



HAGEMAN-AGUIAR, INC.

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

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45
92
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**REPORT OF
GROUNDWATER SAMPLING**

(sampled December 2, 1992)

**ADOBE PLAZA
3098 Castro Valley Blvd
Castro Valley, CA**

December 4, 1992

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ATTACHMENT A -- Well Sampling Logs

ATTACHMENT B -- Analytical Results: Groundwater

I. INTRODUCTION

The site location is 3098 Castro Valley Blvd, Castro Valley, California, and has been maintained by the current owners for a number of years as a car wash and gasoline station. The location of the site is shown in Figure 1.

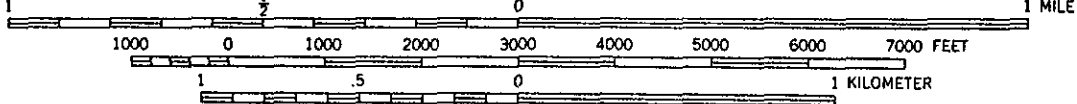
On July 26, 1988, two underground gasoline storage tanks were removed by Hageman-Schank, Inc. A map of the site is shown in Figure 2. This map shows the present layout of the facility (Adobe Plaza Shopping Center, constructed in 1989), along with the location of the previous underground tank excavation and removal. Analysis of a pit water sample collected at the time of the tank removals indicated the presence of Gasoline and Benzene at concentrations of 2.0 mg/L (ppm) and 32 μ g/L (ppb), respectively.

The three on-site shallow groundwater monitoring wells MW-1, MW-2 and MW-3 were subsequently installed on August 11, 1989, by Hageman-Schank, Inc.

On December 2, 1992, on-site monitoring well MW-2 was sampled for the laboratory analysis for dissolved petroleum constituents. In addition to the monitoring well sampling, other tasks included water level measurements for each monitoring well. This round of groundwater sampling has been conducted as part of the continued groundwater monitoring program at the site, as required by the Alameda County Department of Environmental Health and the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region.



SCALE 1:24 000



CONTOUR INTERVAL 20 FEET

FIGURE 1. Site Location Map.

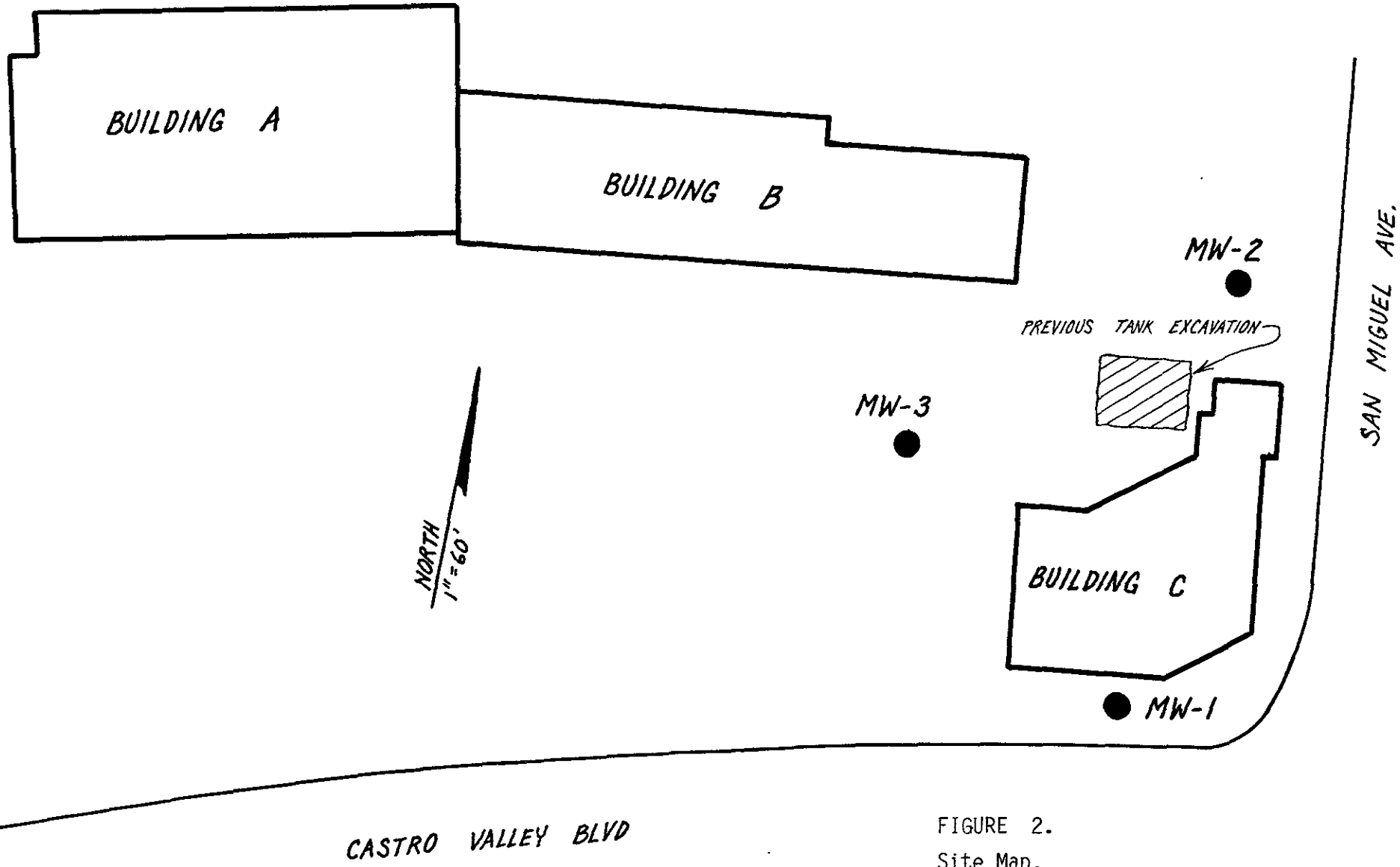


FIGURE 2.
Site Map.

II. FIELD WORK

Monitoring Well Sampling

On December 2, 1992, groundwater samples were collected from on-site monitoring well MW-2. The locations of the three on-site monitoring wells are shown in Figure 2 (site map). Prior to groundwater sampling, the well was purged by bailing approximately 10 casing volumes of water. Field conductivity, temperature, and pH meters were present on-site during the monitoring well sampling. As the purging process proceeded, the three parameters were monitored. Purging continued until readings appeared to have reasonably stabilized. After the water level in the well had attained 80% or more of the original static water level, a groundwater sample was collected using a clean teflon bailer. The water sample was placed inside appropriate 40 mL VOA vials free of any headspace. The samples were immediately placed on ice, then transported under chain-of-custody to the laboratory at the end of the work day.

At the time the monitoring well was sampled, the following information was recorded in the field: 1) depth-to-water prior to purging, using an electrical well sounding tape, 2) identification of any floating product, sheen, or odor prior to purging, using a clear teflon bailer, 3) sample pH, 4) sample temperature, and 5) specific conductance of the sample.

Copies of the well sampling logs are included as Attachment A.

Wastewater Generation

All water removed from the wells during development and purging was drummed and stored on-site until the results of laboratory analyses were obtained. Based upon these results, the water is considered to contain no detectable concentrations of any petroleum hydrocarbons. It appears that this water could be used for on-site irrigation, or else it should be disposed of at one of the on-site sanitary sewer connections (in accordance with local sewerage agency permit requirements). The disposal of wastewater is the responsibility of the property owner (waste generator), and is beyond the scope of work as described in this report.

III. RESULTS OF WATER LEVEL MEASUREMENTS

Shallow Groundwater Flow Direction.

Shallow water table elevations were measured on December 2, 1992. These measurements are shown in Table 1. Figure 3 presents a contour map for the shallow groundwater table beneath the site. As shown in this figure, the data from these monitoring wells indicate that the shallow groundwater flow beneath the site at the time of the groundwater sampling was in the southeasterly direction.

Shallow Water Table Hydraulic Gradient

Figure 3 presents the contour map for the shallow groundwater table beneath the site. As shown in this figure, the shallow groundwater table appears to have a calculated hydraulic gradient of $dH/dL = 2'/155' = 0.013$.

Historical Water Level Measurements

In addition to the most recent measurement of the shallow water table elevations prior to the groundwater sampling on December 2, 1992, a tabulation of all historical water level measurements for the site has been completed. Table 2 presents the results of all water level measurements collected between August 23, 1989, and the present time.

TABLE 1.

**Shallow Water Table Elevations
December 2, 1992**

| Well | Top of Casing Elevation (feet) | Depth to Water (feet) | Water Table Elevation (feet) |
|-------------|---------------------------------------|------------------------------|-------------------------------------|
| MW-1 | 99.73 | 8.76 | 90.97 |
| MW-2 | 100.00 | 6.99 | 93.01 |
| MW-3 | 99.76 | 7.24 | 92.52 |

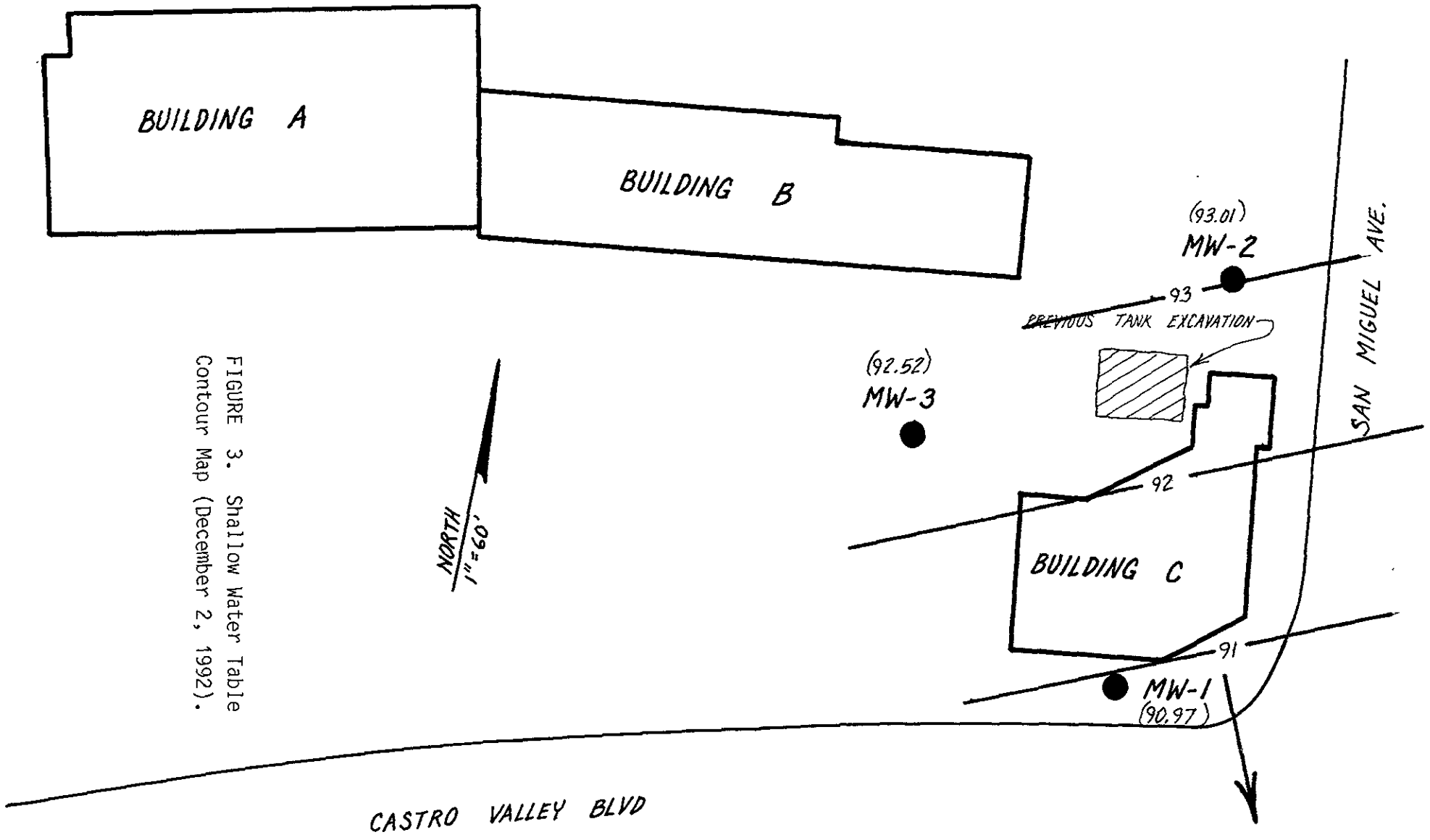


FIGURE 3. Shallow Water Table Contour Map (December 2, 1992).

CASTRO VALLEY BLVD

SAN MIGUEL AVE.

NORTH
1" = 60'

TABLE 2.
Historical Water Table Elevations
(feet)

| Well | Date of Measurement | | | | | | | | |
|----------------|---------------------|--------|---------|----------|--------|----------|--------|--------|---------|
| | 8-23-89 | 6-8-90 | 8-29-90 | 11-28-90 | 3-8-91 | 10-10-91 | 3-9-92 | 9-8-92 | 12-2-92 |
| MW-1 | 90.27 | 91.23 | 90.33 | 90.24 | 90.17 | 88.57 | 91.13 | 89.69 | 90.97 |
| MW-2 | 92.45 | 93.07 | 92.78 | 92.79 | 93.12 | 92.80 | 93.04 | 92.87 | 93.01 |
| MW-3 | 92.38 | 93.35 | 92.17 | 92.17 | 93.98 | 92.16 | 94.26 | 92.10 | 92.52 |
| Flow Direction | SE | SE | SE | SE | SE | SE | SE | SE | SE |

IV. SHALLOW GROUNDWATER SAMPLING RESULTS

Laboratory Analysis

All analyses were conducted by a California State DOHS certified laboratory in accordance with EPA recommended procedures (Priority Environmental Laboratory, Milpitas, CA). All Groundwater samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (EPA method 8015), and Benzene, Toluene, Ethylbenzene, and Total Xylenes (EPA method 602).

Results of Laboratory Analysis.

Table 3 presents the results of the laboratory analysis for TPH and BTEX of the groundwater samples collected from monitoring well MW-2. In addition, the previous analytical results for all three on-site monitoring wells are also shown.

For this round of groundwater sampling, no detectable concentrations of either Gasoline, Benzene, Toluene, Ethylbenzene, or Total Xylenes were detected in the shallow groundwater samples collected from well MW-2.

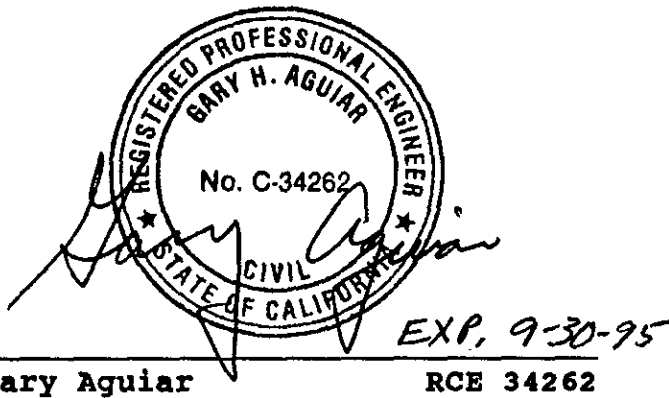
A copy of the laboratory certificate for the water sample analysis is included as Attachment B.

TABLE 3.
Shallow Groundwater Sampling Results

| Well | Date | TPH as Gasoline (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethyl-benzene (ug/L) | Xylenes (ug/L) |
|------------------------|----------|------------------------|----------------|----------------|----------------------|----------------|
| 1 | 08-22-89 | ND | 0.5 | 1.2 | ND | 3.1 |
| | 05-24-90 | ND | ND | ND | ND | ND |
| | 08-29-90 | ND | ND | ND | ND | ND |
| | 11-28-90 | ND | ND | ND | ND | ND |
| | 03-08-91 | ND | ND | ND | ND | ND |
| | 10-10-91 | ND | ND | ND | ND | ND |
| | 03-09-92 | ND | ND | ND | ND | ND |
| | 09-08-92 | ND | ND | ND | ND | ND |
| 2 | 08-22-89 | 110 | 5.3 | ND | ND | ND |
| | 09-06-89 | ND | ND | ND | ND | ND |
| | 05-24-90 | ND | ND | ND | ND | ND |
| | 08-29-90 | 110 | ND | 0.8 | 1.1 | 0.6 |
| | 11-28-90 | ND | ND | ND | ND | ND |
| | 03-08-91 | ND | ND | ND | ND | ND |
| | 10-10-91 | 160 | 13 | 3.2 | 2.0 | 18 |
| | 03-09-92 | ND | ND | ND | ND | ND |
| | 09-08-92 | ND | ND | ND | ND | ND |
| | 12-02-92 | ND | ND | ND | ND | ND |
| 3 | 08-22-89 | ND | ND | ND | ND | ND |
| | 06-08-90 | ND | ND | ND | ND | ND |
| | 08-29-90 | ND | ND | ND | ND | ND |
| | 11-28-90 | ND | ND | ND | ND | ND |
| | 03-08-91 | ND | ND | ND | ND | ND |
| | 10-10-91 | ND | ND | ND | ND | ND |
| | 03-18-92 | ND | ND | ND | ND | ND |
| | 09-08-92 | ND | ND | ND | ND | ND |
| Detection Limit | | 50 | 0.5 | 0.5 | 0.5 | 0.5 |

REPORT OF GROUNDWATER SAMPLING
ADOBE PLAZA
3098 Castro Valley Blvd, Castro Valley, CA

December 2, 1992



Gary Aguiar

RCE 34262


Bruce Hageman

ATTACHMENT A

WELL SAMPLING LOGS

WELL SAMPLING LOG

Project/No. ADOBE PLAZA Page 1 of 1
 Site Location CASTRO VALLEY Date 12-2-92
 Well No. MW 2 Time Began 1230
 Weather CLOUDY / 55°F Completed 1305

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE
 Total Sounded Depth of Well Below MP 19.20
 - Depth to Water Below MP 6.99 Diameter of Casing 2"
 = Water Column in Well 12.21
 Gallons in Casing 2.0 + Annular Space (x10) = Total Gallons 20
 (30% porosity)
 Gallons Pumped Prior to Sampling 20
 Evacuation Method TEFLON BAILER

SAMPLING DATA / FIELD PARAMETERS

Inspection for Free Product: NONE DETECTED
 (thickness to 0.1 inch, if any)

| | <u>1230</u> | <u>1241</u> | <u>1248</u> | <u>1255</u> |
|--------------|--------------------|----------------|----------------|----------------|
| Time | <u>1230</u> | <u>1241</u> | <u>1248</u> | <u>1255</u> |
| Gals Removed | <u>0</u> | <u>10</u> | <u>15</u> | <u>20</u> |
| Temperature | <u>20.0</u> | <u>19.5</u> | <u>18.9</u> | <u>19.1</u> |
| Conductivity | <u>750</u> | <u>700</u> | <u>650</u> | <u>650</u> |
| pH | <u>8.9</u> | <u>7.9</u> | <u>7.8</u> | <u>7.7</u> |
| Color / Odor | <u>LT. GRY/SEP</u> | <u>BLK/SEP</u> | <u>BLK/SEP</u> | <u>BLK/SEP</u> |
| Turbidity | <u>MED</u> | <u>HIGH</u> | <u>HIGH</u> | <u>HIGH</u> |

Comments: NONE

ADOBE PLAZA

12-2-92

| | DW | DB |
|------|------|-------|
| MW 1 | 8.76 | |
| MW 2 | 6.99 | 19.20 |
| MW 3 | 7.24 | |

ATTACHMENT B

ANALYTICAL RESULTS: GROUNDWATER



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

December 04, 1992

PEL # 9212009

HAGEMAN - AGUIAR, INC.

Attn: Jeffrey Roth

Re: One water sample for Gasoline/BTEX analysis.

Project name: Adobe Plaza

Project location: Castro Valley Blvd., -Castro Valley, CA.

Date sampled: Dec 02, 1992


Date submitted: Dec 03, 1992

Date extracted: Dec 03, 1992

Date analyzed: Dec 03, 1992

RESULTS:

| SAMPLE I.D. | Gasoline (ug/L) | Benzene (ug/L) | Toluene (ug/L) | Ethyl Benzene (ug/L) | Total Xylenes (ug/L) |
|--------------------|-----------------|----------------|----------------|----------------------|----------------------|
| MW 2 | N.D. | N.D. | N.D. | N.D. | N.D. |
| Blank | N.D. | N.D. | N.D. | N.D. | N.D. |
| Spiked Recovery | 90.4% | 87.8% | 82.1% | 89.0% | 90.3% |
| Detection limit | 50 | 0.5 | 0.5 | 0.5 | 0.5 |
| Method of Analysis | 5030 / 8015 | 602 | 602 | 602 | 602 |


David Duong
Laboratory Director

PEL # 9212009

INV # 23241

CHAIN OF CUSTODY RECORD

| PROJECT NAME AND ADDRESS: <i>ADORE PLAZA</i> | | | SAMPLER: (Signature) <i>J. Smith</i> | | ANALYSIS REQUESTED <i>TPH GAS</i> <i>INDEX</i> | | | |
|---|---------------------|------------------|--|----------|--|----------------------|-------------------|-------------|
| <i>CASTRO VALLEY BLVD.</i> | | | HAGEMAN - AGUIAR, INC. | | | | | |
| <i>CASTRO VALLEY, CA</i> | | | 3732 Mt. Diablo Blvd., Suite 372 Lafayette, CA 94549 (415)284-1661 (415)284-1664 (FAX) | | | | | |
| CROSS REFERENCE NUMBER | DATE | TIME | SOIL | WATER | STATION LOCATION | REMARKS | | |
| <i>MW 2</i> | <i>12-29-92</i> | <i>1305</i> | | <i>X</i> | <i>MONITORING WELL</i> | <i>X</i> | <i>X</i> | <i>NONE</i> |
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| RELINQUISHED BY: (Signature) <i>J. Smith</i> | DATE <i>12-3-92</i> | TIME <i>1600</i> | RECEIVED BY: (Signature) | | | DATE | TIME | |
| RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED BY: (Signature) | | | DATE | TIME | |
| RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED BY: (Signature) | | | DATE | TIME | |
| RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED FOR LABORATORY BY: (Signature) <i>J. Anderson</i> | | | DATE <i>12/03/92</i> | TIME <i>16:00</i> | |