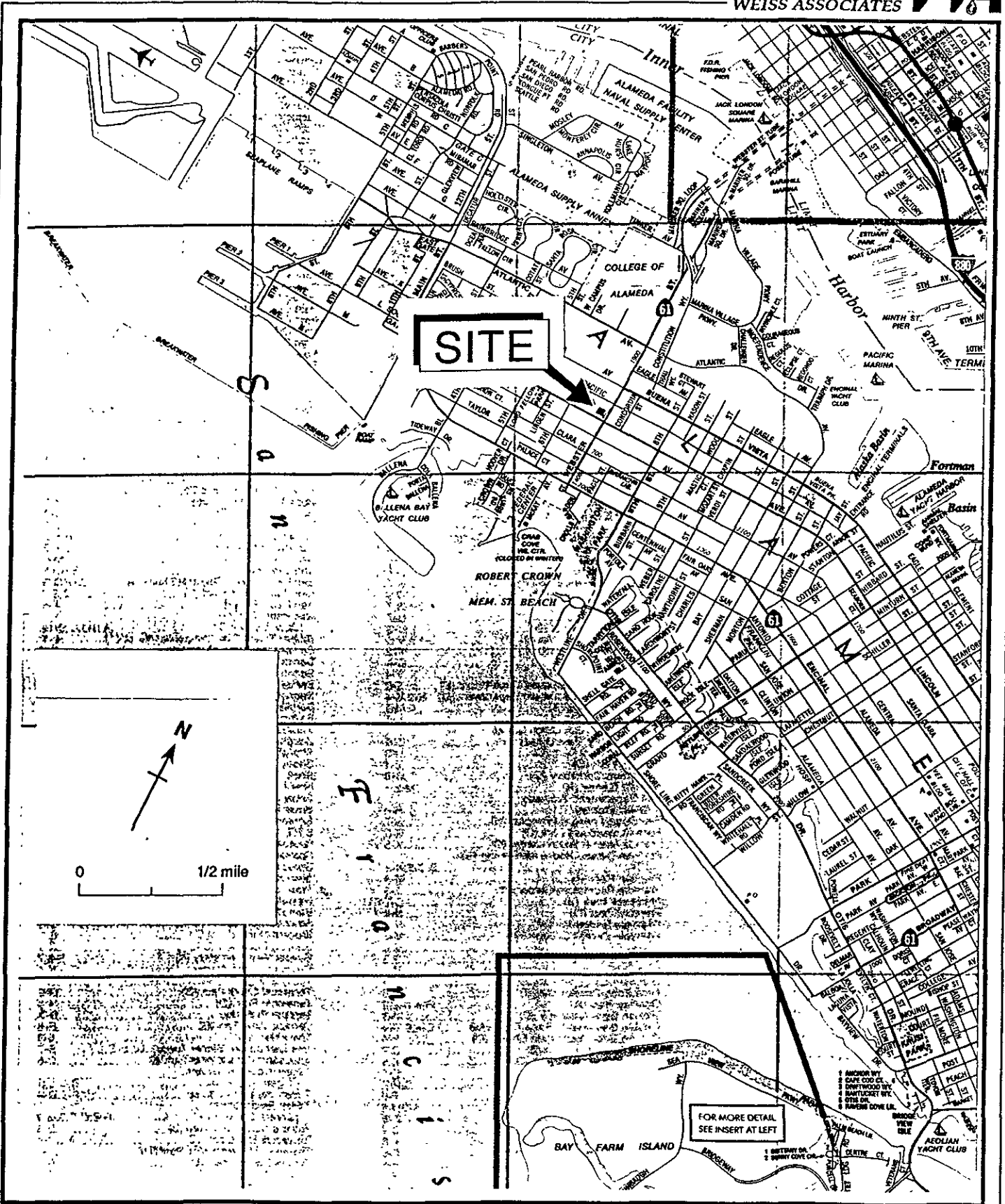


Figure 1. Site Location Map
Shell Service Station WIC #204-0072-0403
1601 Webster Street, Alameda, California

EXPLANATION

⊙ MW-1 Monitoring well

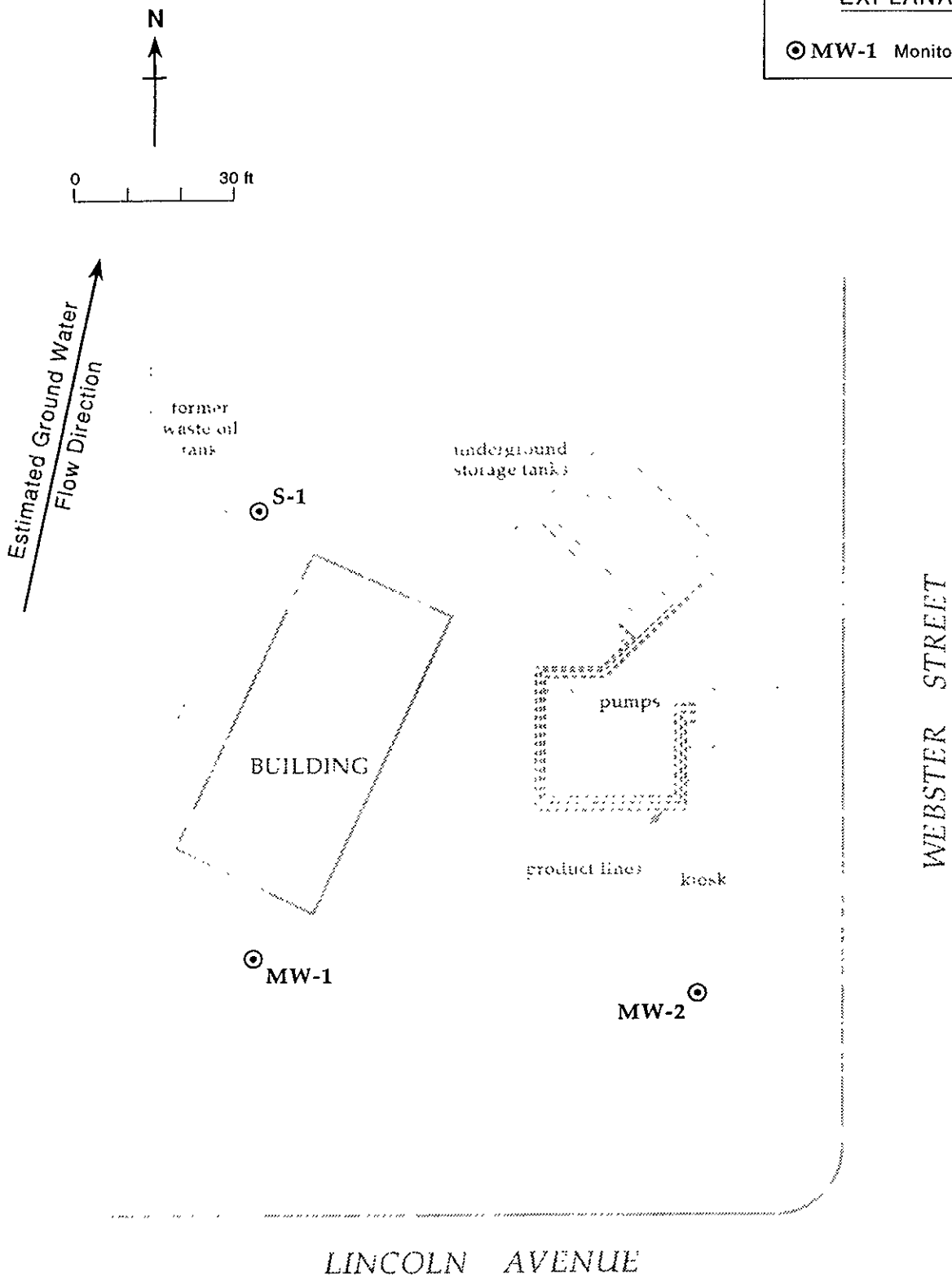


Figure 2. Monitoring Well Locations - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California



MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9210048
Date Received : 10/05/92
Project ID : 204-0072-0403
Purchase Order: MOH-B813

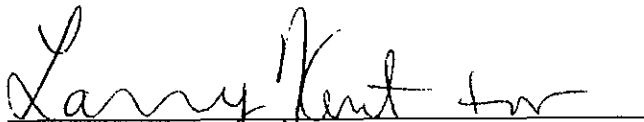
The following samples were received at Anamatrix, Inc. for analysis :

| ANAMETRIX ID | CLIENT SAMPLE ID |
|--------------|------------------|
| 9210048- 1 | MW-1 |
| 9210048- 2 | S-1 |
| 9210048- 3 | MW-2 |
| 9210048- 4 | MW-2D |
| 9210048- 5 | TB |
| 9210048- 6 | FB |

This report consists of 15 pages not including the cover letter, and is organized in sections according to the specific Anamatrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anamatrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anamatrix.



Sarah Schoen, Ph.D.
Laboratory Director

10-20-92
Date

EMCON ASSOCIATES

OCT 21 1992

RECEIVED

ANAMETRIX REPORT DESCRIPTION

GC

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anamatrix ID number.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anamatrix uses several data qualifiers (Q) in its report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- ◆ Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- ◆ Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9210048
Date Received : 10/05/92
Project ID : 204-0072-0403
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

| ANAMETRIX SAMPLE ID | CLIENT SAMPLE ID | MATRIX | DATE SAMPLED | METHOD |
|------------------------|---------------------|--------|-----------------|--------|
| 9210048- 1 | MW-1 | WATER | 10/02/92 | 8010 |
| 9210048- 3 | MW-2 | WATER | 10/02/92 | 8010 |

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9210048
Date Received : 10/05/92
Project ID : 204-0072-0403
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- Sample MW-2 was analyzed at a dilution due to interfering hydrocarbon peaks.

Corinne Blam 10/9/92
Department Supervisor Date

Kamel G. Kamel 10/9/92
Chemist Date

DESCRIPTIONS FOR SPECIFIC COMPOUNDS ANALYZED
EPA METHOD 601/8010

| <u>CAS #</u> | <u>COMPOUND NAME</u> | <u>ABBREVIATED NAME</u> |
|--------------|---------------------------|-------------------------|
| 74-87-3 | Chloromethane | Chloromethane |
| 74-83-9 | Bromomethane | Bromoethane |
| 75-71-8 | Dichlorodifluoromethane | Freon 12 |
| 75-01-4 | Vinyl Chloride | Vinyl Chloride |
| 75-00-3 | Chloroethane | Chloroethane |
| 75-09-2 | Methylene Chloride | Methylene Chlor |
| 75-69-4 | Trichlorofluoromethane | Freon 11 |
| 75-35-4 | 1,1-Dichloroethene | 1,1-DCE |
| 75-34-3 | 1,1-Dichloroethane | 1,1-DCA |
| 156-59-2 | Cis-1,2-Dichloroethene | Cis-1,2-DCE |
| 156-60-5 | Trans-1,2-Dichloroethene | Trans-1,2-DCE |
| 67-66-3 | Chloroform | Chloroform |
| 76-13-1 | Trichlorotrifluoroethane | Freon 113 |
| 107-06-2 | 1,2-Dichloroethane | 1,2-DCA |
| 71-55-6 | 1,1,1-Trichloroethane | 1,1,1-TCA |
| 56-23-5 | Carbon Tetrachloride | Carbon Tet |
| 75-27-4 | Bromodichloromethane | BromodichloroMe |
| 78-87-5 | 1,2-Dichloropropane | 1,2-DCPA |
| 10061-02-6 | Trans-1,3-Dichloropropene | Trans-1,3-DCPE |
| 79-01-6 | Trichloroethene | TCE |
| 124-48-1 | Dibromochloromethane | DibromochloroMe |
| 79-00-5 | 1,1,2-Trichloroethane | 1,1,2-TCA |
| 10061-01-5 | Cis-1,3-Dichloropropene | Cis-1,3-DCPE |
| 110-75-8 | 2-Chloroethylvinylether | Chloroethylvinl |
| 75-25-2 | Bromoform | Bromoform |
| 127-18-4 | Tetrachloroethene | PCE |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | PCA |
| 108-90-7 | Chlorobenzene | Chlorobenzene |
| 95-50-1 | 1,2-Dichlorobenzene | 1,2-DCB |
| 541-73-1 | 1,3-Dichlorobenzene | 1,3-DCB |
| 106-46-7 | 1,4-Dichlorobenzene | 1,4-DCB |
| 352-33-0 | p-Chlorofluorobenzene | Chlorofluoroben |

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 601/8010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 204-0072-0403 MW-1
Matrix : WATER
Date sampled : 10/02/92
Date analyzed: 10/07/92
Dilution : NONE

Anamatrix I.D. : 9210048-01
Analyst : SK
Supervisor : CP
Date released : 10/09/92
Instrument ID : HP14

| CAS # | Compound Name | Reporting Limit (mg/L) | Amount Found (mg/L) |
|----------------------|-----------------------------|------------------------|---------------------|
| 74-87-3 | * Chloromethane | 0.001 | ND |
| 74-83-9 | * Bromomethane | 0.0005 | ND |
| 75-71-8 | * Dichlorodifluoromethane | 0.001 | ND |
| 75-01-4 | * Vinyl Chloride | 0.0005 | ND |
| 75-00-3 | * Chloroethane | 0.0005 | ND |
| 75-09-2 | * Methylene Chloride | 0.0005 | ND |
| 75-69-4 | * Trichlorofluoromethane | 0.0005 | ND |
| 75-35-4 | * 1,1-Dichloroethene | 0.0005 | ND |
| 75-34-3 | * 1,1-Dichloroethane | 0.0005 | ND |
| 156-59-2 | # Cis-1,2-Dichloroethene | 0.0005 | 0.002 |
| 156-60-5 | * Trans-1,2-Dichloroethene | 0.0005 | ND |
| 67-66-3 | * Chloroform | 0.0005 | ND |
| 76-13-1 | # Trichlorotrifluoroethane | 0.0005 | ND |
| 107-06-2 | * 1,2-Dichloroethane | 0.0005 | ND |
| 71-55-6 | * 1,1,1-Trichloroethane | 0.0005 | ND |
| 56-23-5 | * Carbon Tetrachloride | 0.0005 | ND |
| 75-27-4 | * Bromodichloromethane | 0.0005 | ND |
| 78-87-5 | * 1,2-Dichloropropane | 0.0005 | ND |
| 10061-02-6 | * Trans-1,3-Dichloropropene | 0.0005 | ND |
| 79-01-6 | * Trichloroethene | 0.0005 | ND |
| 124-48-1 | * Dibromochloromethane | 0.0005 | ND |
| 79-00-5 | * 1,1,2-Trichloroethane | 0.0005 | ND |
| 10061-01-5 | * cis-1,3-Dichloropropene | 0.0005 | ND |
| 110-75-8 | * 2-Chloroethylvinylether | 0.001 | ND |
| 75-25-2 | * Bromoform | 0.0005 | ND |
| 127-18-4 | * Tetrachloroethene | 0.0005 | ND |
| 79-34-5 | * 1,1,2,2-Tetrachloroethane | 0.0005 | ND |
| 108-90-7 | * Chlorobenzene | 0.0005 | ND |
| 95-50-1 | * 1,2-Dichlorobenzene | 0.001 | ND |
| 541-73-1 | * 1,3-Dichlorobenzene | 0.001 | ND |
| 106-46-7 | * 1,4-Dichlorobenzene | 0.001 | ND |
| % Surrogate Recovery | | 51-136% | 93% |

ND : Not detected at or above the practical quantitation limit for the method.

* A 601/8010 approved compound (Federal Register, 10/26/84).
A compound added by Anamatrix, Inc.

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 601/8010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 204-0072-0403 MW-2
Matrix : WATER
Date sampled : 10/02/92
Date analyzed: 10/07/92
Dilution : 10

Anamatrix I.D. : 9210048-03
Analyst : *SP*
Supervisor : *CP*
Date released : 10/09/92
Instrument ID : HP14

| CAS # | Compound Name | Reporting Limit (mg/L) | Amount Found (mg/L) |
|------------|-----------------------------|------------------------|---------------------|
| 74-87-3 | * Chloromethane | 0.01 | ND |
| 74-83-9 | * Bromomethane | 0.005 | ND |
| 75-71-8 | * Dichlorodifluoromethane | 0.01 | ND |
| 75-01-4 | * Vinyl Chloride | 0.005 | ND |
| 75-00-3 | * Chloroethane | 0.005 | ND |
| 75-09-2 | * Methylene Chloride | 0.005 | ND |
| 75-69-4 | * Trichlorofluoromethane | 0.005 | ND |
| 75-35-4 | * 1,1-Dichloroethene | 0.005 | ND |
| 75-34-3 | * 1,1-Dichloroethane | 0.005 | ND |
| 156-59-2 | # Cis-1,2-Dichloroethene | 0.005 | ND |
| 156-60-5 | * Trans-1,2-Dichloroethene | 0.005 | ND |
| 67-66-3 | * Chloroform | 0.005 | ND |
| 76-13-1 | # Trichlorotrifluoroethane | 0.005 | ND |
| 107-06-2 | * 1,2-Dichloroethane | 0.005 | ND |
| 71-55-6 | * 1,1,1-Trichloroethane | 0.005 | ND |
| 56-23-5 | * Carbon Tetrachloride | 0.005 | ND |
| 75-27-4 | * Bromodichloromethane | 0.005 | ND |
| 78-87-5 | * 1,2-Dichloropropane | 0.005 | ND |
| 10061-02-6 | * Trans-1,3-Dichloropropene | 0.005 | ND |
| 79-01-6 | * Trichloroethene | 0.005 | ND |
| 124-48-1 | * Dibromochloromethane | 0.005 | ND |
| 79-00-5 | * 1,1,2-Trichloroethane | 0.005 | ND |
| 10061-01-5 | * cis-1,3-Dichloropropene | 0.005 | ND |
| 110-75-8 | * 2-Chloroethylvinylether | 0.01 | ND |
| 75-25-2 | * Bromoform | 0.005 | ND |
| 127-18-4 | * Tetrachloroethene | 0.005 | ND |
| 79-34-5 | * 1,1,2,2-Tetrachloroethane | 0.005 | ND |
| 108-90-7 | * Chlorobenzene | 0.005 | ND |
| 95-50-1 | * 1,2-Dichlorobenzene | 0.01 | ND |
| 541-73-1 | * 1,3-Dichlorobenzene | 0.01 | ND |
| 106-46-7 | * 1,4-Dichlorobenzene | 0.01 | ND |
| | % Surrogate Recovery | 51-136% | 80% |

ND : Not detected at or above the practical quantitation limit for the method.

* A 601/8010 approved compound (Federal Register, 10/26/84).
A compound added by Anamatrix, Inc.

ORGANIC ANALYSIS DATA SHEET - EPA METHOD 601/8010
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : VBLANK
Matrix : WATER
Date sampled : N/A
Date analyzed: 10/07/92
Dilution : NONE

Anamatrix I.D. : 14B1007H01
Analyst : KK
Supervisor :
Date released : 10/09/92
Instrument ID : HP14

| CAS # | Compound Name | Reporting Limit (mg/L) | Amount Found (mg/L) |
|------------|-----------------------------|------------------------|---------------------|
| 74-87-3 | * Chloromethane | 0.001 | ND |
| 74-83-9 | * Bromomethane | 0.0005 | ND |
| 75-71-8 | * Dichlorodifluoromethane | 0.001 | ND |
| 75-01-4 | * Vinyl Chloride | 0.0005 | ND |
| 75-00-3 | * Chloroethane | 0.0005 | ND |
| 75-09-2 | * Methylene Chloride | 0.0005 | ND |
| 75-69-4 | * Trichlorofluoromethane | 0.0005 | ND |
| 75-35-4 | * 1,1-Dichloroethene | 0.0005 | ND |
| 75-34-3 | * 1,1-Dichloroethane | 0.0005 | ND |
| 156-59-2 | # Cis-1,2-Dichloroethene | 0.0005 | ND |
| 156-60-5 | * Trans-1,2-Dichloroethene | 0.0005 | ND |
| 67-66-3 | * Chloroform | 0.0005 | ND |
| 76-13-1 | # Trichlorotrifluoroethane | 0.0005 | ND |
| 107-06-2 | * 1,2-Dichloroethane | 0.0005 | ND |
| 71-55-6 | * 1,1,1-Trichloroethane | 0.0005 | ND |
| 56-23-5 | * Carbon Tetrachloride | 0.0005 | ND |
| 75-27-4 | * Bromodichloromethane | 0.0005 | ND |
| 78-87-5 | * 1,2-Dichloropropane | 0.0005 | ND |
| 10061-02-6 | * Trans-1,3-Dichloropropene | 0.0005 | ND |
| 79-01-6 | * Trichloroethene | 0.0005 | ND |
| 124-48-1 | * Dibromochloromethane | 0.0005 | ND |
| 79-00-5 | * 1,1,2-Trichloroethane | 0.0005 | ND |
| 10061-01-5 | * cis-1,3-Dichloropropene | 0.0005 | ND |
| 110-75-8 | * 2-Chloroethylvinylether | 0.001 | ND |
| 75-25-2 | * Bromoform | 0.0005 | ND |
| 127-18-4 | * Tetrachloroethene | 0.0005 | ND |
| 79-34-5 | * 1,1,2,2-Tetrachloroethane | 0.0005 | ND |
| 108-90-7 | * Chlorobenzene | 0.0005 | ND |
| 95-50-1 | * 1,2-Dichlorobenzene | 0.001 | ND |
| 541-73-1 | * 1,3-Dichlorobenzene | 0.001 | ND |
| 106-46-7 | * 1,4-Dichlorobenzene | 0.001 | ND |
| | % Surrogate Recovery | 51-136% | 94% |

ND : Not detected at or above the practical quantitation limit for the method.

* A 601/8010 approved compound (Federal Register, 10/26/84).
A compound added by Anamatrix, Inc.

HALOGENATED VOLATILE RECOVERY REPORT
 EPA METHOD 601/8010
 ANAMETRIX, INC. (408)432-8192

Sample I.D. : 204-0072-0403 MW-1
 Matrix : WATER
 Date sampled : 10/02/92
 Date analyzed : 10/07/92

Anamatrix I.D. : 9210048-01
 Analyst : *SL*
 Supervisor : *CP*
 Date released : 10/09/92
 Instrument I.D.: HP14

| | SPIKE AMT. (ug/L) | MS (ug/L) | REC MS | MSD (ug/L) | REC MSD | RPD | %REC LIMITS |
|--------------------------|-------------------------|--------------|-----------|---------------|------------|------|----------------|
| FREON 113 | 10 | 6.9 | 69% | 8.0 | 80% | -15% | 28 - 127 |
| 1,1-DICHLOROETHENE | 10 | 7.4 | 74% | 7.7 | 77% | -3% | 47 - 119 |
| trans-1,2-DICHLOROETHENE | 10 | 7.5 | 75% | 7.7 | 77% | -3% | 46 - 112 |
| 1,1-DICHLOROETHANE | 10 | 8.5 | 85% | 8.7 | 87% | -2% | 57 - 124 |
| Cis-1,2-DICHLOROETHENE | 10 | 14.6 | 146% | 14.7 | 147% | -1% | 70 - 139 |
| 1,1,1-TRICHLOROETHANE | 10 | 8.9 | 89% | 9.0 | 90% | -1% | 57 - 125 |
| TRICHLOROETHENE | 10 | 9.3 | 93% | 9.4 | 94% | -1% | 61 - 133 |
| TETRACHLOROETHENE | 10 | 8.0 | 80% | 7.9 | 79% | 1% | 61 - 132 |
| CHLOROBENZENE | 10 | 10.2 | 102% | 10.3 | 102% | -1% | 81 - 120 |
| 1,3-DICHLOROBENZENE | 10 | 6.3 | 63% | 6.6 | 66% | -5% | 56 - 113 |
| 1,4-DICHLOROBENZENE | 10 | 8.4 | 84% | 8.5 | 85% | -2% | 62 - 119 |
| 1,2-DICHLOROBENZENE | 10 | 8.1 | 81% | 8.2 | 82% | -1% | 69 - 116 |

* Limits based on data generated by Anamatrix, Inc., September 1992.

LABORATORY CONTROL SAMPLE
 EPA METHOD 601/8010
 ANAMETRIX, INC. (408)432-8192

Project/Case : LABORATORY CONTROL SAMPLE
 Matrix : WATER
 SDG/Batch : N/A
 Date analyzed : 10/07/92

Anamatrix I.D. : WO100792
 Analyst :
 Supervisor : CPK
 Instrument I.D.: HP14

| COMPOUND | SPIKE AMOUNT (ug/L) | AMOUNT RECOVERED (ug/L) | PERCENT RECOVERY | %RECOVERY LIMITS |
|--------------------------|---------------------|-------------------------|------------------|------------------|
| FREON 113 | 10 | 8.8 | 88% | 34 - 128 |
| 1,1-DICHLOROETHENE | 10 | 9.0 | 90% | 63 - 133 |
| trans-1,2-DICHLOROETHENE | 10 | 8.9 | 89% | 55 - 145 |
| 1,1-DICHLOROETHANE | 10 | 9.6 | 96% | 49 - 121 |
| cis-1,2-DICHLOROETHENE | 10 | 12.5 | 125% | 66 - 168 |
| 1,1,1-TRICHLOROETHANE | 10 | 9.8 | 98% | 72 - 143 |
| TRICHLOROETHENE | 10 | 10.6 | 106% | 63 - 147 |
| TETRACHLOROETHENE | 10 | 9.6 | 96% | 60 - 133 |
| CHLOROBENZENE | 10 | 10.7 | 107% | 70 - 148 |
| 1,3-DICHLOROBENZENE | 10 | 7.5 | 75% | 49 - 139 |
| 1,4-DICHLOROBENZENE | 10 | 9.8 | 98% | 70 - 133 |
| 1,2-DICHLOROBENZENE | 10 | 9.9 | 99% | 69 - 140 |

* Limits based on data generated by Anamatrix, Inc., August, 1992.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9210048
Date Received : 10/05/92
Project ID : 204-0072-0403
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

| ANAMETRIX SAMPLE ID | CLIENT SAMPLE ID | MATRIX | DATE SAMPLED | METHOD |
|------------------------|---------------------|--------|-----------------|-----------|
| 9210048- 1 | MW-1 | WATER | 10/02/92 | TPHg/BTEX |
| 9210048- 2 | S-1 | WATER | 10/02/92 | TPHg/BTEX |
| 9210048- 3 | MW-2 | WATER | 10/02/92 | TPHg/BTEX |
| 9210048- 4 | MW-2D | WATER | 10/02/92 | TPHg/BTEX |
| 9210048- 5 | TB | WATER | 10/02/92 | TPHg/BTEX |
| 9210048- 6 | FB | WATER | 10/02/92 | TPHg/BTEX |

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9210048
Date Received : 10/05/92
Project ID : 204-0072-0403
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Luca Sgarbi 10/16/92
Department Supervisor Date

M. Hasselmann 10/16/92
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9210048
Matrix : WATER
Date Sampled : 10/02/92

Project Number : 204-0072-0403
Date Released : 10/16/92

| Reporting Limit | Sample I.D.# MW-1 | Sample I.D.# S-1 | Sample I.D.# MW-2 | Sample I.D.# MW-2D | Sample I.D.# TB | |
|----------------------|----------------------|---------------------|----------------------|-----------------------|--------------------|----|
| COMPOUNDS (mg/L) | -01 | -02 | -03 | -04 | -05 | |
| Benzene | 0.0005 | ND | ND | 0.96 | 0.99 | ND |
| Toluene | 0.0005 | ND | ND | 0.65 | 1.2 | ND |
| Ethylbenzene | 0.0005 | ND | ND | 0.57 | 0.99 | ND |
| Total Xylenes | 0.0005 | ND | ND | 1.2 | 2.8 | ND |
| TPH as Gasoline | 0.050 | ND | ND | 7.0 | 15 | ND |
| % Surrogate Recovery | 80% | 81% | 79% | 100% | 81% | |
| Instrument I.D. | HP12 | HP12 | HP12 | HP12 | HP12 | |
| Date Analyzed | 10/08/92 | 10/08/92 | 10/08/92 | 10/09/92 | 10/08/92 | |
| RLMF | 1 | 1 | 100 | 100 | 1 | |

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Reggie Davison 10/20/92
Analyst Date

Cheyl Bahner 10/19/92
Supervisor Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anamatrix W.O.: 9210048
Matrix : WATER
Date Sampled : N/A

Project Number : 204-0072-0403
Date Released : 10/16/92

| | Reporting Limit | Sample I.D.# FB | Sample I.D.# BO0703E3 | Sample I.D.# BO0902E3 |
|----------------------|--------------------|-----------------------|-----------------------------|-----------------------------|
| COMPOUNDS | (mg/L) | -06 | BLANK | BLANK |
| Benzene | 0.0005 | ND | ND | ND |
| Toluene | 0.0005 | ND | ND | ND |
| Ethylbenzene | 0.0005 | ND | ND | ND |
| Total Xylenes | 0.0005 | ND | ND | ND |
| TPH as Gasoline | 0.050 | ND | ND | ND |
| % Surrogate Recovery | | 81% | 97% | 95% |
| Instrument I.D. | | HP12 | HP12 | HP12 |
| Date Analyzed | | 10/08/92 | 10/07/92 | 10/09/92 |
| RLMF | | 1 | 1 | 1 |

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
- RLMF - Reporting Limit Multiplication Factor.

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

M. Hasselstein 10/16/92
Analyst Date

Cheryl Balmer 10/16/92
Supervisor Date

TOTAL VOLATILE HYDROCARBON MATRIX SPIKE REPORT
 EPA METHOD 5030 WITH GC/FID
 ANAMETRIX, INC. (408) 432-8192

| | |
|---------------------------------|-----------------------------|
| Sample I.D. : 204-0072-0403 S-1 | Anamatrix I.D. : 9210048-02 |
| Matrix : WATER | Analyst : <i>rh</i> |
| Date Sampled : 10/02/92 | Supervisor : <i>B</i> |
| Date Analyzed : 10/08/92 | Date Released : 10/16/92 |
| | Instrument I.D.: HP12 |

| COMPOUND | SPIKE AMT (mg/L) | SAMPLE CONC (mg/L) | REC MS | %REC MS | REC MD (mg/L) | %REC MD | RPD | %REC LIMITS |
|---------------|------------------------|--------------------------|-----------|------------|---------------------|------------|------|----------------|
| BENZENE | 0.020 | 0.000 | 0.027 | 135% | 0.025 | 125% | -8% | 49-159 |
| TOLUENE | 0.020 | 0.000 | 0.028 | 140% | 0.025 | 125% | -11% | 53-156 |
| ETHYLBENZENE | 0.020 | 0.000 | 0.028 | 140% | 0.025 | 125% | -11% | 54-151 |
| TOTAL XYLENES | 0.020 | 0.000 | 0.027 | 135% | 0.025 | 125% | -8% | 56-157 |
| p-BFB | | | | 78% | | 80% | | 53-147 |

* Quality control established by Anamatrix, Inc.

BTEX LABORATORY CONTROL SAMPLE REPORT
 EPA METHOD 5030 WITH GC/PID
 ANAMETRIX, INC. (408) 432-8192

| | |
|----------------------------------|--------------------------|
| Sample I.D. : LAB CONTROL SAMPLE | Anamatrix I.D.: LCSW1008 |
| Matrix : WATER | Analyst : <i>nh</i> |
| Date Sampled : N/A | Supervisor : <i>A</i> |
| Date Analyzed : 10/08/92 | Date Released : 10/15/92 |
| | Instrument ID : HP12 |

| COMPOUND | SPIKE AMT. (mg/L) | LCS (mg/L) | REC LCS | %REC LIMITS |
|---|-------------------------|---------------|------------|----------------|
| <hr style="border-top: 1px dashed black;"/> | | | | |
| Benzene | 0.020 | 0.027 | 135% | 49-159 |
| Toluene | 0.020 | 0.027 | 135% | 53-156 |
| Ethylbenzene | 0.020 | 0.027 | 135% | 54-151 |
| TOTAL-Xylenes | 0.020 | 0.027 | 135% | 56-157 |
| P-BFB | | | 78% | 53-147 |

* Limits established by Anamatrix, Inc.



SHELL OIL COMPANY

RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 1134-C

Date: _____

Page 1 of 1

Site Address: 1601 Webster Street
Alameda, CA

WIC#: 204-0072-0403

Shell Engineer: Dan Kirk Phone No.: (510) 675-6168

Consultant Name & Address: 1938 Junction Avenue
EMCON Associates San Jose, CA 95131

Consultant Contact: David Larsen Phone No.: (408) 453-2269

Comments: 3-VOAs (HCl) for gas, BTEX
3-VOAs (NP) for EPA 601

Sampled by: _____

Printed Name: _____

Analysis Required

| TPH (EPA 8015 Mod. Gas) | TPH (EPA 8015 Mod. Diesel) | BTEX (EPA 8020/602) | Volatile Organics (EPA 8240) | Test for Disposal | Combination TPH 8015 & BTEX 8020 <small>gasoline</small> | EPA Method 601 | Asbestos | Container Size | Preparation Used | Composite Y/N |
|-------------------------|----------------------------|---------------------|------------------------------|-------------------|---|----------------|----------|----------------|------------------|---------------|
| | | | | | X | X | | 40 ml | HCl | No |
| | | | | | | | | | | |
| | | | | | | X | | | | |
| | | | | | | | | | | |
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LAB: AnametriX

| CHECK ONE (1) BOX ONLY | CT/DI | TURN AROUND TIME |
|--|-------|--|
| Quarterly Monitoring <input checked="" type="checkbox"/> | 6441 | 24 hours <input type="checkbox"/> |
| Site Investigation <input type="checkbox"/> | 6441 | 48 hours <input type="checkbox"/> |
| Soil Classify/Disposal <input type="checkbox"/> | 6442 | 15 days <input checked="" type="checkbox"/> (Normal) |
| Water Classify/Disposal <input type="checkbox"/> | 6443 | Other <input type="checkbox"/> |
| Soil/Air Rem. or Sys. O & M <input type="checkbox"/> | 6452 | |
| Water Rem. or Sys. O & M <input type="checkbox"/> | 6453 | |
| Other <input type="checkbox"/> | | |

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

| Sample ID | Date | Sludge | Soil | Water | Air | No. of conds. | MATERIAL DESCRIPTION | | SAMPLE CONDITION/ COMMENTS |
|-----------|---------|--------|------|-------|-----|---------------|-------------------------|----------------------------|----------------------------|
| | | | | | | | TPH (EPA 8015 Mod. Gas) | TPH (EPA 8015 Mod. Diesel) | |
| 1 MW-1 | 10-2-92 | | | X | | 6 | | | |
| 2 S-1 | | | | | | 3 | | | |
| 3 MW-2 | | | | | | 6 | | | |
| A MW-ZD | | | | | | 3 | | | |
| 5 TB | | | | | | 3 | | | |
| 6 FB | | | | | | 3 | | | |

| | | | | | |
|---|-----------------------------------|----------------------|--|--|----------------------|
| Relinquished By (signature): <u>[Signature]</u> | Printed Name: <u>SOE Williams</u> | Date: <u>10-5-92</u> | Received (signature): <u>[Signature]</u> | Printed Name: <u>MICHELE D AGUILAR</u> | Date: <u>10/5/92</u> |
| Relinquished By (signature): _____ | Printed Name: _____ | Date: _____ | Received (signature): _____ | Printed Name: _____ | Date: _____ |
| Relinquished By (signature): _____ | Printed Name: _____ | Date: _____ | Received (signature): _____ | Printed Name: _____ | Date: _____ |

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

①
②
③
A
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6