



HAGEMAN-AGUIAR, INC.

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

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HAGUIAR
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**QUARTERLY
GROUNDWATER SAMPLING REPORT**

(sampled April 19, 1994)

**BERNITA LESKOWSKI PROPERTY
1701 Webster Street
Alameda, CA**

April 26, 1994

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I. INTRODUCTION

The subject site is the Bernita Leskowski property located at 1701 Webster Street in Alameda, California. The location of the site is shown on Figure 1 (site location map).

On May 2 and 3, 1989, one 500-gallon and two 550-gallon underground storage tanks were removed from the site. Petroleum hydrocarbon contamination was detected in soil samples collected from the tank excavation and the excavated soil pile. Due to the locations of nearby structures and utilities, some petroleum-contaminated soil was left in place. Following the underground storage tank removals, Blymyer Engineers installed three shallow groundwater monitoring wells and subsequently sampled the wells on November 9, 1989. The laboratory results indicated the presence of Gasoline at concentrations of up to 360 $\mu\text{g/L}$ (ppb) and Benzene at "trace" concentrations of up to 0.71 $\mu\text{g/L}$ (ppb).

On April 19, 1994, all three shallow groundwater monitoring wells were sampled by Hageman-Aguiar, Inc., as part of the continued quarterly shallow groundwater sampling at the site.



FIGURE 1.
Site Location Map.

II. FIELD WORK

Monitoring Well Sampling

On April 19, 1994, groundwater samples were collected from the three monitoring wells MW-1, MW-2 and MW-3. The locations of the monitoring wells are shown on Figure 2 (site map).

Prior to groundwater sampling, each well was purged by pumping several casing volumes of water using a stainless steel air-lift pump. 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 and 1-liter amber bottles free of any headspace. The samples were immediately placed on crushed 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 B.

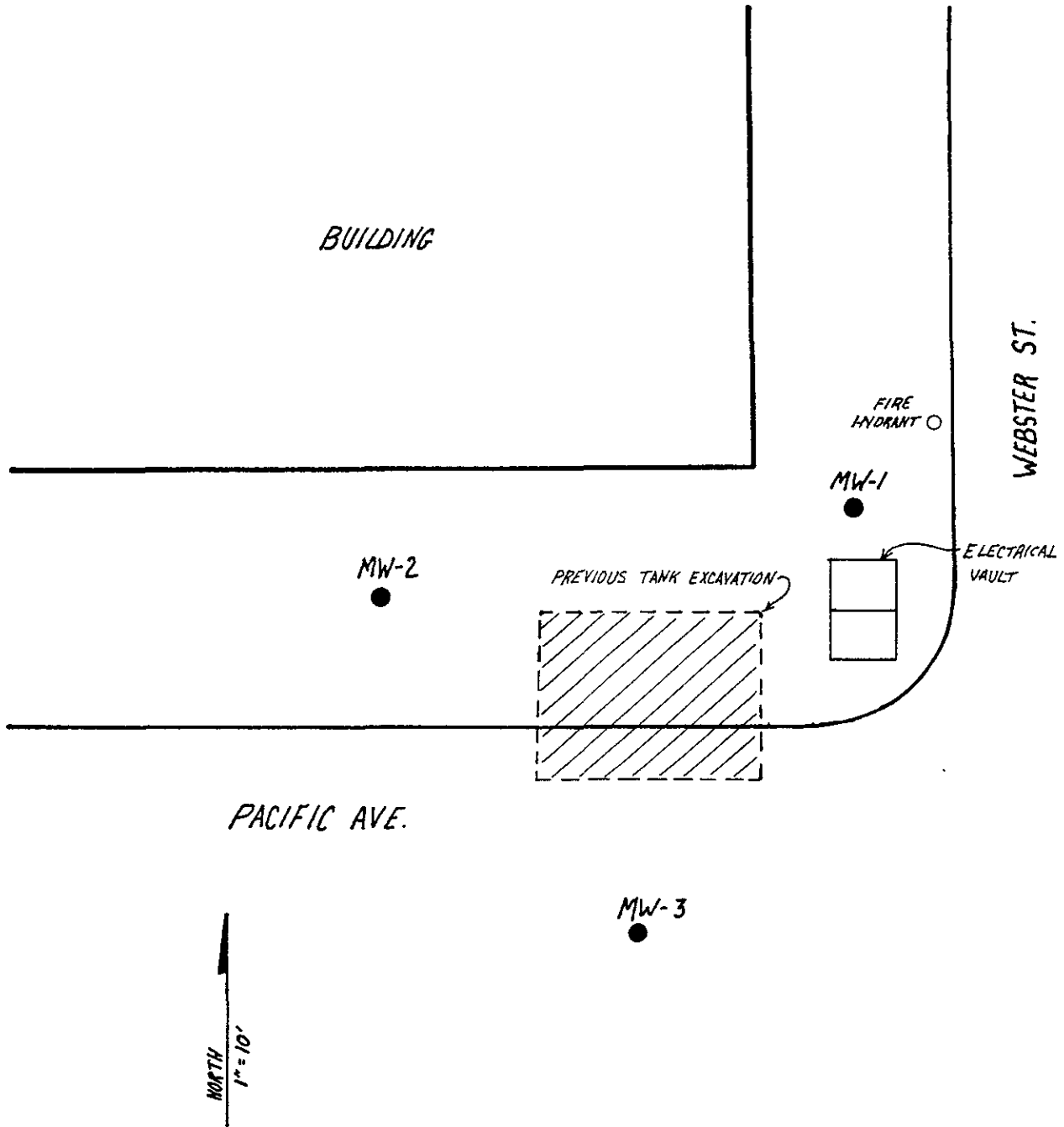


FIGURE 2.
Site Map.

Wastewater Generation

All water removed from the wells during purging is drummed and stored on-site until the results of the laboratory results were obtained. Based upon these results, the water should be sewered (if possible) as a non-hazardous liquid waste in accordance with local sewerage agency permit requirements, or else the wastewater should be transported under proper manifest to an appropriate TSD facility for treatment and disposal. The ultimate disposition of the 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 April 19, 1994. 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 the three monitoring wells indicate that the shallow groundwater flow was in a northwesterly direction during this most recent sampling event.

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 beneath the site appears to be relatively flat, with a calculated hydraulic gradient of $dH/dL = 0.2'/23.8' = 0.0084$.

Historical Water Level Measurements

Table 2 presents the results of all water level measurements collected between June 17, 1993, and the present time.

TABLE 1.

**Shallow Water Table Elevations
April 19, 1994**

Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	15.23	6.63	8.60
MW-2	14.96	6.57	8.39
MW-3	15.05	6.47	8.58

Based upon National Geodetic Survey Monument WEB PAC,
located at NE corner Webster Street and Pacific Street
Elev = 14.055 feet MSL (May 1990)

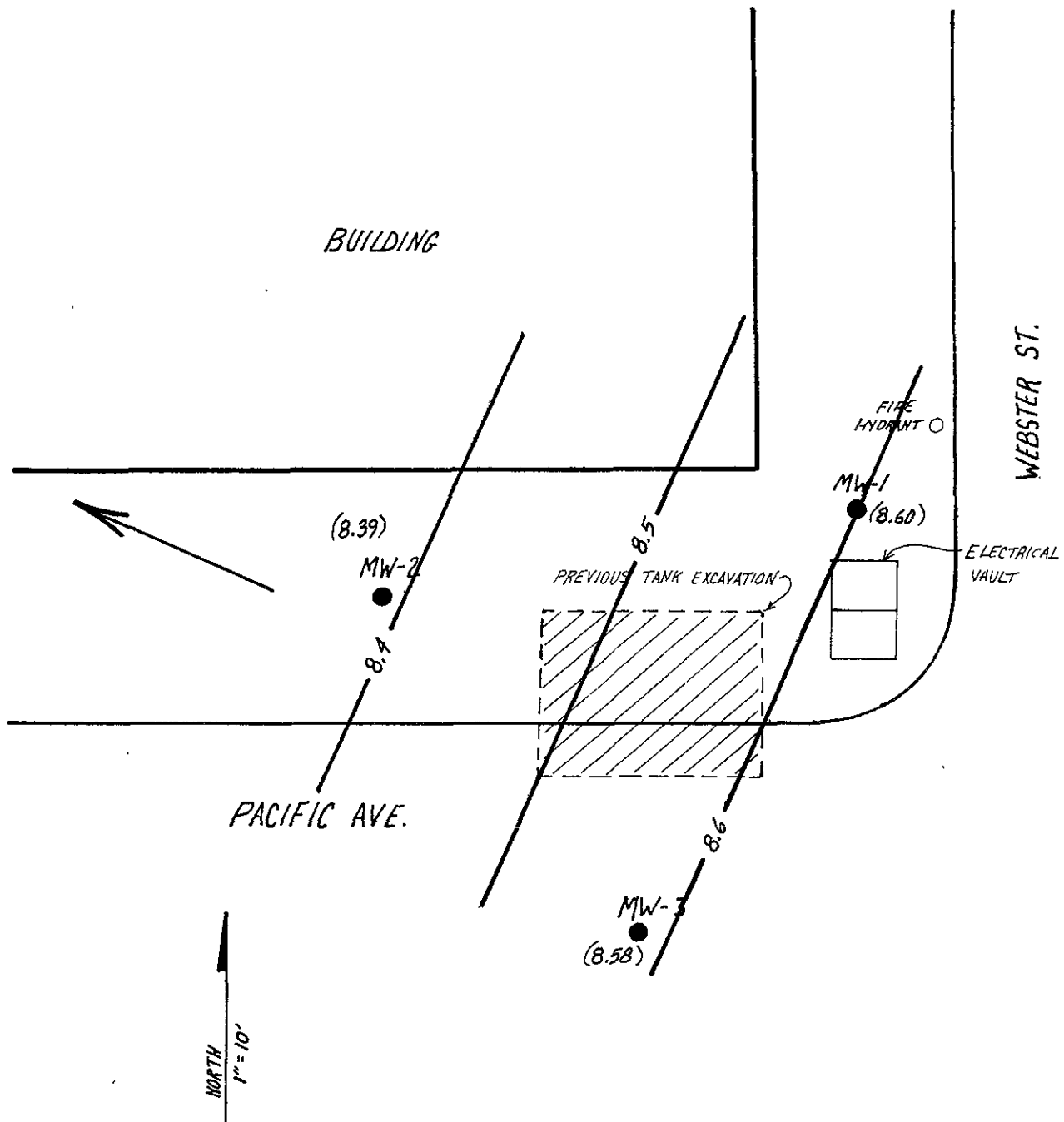


FIGURE 3. Shallow Groundwater Table Contour Map, measured April 19, 1994.

TABLE 2.
Historical Water Table Elevations
(feet)

Well	Date of Measurement								
	6-17-93	9-23-93	12-28-93	4-19-94					
MW-1	9.11	8.24	8.18	8.60					
MW-2	8.84	7.92	7.84	8.39					
MW-3	8.94	8.04	7.95	8.58					
Flow Direction	W	W	W	NW					
Hydraulic Gradient	0.0091	0.011	0.011	0.0084					

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 Labs, Milpitas, CA). All Groundwater samples were analyzed for 1) Total Petroleum Hydrocarbons as Diesel (EPA method 8015), 2) Total Petroleum Hydrocarbons as Gasoline (EPA method 8015), and 3) Benzene, Toluene, Ethylbenzene, and Total Xylenes (EPA method 602).

Results of Laboratory Analysis

Table 3 presents the results of the laboratory analysis of the groundwater samples collected from monitoring wells MW-1, MW-2, and MW-3. A copy of the laboratory certificate for the water sample analyses are included in Attachment C.

As shown in Table 3, Total Petroleum Hydrocarbons as Gasoline were detected in the shallow groundwater samples collected from wells MW-1, MW-2 and MW-3 at concentrations of 190 $\mu\text{g/L}$ (ppb), 120 $\mu\text{g/L}$ (ppb) and 380 $\mu\text{g/L}$ (ppb), respectively.

In addition, trace concentrations of Benzene, Toluene, Ethylbenzene and Total Xylenes were found in all of the shallow groundwater samples. Benzene was detected in the shallow groundwater samples collected from wells MW-1, MW-2 and MW-3 at concentrations of 5.6 $\mu\text{g/L}$ (ppb), 2.2 $\mu\text{g/L}$ (ppb) and 3.0 $\mu\text{g/L}$ (ppb), respectively.

TABLE 3.

Shallow Groundwater Sampling Results

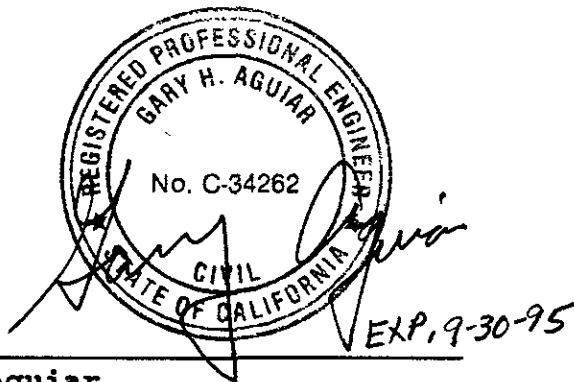
Well	Date	TPH as Gasoline (ug/L)	TPH as Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)
MW-1	11-09-89	360	---	0.71	ND	0.81	1.4
	06-17-93	ND	53	ND	ND	ND	ND
	09-23-93	ND	ND	ND	ND	ND	ND
	12-28-93	ND	ND	ND	ND	ND	ND
	04-19-94	190	ND	5.6	5.1	4.2	13
MW-2	11-09-89	71	---	ND	0.85	ND	ND
	06-17-93	ND	ND	ND	ND	ND	ND
	09-23-93	ND	ND	ND	ND	ND	ND
	12-28-93	92	ND	0.7	1.1	1.7	5.4
	04-19-94	120	ND	2.2	1.8	1.1	8.7
MW-3	11-09-89	320	---	0.58	ND	1.2	2.1
	06-17-93	ND	ND	ND	ND	ND	ND
	09-23-93	ND	ND	ND	ND	ND	ND
	12-28-93	ND	ND	ND	ND	ND	ND
	04-19-94	380	ND	3.0	4.3	4.7	17
Detection Limit		50	50	0.5	0.5	0.5	0.5

ND = not detected

As shown in Table 3, no detectable concentrations of Total Petroleum Hydrocarbons as Diesel were detected in any of the shallow groundwater samples.

GROUNDWATER SAMPLING REPORT
BERNITA LESKOWSKI PROPERTY
1701 Webster Street, Alameda, CA

April 26, 1994



Gary Aguiar
Principal Engineer
RCE 34262

Gerard F. Aarons 4-26-94

Gerard F. Aarons
Staff Geologist

ATTACHMENT A

CORRESPONDENCE

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

February 22, 1994

Mr. Carl Searway
6319 Castle Drive
Oakland, CA 94611

STID 3804

Re: Investigations at 1701 Webster St., Alameda, California

Dear Mr. Searway,

To date, four quarters of ground water monitoring have been conducted at the above site. Although the contaminant concentrations detected from the wells have been fairly low, this office is requesting that you continue quarterly ground water monitoring for the time being, because it appears that the contaminated soil existing at the site still has the potential for leaching into the ground water, and because the four quarters of monitoring were not consecutive, since the first quarter of ground water monitoring was conducted 2.5 years before the second quarter of monitoring.

Additionally, per our conversation on February 22, 1994, attached are copies of the guidelines for **Risk Based Management of Contaminated Sites (RBM)**, and the criteria for implementing the **Alternate Points of Compliance (APC)**. Although, your site does not fall perfectly under the APC criteria, it appears that you may have the option of leaving some of the contaminated soil in place you conduct the leachability studies described in RBM and the results fall under threshold limits. However, before you can consider leaving the contaminated soil in place, Article 11, Title 23 California Code of Regulations, and the RBM requires that you fully characterize the extent of soil contamination at the site.

Having reviewed the files, it appears that MW-1 defines the extent of soil contamination to the east, and Boring B-3 roughly defines the extent of soil contamination to the north. However, the extent of soil contamination to the west and south have not yet been delineated.

The soil contamination identified in samples S-1 through S-4 during the tank removal, and from downgradient locations, MW-2 and MW-3, appear to be resulting, at least in part, from your site, since the soil samples collected from MW-1, which is located upgradient of the former tanks, did not identify any soil

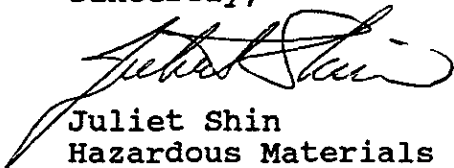
Mr. Carl Searway
Re: 1701 Webster St.
February 22, 1994
Page 2 of 2

contamination. At this time, this office does not have enough information to indicate the the contamination detected to date has resulted from an off-site source.

You are required to submit a work plan, addressing further delineation of soil contamination at the site, within 60 days of the date of this letter. Subsequent to the full characterization of the soil contamination, you would have the option of remediating the soil contamination, or proposing through RBM, to leave the soil contamination in place if you conclude, through leachability studies, that this soil will not pose a future threat to health or ground water.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,



Juliet Shin
Hazardous Materials Specialist

cc: ~~Gary Aguiar~~
Hageman-Aguiar, Inc.
3732 Mt. Diablo Blvd., Ste 372
Lafayette, CA 94549

Edgar Howell-File(JS)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

July 23, 1993

Mr. Carl Searway
6319 Castle Drive
Oakland, CA 94611

STID 3804

Re: Investigations at 1701 Webster St., Alameda, California

Dear Mr. Searway,

Per Section 2672, Article 7, Title 23 California Code of Regulations, you are required to either remove the piping from the above site, that was presumably once associated with the underground storage tanks or pump island, or, rinse the piping and cap them. This work must be documented and you must submit a figure showing locations of the piping.

Per our conversation on July 23, 1993, you may backfill the piping trenches, since soil samples collected from those depths did not identify contaminant concentrations in the past.

At this time, you are required to continue quarterly ground water monitoring of the site's wells. A minimum of four quarters of NonDetect, or near NonDetect, results are required before sites are usually considered for closure. In the case of your site, monitoring may have to continue for a longer duration of time, primarily due to the elevated levels of soil contamination identified from a number of borings at 7 feet to 8 feet below ground surface. Although, the monitoring wells are not currently identifying elevated levels of contaminants, this office is concerned about the possibility that the concentrations observed in the soil could eventually leach out and impact the ground water.

Therefore, at this time, quarterly ground water monitoring and water level measurements shall continue at the site. If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,


Juliet Shin

Hazardous Materials Specialist

ATTACHMENT B

WELL SAMPLING LOGS

WELL SAMPLING LOG

Project/No. 1701 WEBSTER ST Page 3 of 3
 Site Location ALAMEDA, CA Date 4/19/94
 Well No. WV 3 Time Began 1005
 Weather CLEAR / 75°F Completed 1120

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE
 Total Sounded Depth of Well Below MP 19.50
 - Depth to Water Below MP 6.47 Diameter of Casing 4"
 = Water Column in Well 13.03
 Gallons in Casing 8.3 + Annular Space 7.2 = Total Gallons 15.5
 (30% porosity) (x3=47)
 Gallons Pumped Prior to Sampling 45
 Evacuation Method AIRLIFT PUMP

SAMPLING DATA / FIELD PARAMETERS

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

	<u>1005</u>	<u>1017</u>	<u>1040</u>	<u>1115</u>
Time	<u>1005</u>	<u>1017</u>	<u>1040</u>	<u>1115</u>
Gals Removed	<u>5</u>	<u>15</u>	<u>30</u>	<u>45</u>
Temperature	<u>19.8</u>	<u>20.1</u>	<u>20.2</u>	<u>20.8</u>
Conductivity	<u>230</u>	<u>280</u>	<u>310</u>	<u>310</u>
pH	<u>7.0</u>	<u>6.7</u>	<u>6.3</u>	<u>6.5</u>
Color / Odor	<u>clr/ore</u>	<u>BEN/ore</u>	<u>BEN/HIC</u>	<u>BEN/HIC</u>
Turbidity	<u>LOW</u>	<u>MED</u>	<u>HIGH</u>	<u>HIGH</u>

Comments: NONE

WELL SAMPLING LOG

Project/No. 1701 WEBSTER ST.

Page 2 of 3

Site Location ALAMEDA, CA

Date 4/19/94

Well No. MW 2

Time Began 1125

Weather CLEAR / 75 OF

Completed 1220

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE

Total Sounded Depth of Well Below MP 19.52

- Depth to Water Below MP 6.57

Diameter of Casing 4"

= Water Column in Well 12.95

Gallons in Casing 8.3 + Annular Space 7.2 = Total Gallons 15.5
(30% porosity) (x3 = 47)

Gallons Pumped Prior to Sampling 45

Evacuation Method AIRLIET PUMP

SAMPLING DATA / FIELD PARAMETERS

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

Time	<u>1125</u>	<u>1138</u>	<u>1156</u>	<u>1215</u>
Gals Removed	<u>5</u>	<u>15</u>	<u>30</u>	<u>45</u>
Temperature	<u>21.9</u>	<u>22.4</u>	<u>22.1</u>	<u>23.5</u>
Conductivity	<u>300</u>	<u>290</u>	<u>300</u>	<u>300</u>
pH	<u>6.5</u>	<u>6.3</u>	<u>6.2</u>	<u>6.2</u>
Color / Odor	<u>BRN/NO</u>	<u>CLR/ORG</u>	<u>CLR/ORG</u>	<u>CLR/ORG</u>
Turbidity	<u>HIGH</u>	<u>LOW</u>	<u>LOW</u>	<u>LOW</u>

Comments: NONE

WELL SAMPLING LOG

Project/No. 1701 WEBSTER ST. Page 1 of 3
 Site Location ALAMEDA, CA Date 4/19/94
 Well No. MW 1 Time Began 1227
 Weather CLEAR / 75°F Completed 1325

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE
 Total Sounded Depth of Well Below MP 18.70
 - Depth to Water Below MP 6.63 Diameter of Casing 4"
 = Water Column in Well 12.15
 Gallons in Casing 7.8 + Annular Space 6.9 = Total Gallons 14.7
 (30% porosity) ($\times 3 = 44$)
 Gallons Pumped Prior to Sampling 45
 Evacuation Method AIRLIFT PUMP

SAMPLING DATA / FIELD PARAMETERS

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

	<u>1227</u>	<u>1243</u>	<u>1302</u>	<u>1320</u>
Time	<u>1227</u>	<u>1243</u>	<u>1302</u>	<u>1320</u>
Gals Removed	<u>5</u>	<u>15</u>	<u>30</u>	<u>45</u>
Temperature	<u>22.6</u>	<u>22.9</u>	<u>23.1</u>	<u>22.8</u>
Conductivity	<u>290</u>	<u>280</u>	<u>290</u>	<u>290</u>
pH	<u>6.2</u>	<u>6.1</u>	<u>6.1</u>	<u>6.1</u>
Color / Odor	<u>BRN / LT. HC</u>	<u>BRN / LT. HC</u>	<u>LT. BRN / LT. HC</u>	<u>LT. BRN / LT. HC</u>
Turbidity	<u>HIGH</u>	<u>HIGH</u>	<u>MED</u>	<u>LOW</u>

Comments: NONE

ATTACHMENT C

ANALYTICAL RESULTS: GROUNDWATER



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

April 21, 1994

PEL # 9404060

HAGEMAN - AGUIAR, INC.

Attn: Jeffrey Roth

Re: Three water samples for Gasoline/BTEX and TEPH analyses.

Project name: 1701 Webster St.

Project location: Alameda, CA.

Date sampled: Apr 19, 1994

Date submitted: Apr 19, 1994

Date extracted: Apr 19-20, 1994

Date analyzed: Apr 19-20, 1994

RESULTS:

SAMPLE I.D.	Kerosene (ug/L)	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Motor Xylenes (ug/L)	Oil (mg/L)	Stoddard Solvent (ug/L)
MW 1	N.D.	190	N.D.	5.6	5.1	4.2	13	N.D.	N.D.
MW 2	N.D.	120	N.D.	2.2	1.8	1.1	8.7	N.D.	N.D.
MW 3	N.D.	380	N.D.	3.0	4.3	4.7	17	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	92.7%	89.3%	84.5%	80.7%	84.8%	93.5%	---	---
Detection limit	50	50	50	0.5	0.5	0.5	0.5	0.5	50
Method of Analysis	3510 / 8015	5030 / 8015	3510 / 8015	602	602	602	602	3510 / 8015	3510 / 8015

David Duong
Laboratory Director

PEL # 9404060

INV # 24687

CHAIN OF CUSTODY RECORD

PROJECT NAME AND ADDRESS: <u>1701 WEBSTER ST</u> <u>ALAMEDA, CA</u>					SAMPLER: (Signature) <u>[Signature]</u>		ANALYSIS REQUESTED <i>TPH GAS/BTEX</i> <i>TEPH</i>							
					HAGEMAN - AGUIAR, INC. 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		
MW 1	4-19-94	1325		X	MONITOR WELL # 1			X	X					NORM TAT
MW 2	4-19-94	1220		X	↓	↓	# 2	X	X					↓
MW 3	4-19-94	1120		X	↓	↓	# 3	X	X					↓
RELINQUISHED BY: (Signature) <u>[Signature]</u>					DATE <u>4-19-94</u>	RECEIVED BY: (Signature)					DATE			
					TIME <u>1525</u>						TIME			
RELINQUISHED BY: (Signature)					DATE	RECEIVED BY: (Signature)					DATE			
					TIME						TIME			
RELINQUISHED BY: (Signature)					DATE	RECEIVED BY: (Signature)					DATE			
					TIME						TIME			
RELINQUISHED BY: (Signature)					DATE	RECEIVED FOR LABORATORY BY: (Signature) <u>[Signature]</u>					DATE <u>4/19/94</u>			
					TIME						TIME <u>15:25</u>			