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HAGEMAN-AGUIAR, INC.

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

**QUARTERLY
GROUNDWATER SAMPLING REPORT**

(sampled September 23, 1993)

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

October 19, 1993

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ATTACHMENT A -- Well Sampling Logs

ATTACHMENT B -- Analytical Results: Groundwater

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 $\mu\text{g}/\text{L}$ (ppb) and Benzene at "trace" concentrations of up to 0.71 $\mu\text{g}/\text{L}$ (ppb).

On September 23, 1993, 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 September 23, 1993, 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 A.

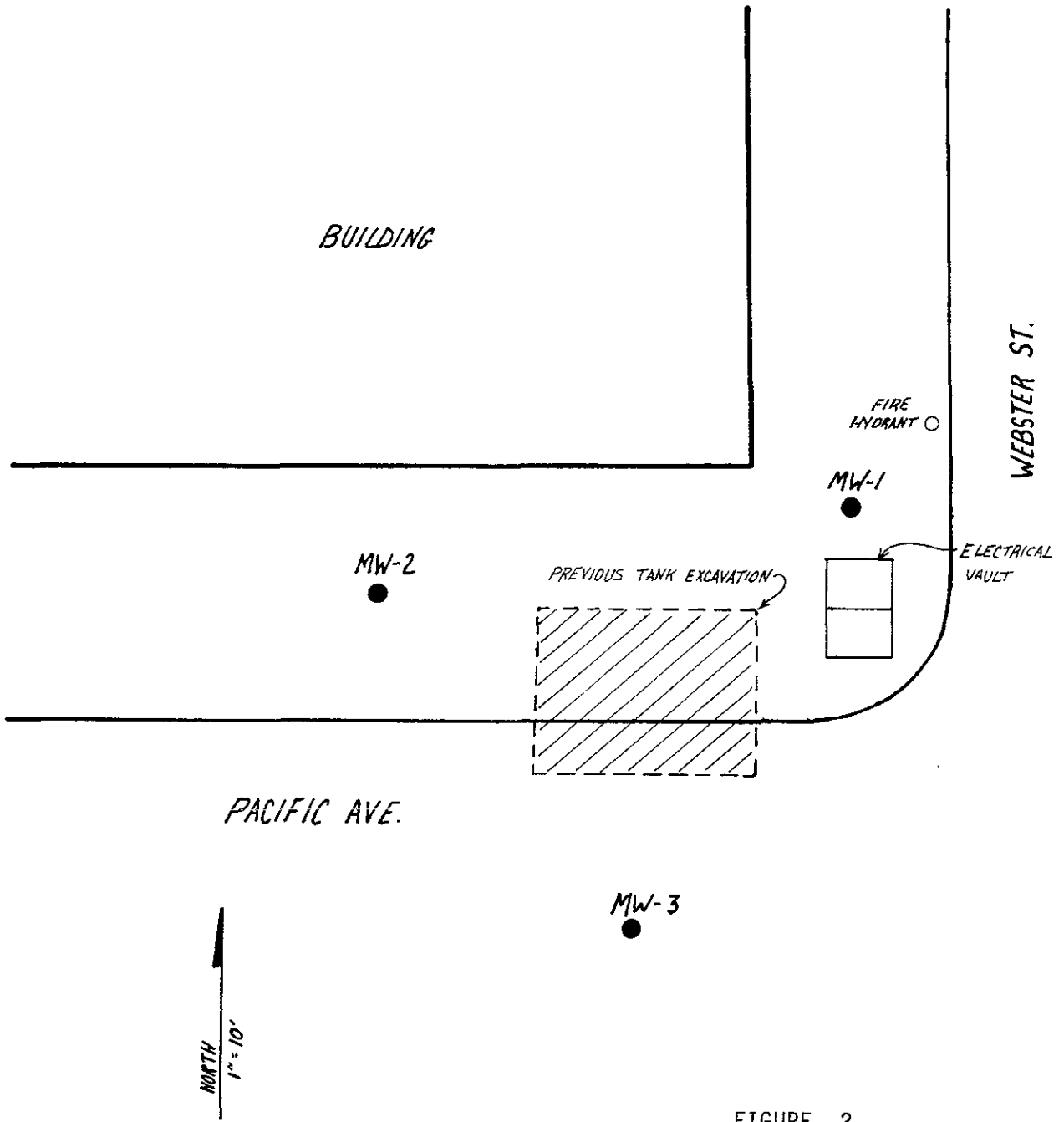


FIGURE 2.
Site Map.

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 September 23, 1993. 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 the westerly 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 $dH/dL = 0.2'/18.5' = 0.011$.

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
September 23, 1993**

Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	15.23	6.99	8.24
MW-2	14.96	7.04	7.92
MW-3	15.05	7.01	8.04

Saturated intervals of wells are 5' to 19' bgs

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

		DTW	TPH _g (ppb)	TPH _d (ppb)	Benz (ppb)
MW-1 Screens from 5' to 19' bgs	11-9-89	7.91	360	ND	0.71
	6-17-93	6.12	ND	53	ND
	9-23-93	6.99	ND	ND	ND
MW-2 Screens from 5' to 19' bgs	11-9-89	7.92	71	ND	ND
	6-17-93	6.12	ND	ND	ND
	9-23-93	7.04	ND	ND	ND
MW-3 Screens from 5' to 19' bgs	11-9-89	7.95	320	ND	0.58
	6-17-93	6.11	ND	ND	ND
	9-23-93	7.01	ND	ND	ND

- Highest levels observed when water table at ~8' bgs.
- Gradient consistently to West.
- No soil contamination observed in MW-1, so it appears to be coming from site.

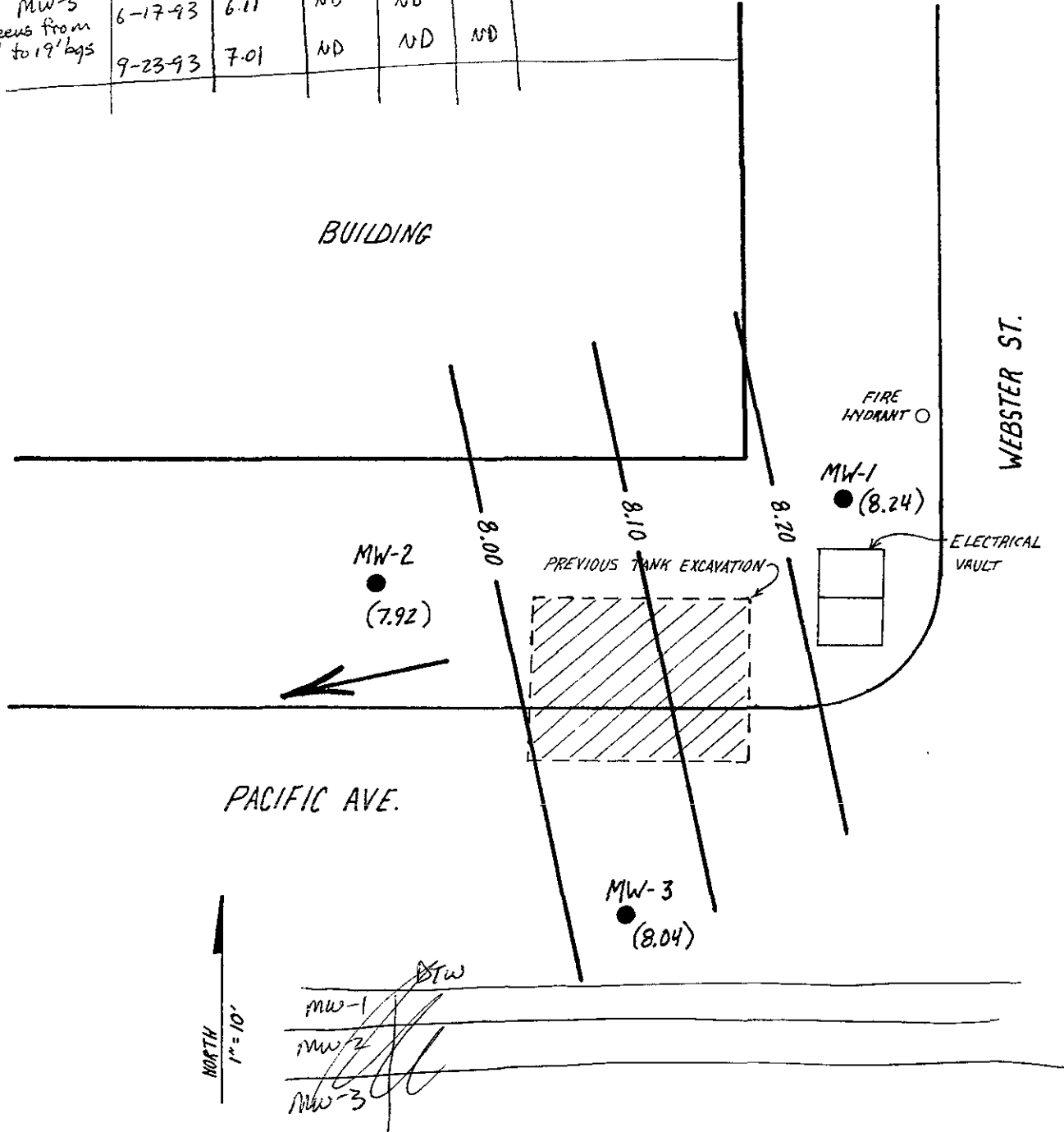


FIGURE 3. Shallow Groundwater Table Contour Map, measured on September 23, 1993.

TABLE 2.
Historical Water Table Elevations
(feet)

Well	Date of Measurement							
	6-17-93	9-23-93						
MW-1	9.11	8.24						
MW-2	8.84	7.92						
MW-3	8.94	8.04						
Flow Direction	W	W						
Hydraulic Gradient	0.0091	0.011						

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 2 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 B.

As shown in Table 2, no detectable concentrations of Total Petroleum Hydrocarbons as Diesel were detected in any of the shallow groundwater samples.

As shown in Table 2, no detectable concentrations of either Gasoline, Benzene, Toluene, Ethylbenzene, or Total Xylenes were detected in any of the shallow groundwater samples.

DTWS = 6.12, 6.12, 6.11
DTWS for this yr: 7.91, 7.92, ~~7.95~~

TABLE 3.

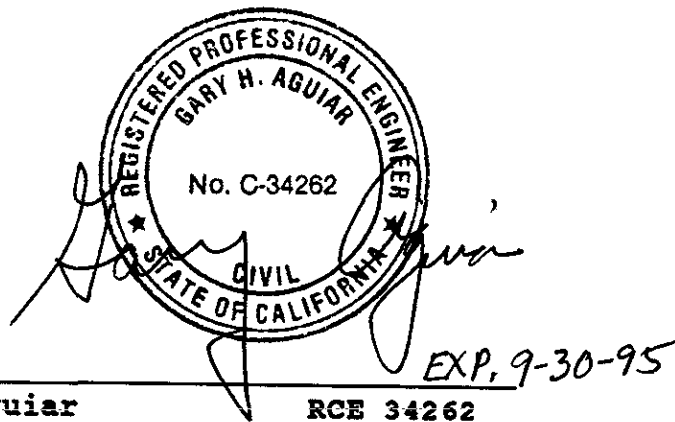
Shallow Groundwater Sampling Results

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
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
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
Detection Limit		50	50	0.5	0.5	0.5	0.5

ND = not detected

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

October 19, 1993



Gary Aguiar

RCE 34262

ATTACHMENT A

WELL SAMPLING LOGS

WELL SAMPLING LOG

Project/No. 1701 WEBSTER ST. Page 1 of 3
 Site Location ALAMEDA, CA Date 9/23/93
 Well No. MW 1 Time Began 1435
 Weather CLEAR / 80°F Completed 1545

EVACUATION DATA

Description of Measuring Point (MP) WELL BOX AT GRADE
 Total Sounded Depth of Well Below MP 18.78
 - Depth to Water Below MP 6.99 Diameter of Casing 4"
 = Water Column in Well 11.79
 Gallons in Casing 7.5 + Annular Space 6.6 = Total Gallons 14.1
 (30% porosity) (x 3 = 42.3)
 Gallons Pumped Prior to Sampling 50
 Evacuation Method AIRLIFT PUMP

SAMPLING DATA / FIELD PARAMETERS

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

	<u>1435</u>	<u>1450</u>	<u>1505</u>	<u>1530</u>
Time	<u>1435</u>	<u>1450</u>	<u>1505</u>	<u>1530</u>
Gals Removed	<u>5</u>	<u>15</u>	<u>30</u>	<u>50</u>
Temperature	<u>22.0</u>	<u>22.2</u>	<u>22.1</u>	<u>22.3</u>
Conductivity	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>
pH	<u>6.6</u>	<u>6.5</u>	<u>6.5</u>	<u>6.5</u>
Color / Odor	<u>BEN / HC</u>	<u>CLR / HC</u>	<u>CLR / HC</u>	<u>CLR / HC</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 2 of 3
 Site Location ALAMEDA, CA Date 9/23/93
 Well No. MW 2 Time Began 1540
 Weather CLEAR/80°F Completed 1635

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 7.04 Diameter of Casing 4"
 = Water Column in Well 12.48
 Gallons in Casing 8.0 + Annular Space 7.1 = Total Gallons 15.1
 (30% porosity) (x3 = 45.3)
 Gallons Pumped Prior to Sampling 50
 Evacuation Method AIRLIFT PUMP

SAMPLING DATA / FIELD PARAMETERS

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

Time	<u>1540</u>	<u>1550</u>	<u>1615</u>	<u>1625</u>
Gals Removed	<u>5</u>	<u>15</u>	<u>35</u>	<u>50</u>
Temperature	<u>23.9</u>	<u>23.5</u>	<u>22.3</u>	<u>23.1</u>
Conductivity	<u>400</u>	<u>400</u>	<u>350</u>	<u>400</u>
pH	<u>6.5</u>	<u>6.4</u>	<u>6.4</u>	<u>6.3</u>
Color / Odor	<u>BRN/NO</u>	<u>CLR/NO</u>	<u>CLR/NO</u>	<u>CLR/NO</u>
Turbidity	<u>MED</u>	<u>LOW</u>	<u>LOW</u>	<u>LOW</u>

Comments: NONE

WELL SAMPLING LOG

Project/No. 1701 WEBSTER ST Page 3 of 3
 Site Location ALAMEDA, CA Date 9/23/93
 Well No. MW 3 Time Began 1330
 Weather CLEAR / 80°F Completed 1440

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 7.01 Diameter of Casing 4"
 = Water Column in Well 12.49
 Gallons in Casing 8.0 + Annular Space 7.1 = Total Gallons 15.1
 (30% porosity) (x 3 = 45.3)
 Gallons Pumped Prior to Sampling 50
 Evacuation Method AIRLIFT PUMP

SAMPLING DATA / FIELD PARAMETERS

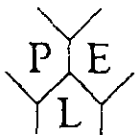
Inspection for Free Product: NONE DETECTED
 (thickness to 0.1 inch, if any)

Time	<u>1330</u>	<u>1340</u>	<u>1355</u>	<u>1425</u>
Gals Removed	<u>0</u>	<u>15</u>	<u>35</u>	<u>50</u>
Temperature	<u>22.9</u>	<u>22.2</u>	<u>22.1</u>	<u>21.8</u>
Conductivity	<u>350</u>	<u>400</u>	<u>400</u>	<u>400</u>
pH	<u>7.0</u>	<u>6.8</u>	<u>6.6</u>	<u>6.5</u>
Color / Odor	<u>LT. BRN / NO</u>	<u>LT. BRN / HC</u>	<u>CLR / NO</u>	<u>CLR / HC</u>
Turbidity	<u>MED</u>	<u>MED</u>	<u>LOW</u>	<u>LOW</u>

Comments: NONE

ATTACHMENT B

ANALYTICAL RESULTS: GROUNDWATER



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 29, 1993

PEL # 9309082

HAGEMAN - AGUIAR, INC.

Attn: Jeffrey Roth

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

Project name: Searway

Project location: 1701 Webster St., - Alameda, CA.

Date sampled: Sept 23, 1993

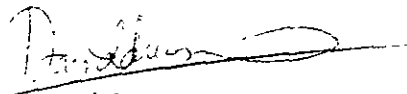
Date submitted: Sept 27, 1993

Date extracted: Sept 27-28, 1993

Date analyzed: Sept 27-28, 1993

RESULTS:




SAMPLE I.D.	Kerosene (ug/L)	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Motor Oil (mg/L)	Stoddard Solvent (ug/L)
MW 1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW 2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW 3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	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	94.2%	83.7%	91.2%	87.8%	81.6%	89.5%	93.0%	---	85.0%
Duplicate Spiked Recovery	---	94.1%	94.6%	92.7%	90.5%	94.9%	101.3%	---	---
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 # 9309082

INV # 24043

CHAIN OF CUSTODY RECORD

PROJECT NAME AND ADDRESS: <u>1701 WEBSTER ST</u> <u>ALAMEDA, CA</u> <u>(SEARWAY)</u>				SAMPLER: (Signature) 				ANALYSIS REQUESTED <i>TPH GAS / PESTICIDE ZEPH</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	9.23.93	1545		X	Monitor Well # 1	X	X				Non TAT
MW 2	9.23.93	1635		X	✓ # 2	X	X				✓
MW 3	9.23.93	1440		X	✓ # 3	X	X				✓
RELINQUISHED BY: (Signature) 				DATE <u>9.27.93</u> TIME <u>1220</u>		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 <u>9/27/93</u> TIME <u>12 10</u>	