HAGEMAN-AGUIAR, INC.

Underground Contamination Investigations
Groundwater Consultants, Environmental Engineering

reviewed
12/11/92
SDS

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REPORT OF
SEMI-ANNUAL GROUNDWATER SAMPLING

(sampled September 8, 1992)

ADOBE PLAZA
3098 Castro Valley Blvd
Castro Valley, CA

September 15, 1992

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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 μg/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 September 8, 1992, all three of the on-site monitoring wells were 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.

FIGURE 1. Site Location Map.

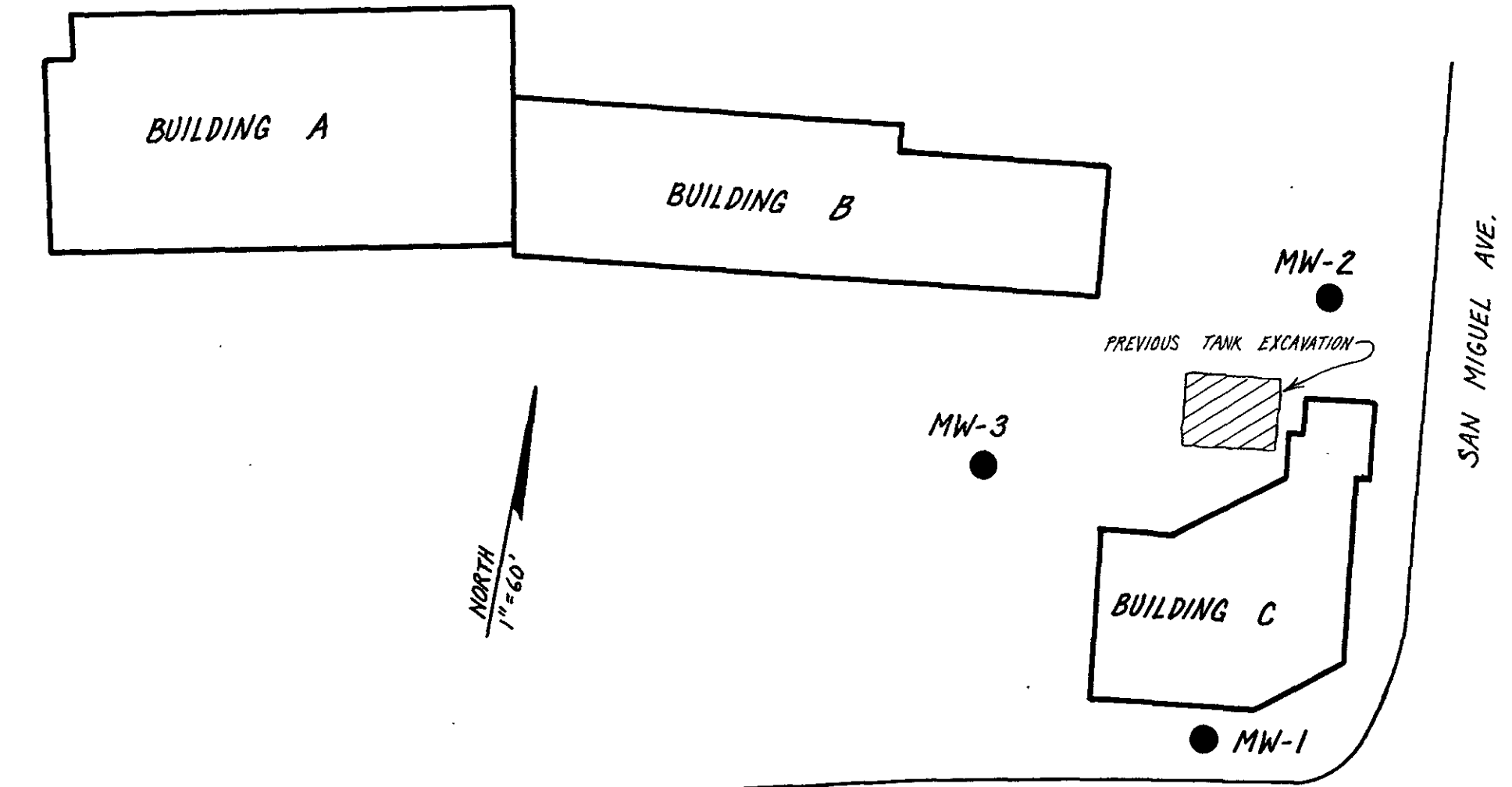

FIGURE 2.
Site Map.

II. FIELD WORK

Monitoring Well Sampling

On September 8, 1992, groundwater samples were collected from each of the on-site monitoring wells. The locations of the monitoring wells are shown in Figure 2 (site map). Prior to groundwater sampling, each 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 each 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 should be sewered as a non-hazardous liquid waste in accordance with local sewering 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 September 8, 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 $dH/dL = 2'/102' = 0.02$.

Historical Water Level Measurements

In addition to the most recent measurement of the shallow water table elevations prior to the groundwater sampling on September 8, 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
September 8, 1992

Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	99.73	10.04	89.69
MW-2	100.00	7.13	92.87
MW-3	99.76	7.66	92.10

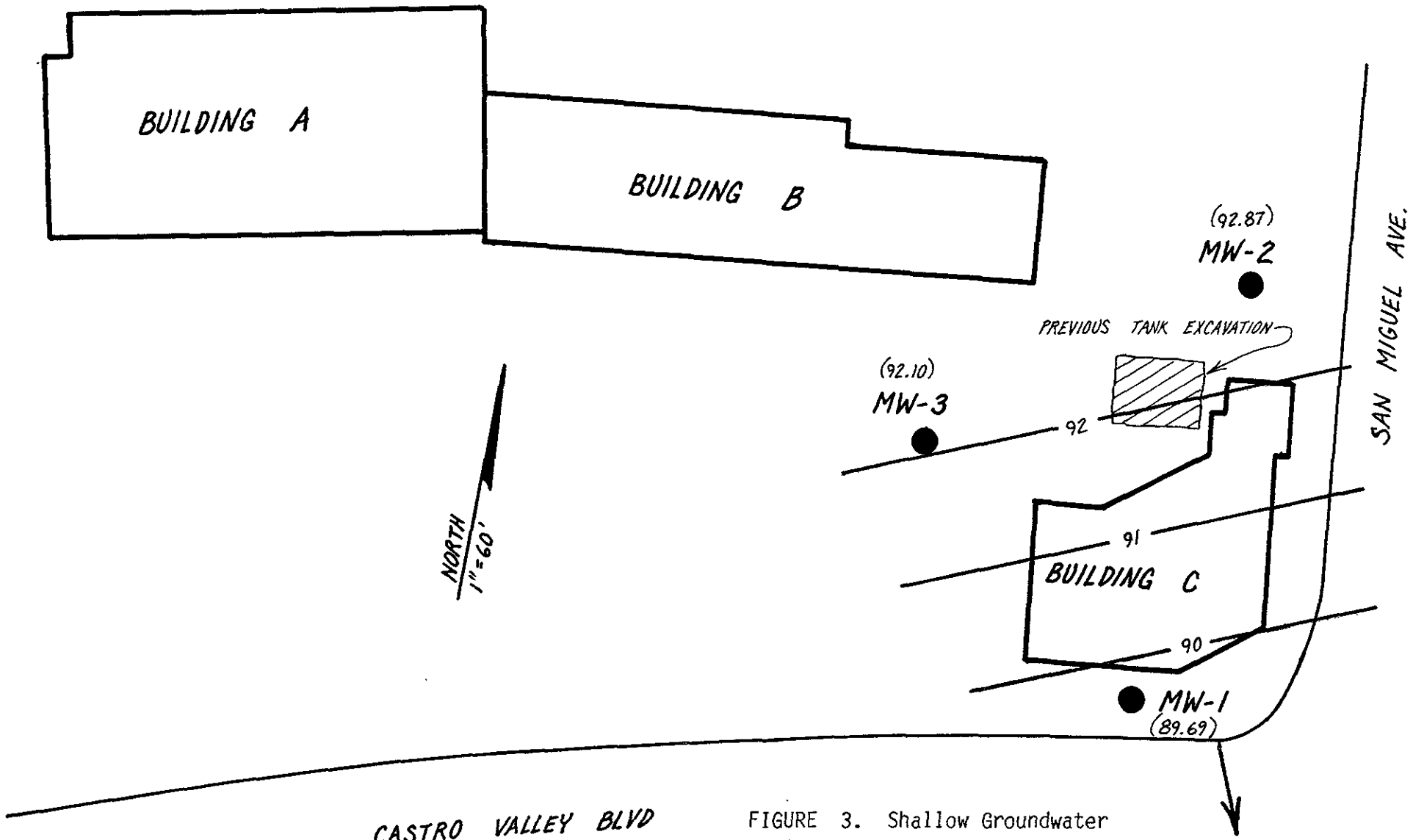

FIGURE 3. Shallow Groundwater Table Contour Map. (September 8, 1992)

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	
MW-1	90.27	91.23	90.33	90.24	90.17	88.57	91.13	89.69	
MW-2	92.45	93.07	92.78	92.79	93.12	92.80	93.04	92.87	
MW-3	92.38	93.35	92.17	92.17	93.98	92.16	94.26	92.10	
Flow Direction	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 the monitoring wells. For this round of groundwater sampling, **no detectable concentrations** of either Gasoline, Benzene, Toluene, Ethylbenzene, or Total Xylenes were detected in any of the shallow groundwater samples.

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
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 SEMI-ANNUAL GROUNDWATER SAMPLING
ADOBE PLAZA
3098 Castro Valley Blvd, Castro Valley, CA

September 15, 1992

EXP. 9-30-95

Gary Aguiar **RCE 34262**

Bruce Hageman

ATTACHMENT A

Well Sampling Logs

WELL SAMPLING LOG

Project/No. ADOBE PLAZA

Page 1 of 3

Site Location CASTRO VALLEY

Date 9-8-92

Well No. MW 1

Time Began

Weather CLEAR/75°F

Completed 1455

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE

Total Sounded Depth of Well Below MP 22.88

- Depth to Water Below MP 10.04

Diameter of Casing 2"

= Water Column in Well 12.84

Gallons in Casing 2.1 + Annular Space (30% porosity) X 10 = Total Gallons 21

Gallons Pumped Prior to Sampling 21

Evacuation Method ACRYLIC HAND BAILER

SAMPLING DATA / FIELD PARAMETERS

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

Time	1423	1437	1447	1455
Gals Removed	0	10	16	21
Temperature	23.5	23.1	22.9	22.8
Conductivity	1000	1000	950	950
pH	8.4	8.2	8.0	7.9
Color / Odor	GRY/NO	GRY/NO	GRY/NO	GRY/NO
Turbidity	MED	MED	MED	MED

Comments: NONE

WELL SAMPLING LOG

Project/No. ADOBE PLAZA

Page 2 of 3

Site Location CASTRO VALLEY

Date 9-8-92

Well No. MW 2

Time Began 1515

Weather CLEAR/75°F

Completed 1550

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE

Total Sounded Depth of Well Below MP 18.46

- Depth to Water Below MP 7.13

Diameter of Casing 2"

= Water Column in Well 11.33

Gallons in Casing 1.8 + Annular Space (30% porosity) X 10 = Total Gallons 18

Gallons Pumped Prior to Sampling 18

Evacuation Method ACRYLIC HAND BAILER

SAMPLING DATA / FIELD PARAMETERS

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

Time	1515	1525	1533	1541
Gals Removed	0	6	12	18
Temperature	25.3	27.1	25.7	25.1
Conductivity	800	1000	1050	1100
pH	7.8	7.5	7.3	7.3
Color / Odor	GRY/ORG	GRY/ORG	GRY/ORG	CLR/ORG
Turbidity	MED	MED	LOW	LOW

Comments: LARGE AMOUNT OF BLACK SUSPENDED SOLIDS.

WELL SAMPLING LOG

Project/No. ADOBE PLAZA

Page 3 of 3

Site Location CASTRO VALLEY

Date 9-8-92

Well No. MW 3

Time Began 1600
Completed 1640

Weather CLEAR / 75°F

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE

Total Sounded Depth of Well Below MP 23.30

- Depth to Water Below MP 7.66

Diameter of Casing 2"

= Water Column in Well 15.64

Gallons in Casing 2.5 + Annular Space (30% porosity) x 10 = Total Gallons 25

Gallons Pumped Prior to Sampling 25

Evacuation Method ACRYLIC HAND BAILER

SAMPLING DATA / FIELD PARAMETERS

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

Time	1600	1612	1622	1631
Gals Removed	0	9	18	25
Temperature	28.4	26.9	25.4	24.2
Conductivity	1500	1700	1750	1850
pH	7.7	7.5	7.4	7.3
Color / Odor	CLR/NO	BRN/NO	BRN/NO	BRN/NO
Turbidity	LOW	MED	HIGH	HIGH

Comments: NONE

ATTACHMENT B

ANALYTICAL RESULTS: GROUNDWATER

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 10, 1992

PEL # 9209019

HAGEMAN AGUIAR, INC.

Attn: Jeffrey Roth
Re: Three water samples for Gasoline/BTEX analysis.

Project name: Adobe Plaza
Project location: Castro Valley Rd. -Castro Valley, CA.

Date sampled: Sep 08, 1992
Date extracted: Sep 09-10,1992

Date submitted: Sep 09, 1992
Date analyzed: Sep 09-10,1992

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
MW 1	N.D.	N.D.	N.D.	N.D.	N.D.
MW 2	N.D.	N.D.	N.D.	N.D.	N.D.
MW 3	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	101.2%	100.6%	97.8%	103.1%	104.8%
Duplicate Spiked Recovery	82.8%	94.0%	90.7%	96.2%	100.9%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PEL # 9209019

CHAIN OF CUSTODY RECORD

INV # 23062

PROJECT NAME AND ADDRESS:
ADOBE PLAZA
CASTRO VALLEY BLVD
CASTRO VALLEY, CA

SAMPLER: (Signature)

HAGEMAN - AGUIAR, INC.
3732 Mt. Diablo Blvd., Suite 372
Lafayette, CA 94549
(415)284-1661 (415)284-1664 (FAX)

ANALYSIS REQUESTED: TPH GAS, BTXE

CROSS REFERENCE NUMBER	DATE	TIME	SOIL	WATER	STATION LOCATION	TPH GAS	BTXE	REMARKS
MW 1	9-8-92			X	MONITORING WELL # 1	X	X	NORM TAT
MW 2	9-8-92			X	" " # 2	X	X	" "
MW 3	9-8-92			X	" " # 3	X	X	" "

RELINQUISHED BY: (Signature)	DATE 9-9-92 TIME 1620	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)	DATE 09/09/92 TIME 16:20