

October 16, 1986

**Soil and Water Quality
Treatment Summary and Recommendations**

A Final Report

Prepared for:

**The City of Alameda
Housing Authority
1916 Webster St.
Alameda, CA 94501**

Prepared By:

**Aqua Science Engineers
P.O. Box 535
San Ramon, CA 94583**

CC: LEV

October 16, 1986

Mr. Tom Matthews
Executive Director
Housing Authority of the City of Alameda
1916 Webster Street
Alameda, CA 94501

RE: A Final Report on Soil Treatment and Recommendations for Continued Monitoring

Dear Mr. Matthews:

This report is a summation of activities and recommendations regarding the condition of soil and water quality at 1916 Webster Street, Alameda. With the completion of the third phase of soil treatment described herein, abatement activities will be suspended with further action to be at the discretion of the Regional Water Quality Control Board.

CONCLUSION TO SOIL TREATMENT

The third and final phase of soil treatment was initiated on September 9, 1986 with the excavation of approximately 35 cubic yards of contaminated soil. This third phase of action is based on a recommendation founded on the results of a soil boring program completed on August 15, 1986. The results of the boring program are summarized in a previous ASE report dated September 4, 1986 which indicated that the worst of the soil contamination had been addressed in first and second phase excavations but an area of significant contamination still remained. This area, centered around boring B1 (Figure 1), was excavated on September 9, spread on the adjacent parking lot, and allowed to aerate.

Soil samples were taken on the periphery of the newly enlarged excavation and analysed using EPA test methods 5020/8015/8020. The results of the analysis, performed by Wesco Laboratory, Navato, are tabulated in Figure 2. Soils aerating since the phase II excavation were also sampled on September 9. The results appear as sample HA 100 - HA 101 in Figure 2. These soils were returned to the pit that same day.

The sample labeled HA 8 was taken from the north wall of the pit following the phase III excavation (Figure 1). The sample showed total hydrocarbon concentrations of 3700 ppm. This value is far above the action level of 100 ppm established by the Regional Water Quality Control Board. In a telephone conversation with Dale Boyer of the RWQCB, Aqua Science maintained that continued excavation in the region of the questionable sample was no longer cost effective. It was made clear to the Board that; approximately 130 cubic yards of contaminated soil, representing a significant portion of the problem area, have already been treated; that the region where soil quality remains questionable is near a security fence posing difficulty in further excavation; that the transfer of contamination from soil to groundwater probably peaked more than 10 years ago when the fuel tank causing the contamination was last used; that the season for soil aeration is near its end and other treatment alternatives represent large cost with relatively small gain for the City. Based on these arguments and the lack of significant groundwater use in the area, it is decided that soil treatment will end at the conclusion of this third phase.

On September 29, 1986 the phase III aerating soils and standing water within the excavation were sampled. The results of the sampling appear in Figure 3. Based on these results, phase III aeration was determined a success and the site was scheduled for final backfill and compaction. In order to obtain a reasonable degree of compaction in the backfill, the excavation would have to be dewatered. The RWQCB was contacted for permission to release approximately 150 gallons of contaminated water with a total hydrocarbon concentration of 1.4 ppm (Figure 3). Due to the nature of the contaminant, a volatile hydrocarbon, and the low volume of the release, permission was granted to run the water out over the parking lot prior to diversion to a collection channel.

Dewatering and backfilling was initiated on October 8, 1986 and final compaction was completed on October 15. The pit was scheduled for paving on October 17.

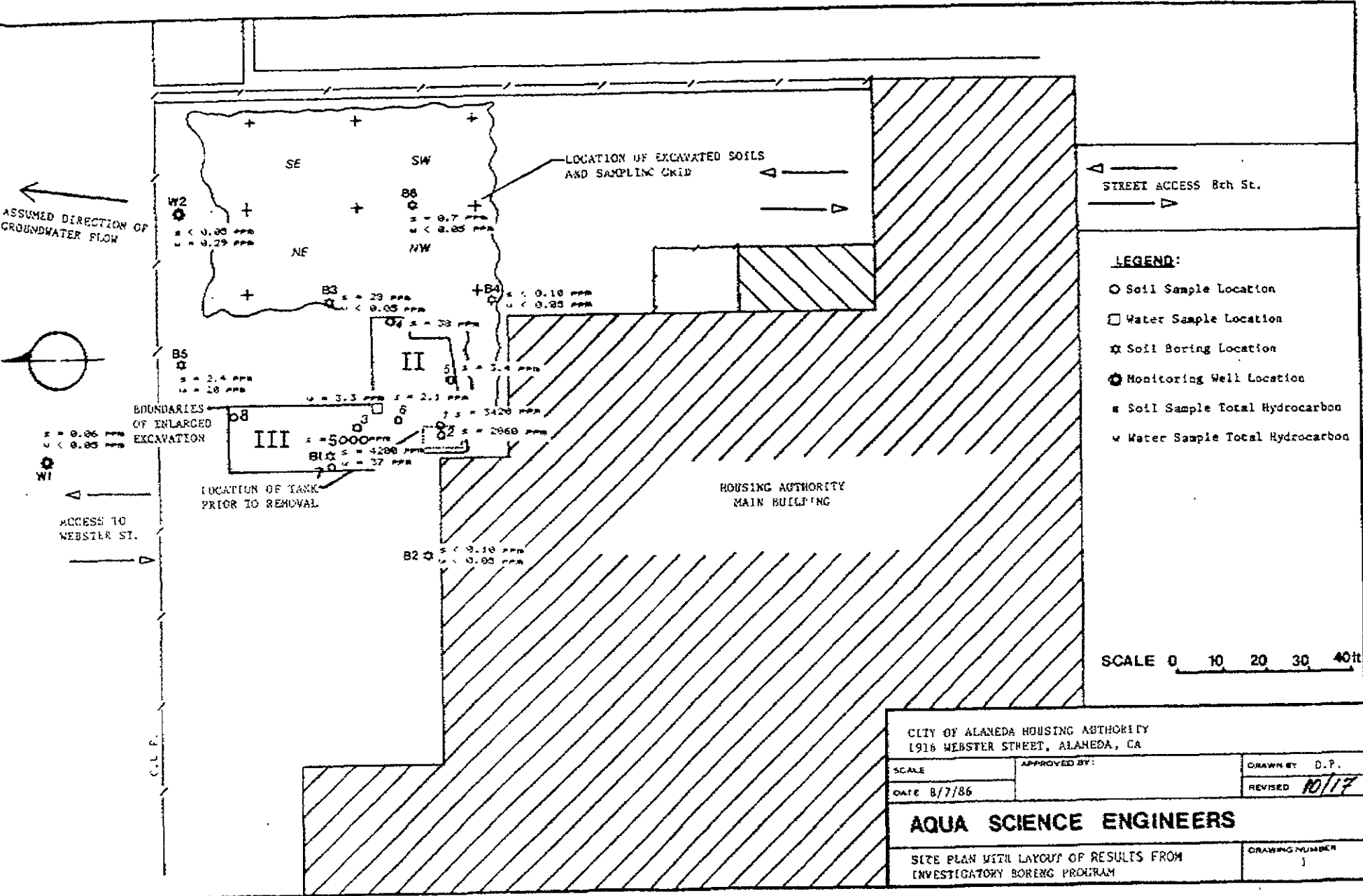
RECOMMENDATIONS FOR CONTINUED MONITORING

The Regional Water Quality Control Board has received a copy of the report describing the initial tank excavation, the subsequent site evaluation, and the progression of events through the phase II excavations. The Board is unable, at this time, to make any decisions regarding the severity of the groundwater contamination problem at 1916 Webster St., Alameda. Aqua Science recommends, however, that the groundwater monitoring wells at the site be sampled every six months and a record of the water quality condition be established and maintained. At which time the Board makes a decision on this case the data necessary to maintain the Cities position of action based on good faith will be available and a reasonable path for continued action can be defined.

Aqua Science would like to provide the monitoring services. Every six months each of the two monitoring wells will be developed by bailing four well volumes from the well. A sample will then be bailed from the region of the air-water interface and placed in an air tight vial for analysis. A continuous record of the sampling will be maintained and any significant changes in the condition of water quality will be brought to the City's attention. Aqua Science can provide this service for \$750.00 per sampling.

Sincerely,

David M. Schultz, P.E.
Vice President, Operations



CITY OF ALAMEDA HOUSING AUTHORITY 1916 WEBSTER STREET, ALAMEDA, CA		
SCALE	APPROVED BY:	DRAWN BY D.P.
DATE 8/7/86		REVISED 10/17
AQUA SCIENCE ENGINEERS		
SITE PLAN WITH LAYOUT OF RESULTS FROM INVESTIGATORY BORING PROGRAM		DRAWING NUMBER 1



WESCO Laboratories

Date: September 30, 1986

Client: AquaScience Engineers

Submitted by: Dave Prull

Report to: Dave Prull

WESCO Job #: AQS 8696

Client Job/P.O. #: City of Alameda
Housing Authority/6401

Date collected: 9-09-86

Date submitted: 9-11-86

& type of sample(s): 3 Soil

Lab No.	Client ID	Motor Fuel (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Xylene (mg/kg)	Fuel Type
5343-44	Soil HA 100 - HA 101	5.1	0.010	0.056	0.065	Gasoline
5345	Soil HA 7	38	0.12	0.97	1.8	Gasoline
5346	Soil HA 8	3700	28	260	360	Gasoline

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 OCT - 2 1986
 AQUA SCIENCE ENG.

METHOD(S): Note 1

NOTES: Note 1 - EPA Methods 5020/8015/8020.

Gerald Webb
 Analytical Supervisor

FIGURE 2



WESCO Laboratories

Date: October 8, 1986
 Client: AquaScience Engineers
 Submitted by: Dave Prull
 Report to: Terry Carter
 WESCO Job #: AQS 86107

Client Job/P.O. #: Alameda Housing Authority/
 Date collected: 9-29-86
 Date submitted: 9-29-86
 # & type of sample(s): 2 Soil
 1 WATER

Lab No.	Client ID	Motor Fuel (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Xylene (mg/kg)	Fuel Type
5596-97	Soil N (collate)	15	0.02	0.095	0.060	Gasoline
5598	Soil Pit WATER	1.4	0.030	0.041	0.008	Gasoline
METHOD(S): Note 1						

NOTES: Note 1 - EPA Methods 5020/8015/8020.

Michael Webb
 Analytical Supervisor

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FIGURE 3

OCT 10 1986

AQUA SCIENCE ENG.

AQUA SCIENCE ENGINEERS WELL LOG

Casing: 2" PVC
 Well Depth: 14.0 ft.
 Logged By: D. Prull
 Water Depth: 4.0 ft.
 Driller: ASE

Alameda Housing Authority
 1916 Webster St.
 Alameda, CA
 Boring # W1
 Date: 8-13-86

DEPTH (ft.)	SOIL DESCRIPTION	WELL CONSTRUCTION DETAILS
0-	6" Asphalt Cover. Blue cm Gravel.	Portland Cement
1-	Brown cmf Sand, and Silt.	Bentonite
2-		
3-	Grayish Brown Clay.	
4-		
5-	Black cmf Sand, some Silt, trace Clay.	Sand
6-		
7-		
8-		
9-	Grayish Brown cmf Sand, some Silt, trace Clay.	
10-		
11-		
12-		
13-		
14-		
15-	Orangish Brown cmf Sand, little Silt, trace Clay.	Bentonite
16-		
17-		
18-		
19-	B.O.B. 19.0 Ft.	

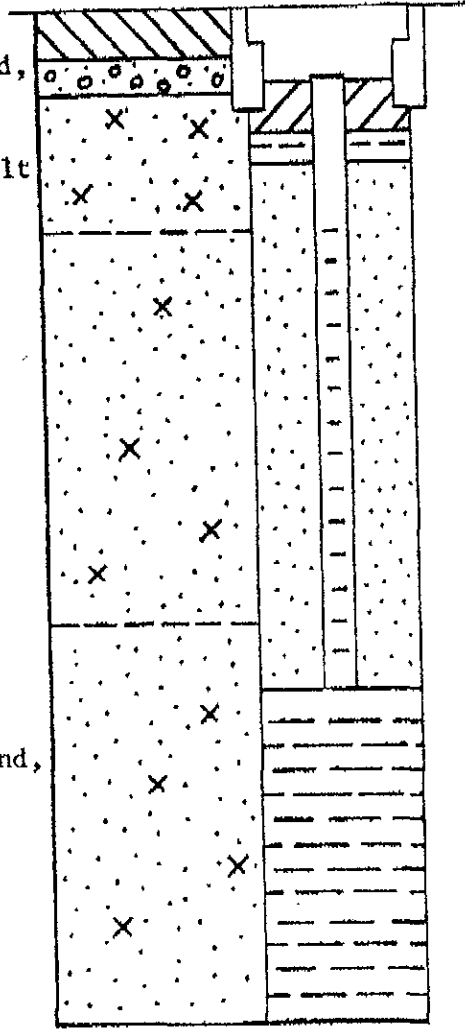
AQUA SCIENCE ENGINEERS WELL LOG

Casing: 2" PVC
 Well Depth: 10.0 ft.
 Logged By: D. Prull
 Water Depth: 5.0 ft.
 Driller: ASE

Alameda Housing Authority
 1916 Webster St.
 Alameda, CA
 Boring # W2
 Date: 8-14-86

DEPTH (ft.)	SOIL DESCRIPTION	WELL CONSTRUCTION DETAILS
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0- 6" Asphalt cover
 6" mf Gravel, some cmf Sand,
 1- little Silt.
 2- Dk Brown cmf Sand, some Silt
 trace mf Gravel.
 3-
 4-
 5-
 6- Brownish Black cmf Sand,
 little Silt.
 7-
 8-
 9-
 10-
 11- Lt Greenish Brown cmf Sand,
 little Silt.
 12-
 13-
 14-
 15-
 B.O.B. 15.0 ft.



Portland
 Cement
 Bentonite
 Sand
 Bentonite