

**RECEIVED**

10:17 am, Apr 16, 2008

Alameda County  
Environmental Health

May 23, 1986

**HYDROCARBON CONTAMINATION ABATEMENT PLAN  
FOR BAY CENTER - EMERYVILLE, CA.**

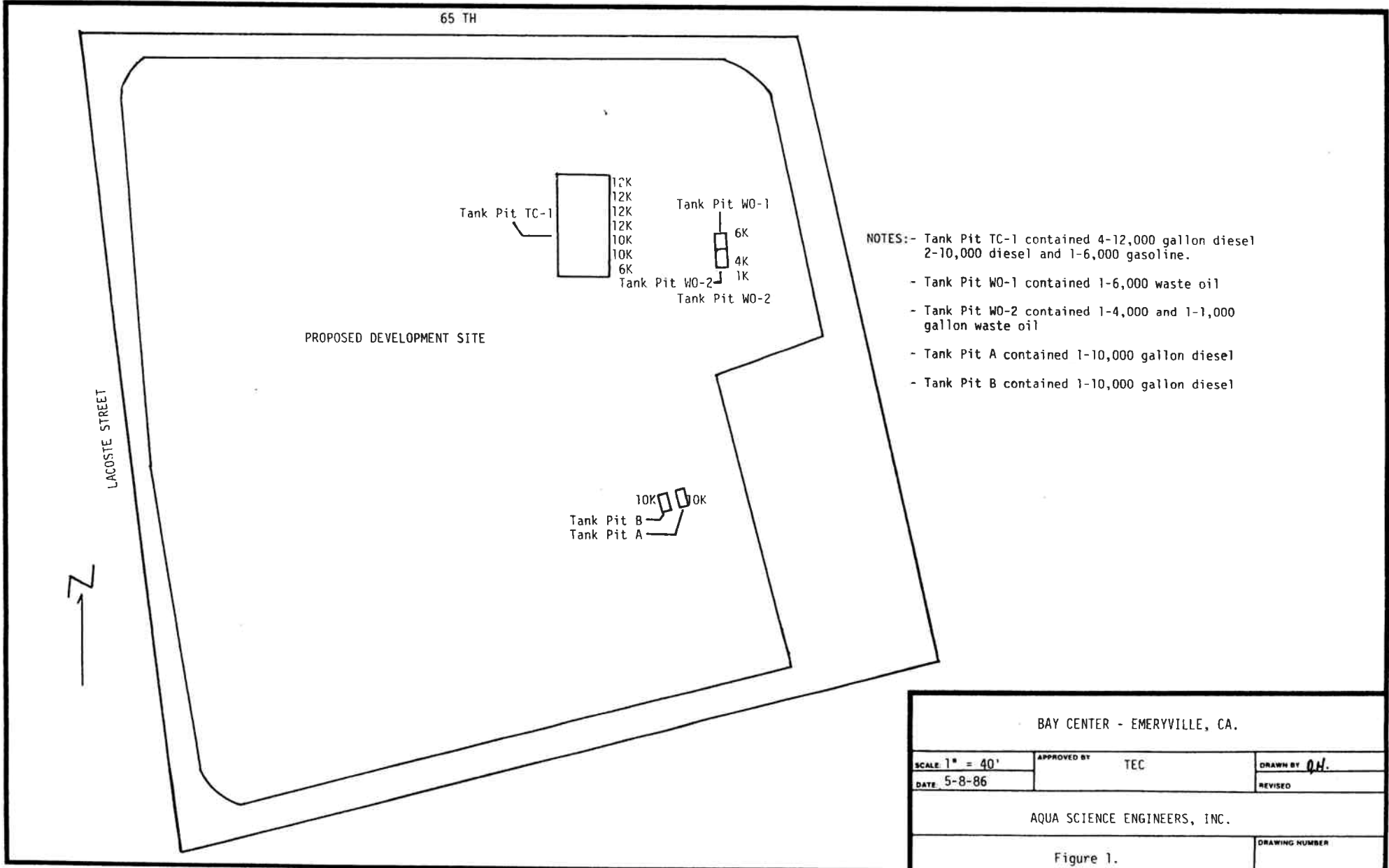
**BACKGROUND**

During the period 1960 to 1985 Garrett Freightlines operated a truck terminal at 64th and Lacoste Streets in Emeryville, CA. The site was used as a municipal dump for nonspecific solid waste between 1940 and 1960. The site is currently under demolition by the Martin Co. with the intention of constructing an office complex and parking facility upon it. A total of 12 tanks (8 diesel, 1 gasoline and 3 waste oil) were removed from three tank pits located on the northeastern and eastern portions of the property, Figure 1. This work was performed by Tom Daniels Excavation, Inc. under subcontract to the Heim Construction Co.

The tanks were of various capacities, Figure 1. The bottoms of the tanks were approximately 12 feet below grade. The water table is at a depth of approximately 7 feet. Following tank excavation each tank was inspected for cracks and holes by the Emeryville Fire Department and Aqua Science Engineers. None were found. Each of the tank pits contained groundwater with floating product residues approximately one-half inch thick. The product was skimmed and disposed of by H & H Services of San Francisco. Once the floating product was removed, water samples were collected from each of the tank pits. Soil samples were collected one foot above water surface elevation from the tank pit wall, one from each tank end. The results of the soil and groundwater analysis for total hydrocarbons analysis are presented in Figure 2. Within a few days of sample collection additional fuels had percolated from the sides and bottom of the tank pit and floating fuel was once again present. The quantity of fuels which may have been discharged by the previous owners to the soils is not known at this time.

**—PHASE I—  
OPTIONS FOR REMEDIAL ACTION WITH REGARD  
TO SOILS CONTAMINATED WITH MOTOR FUELS**

The three possible courses of action regarding soil treatment are defined below:



- NOTES:- Tank Pit TC-1 contained 4-12,000 gallon diesel  
 2-10,000 diesel and 1-6,000 gasoline.
- Tank Pit WO-1 contained 1-6,000 waste oil
  - Tank Pit WO-2 contained 1-4,000 and 1-1,000 gallon waste oil
  - Tank Pit A contained 1-10,000 gallon diesel
  - Tank Pit B contained 1-10,000 gallon diesel

BAY CENTER - EMERYVILLE, CA.		
SCALE 1" = 40'	APPROVED BY TEC	DRAWN BY OH.
DATE 5-8-86		REVISED
AQUA SCIENCE ENGINEERS, INC.		
Figure 1.		DRAWING NUMBER

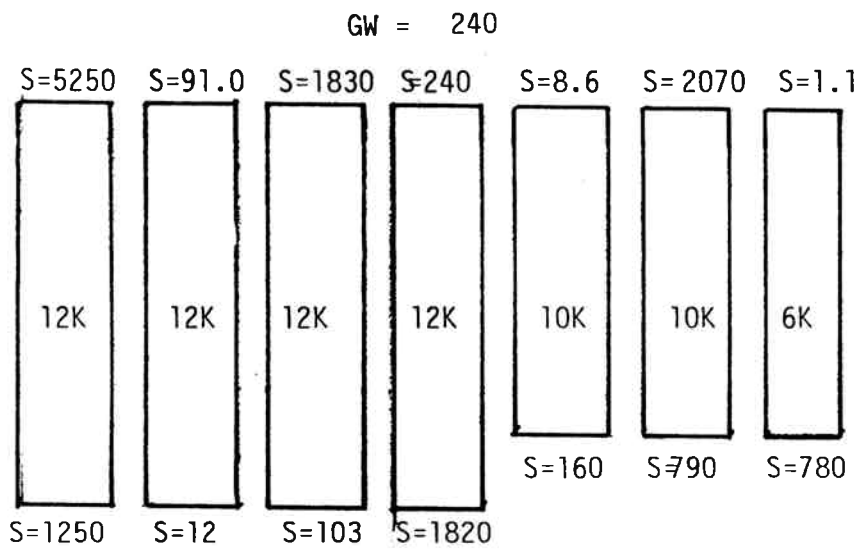
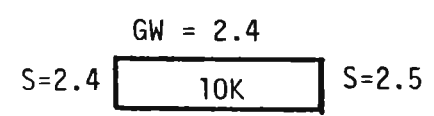
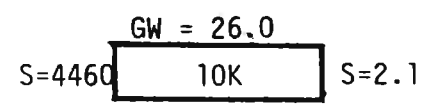
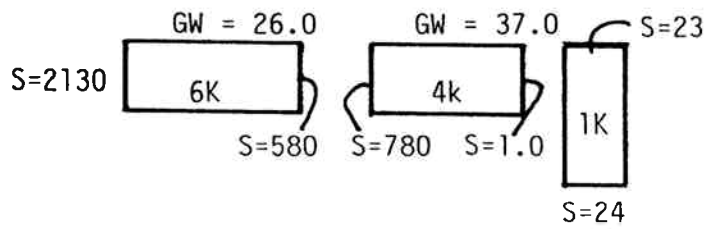
**OPTION 1.** No soils decontamination measures to be taken. This recommendation might be followed if it can be shown that contamination poses no threat to groundwater resources or that there is little chance of motor fuels contamination affecting future site improvements. Additionally, moderate levels of hydrocarbon contamination might be tolerated if it can be demonstrated that the safest and most satisfactory method of dealing with the lead contamination problem is to "encapsulate it" through replacing the excavated backfills and paving the area as suggested by Earth Metrics. This option, of course, would be the least cost alternative but caution must be exercised to assure that problem abatement is not merely deferred to a later date (when treatment may be very expensive with the proposed property improvements in place).

At the present time, the California Regional Water Quality Control Board (RWQCD) and the Department of Health Services are evaluating all contaminated sites on a case by case basis. The prime consideration is the threat to groundwater. In actual practice the agencies are reluctant to quote numbers representing "allowable levels" of contaminants in soils or groundwater or to provide a blanket "sign off" on contaminated sites following clean-up. Under the current situation we doubt that the agencies will be satisfied with this option in light of the confirmed contamination present.

This option would preclude treatment of soils that were excavated during tank removal. The soils would be used as backfill with no treatment or testing for contamination.

**OPTION 2.** Excavate the fuels contaminated soils and treat them on site. This option might be followed since soils analysis shows fuels concentrations are higher than allowable levels. This option, using standard engineering methodologies, is less than half the cost of transporting soils to hazardous dump site. Actual costs will be determined following the soils analysis. The site location and layout make it possible to use this alternative. Current technologies and experience make it practical to deal with the anticipated problems thoroughly and efficiently. We propose excavating the soils allowing the engineer onsite to test soils as they are taken from the pit for the presence of hydrocarbons. Once soil treatment is determined to be successful from laboratory results, the excavated fill may be used as backfill in the tank pits. Soil samples may be taken from the excavated soil and given to Earth Metrics for analysis of heavy metals, should this option be necessary. Lead levels found in the tank backfill material have not been at a level that would be a cause for concern. Therefore, fugitive dust from the excavation may be controlled by water misting thus reducing the transport of lead dust to the air. If at all possible, onsite treatment should be used in place of transporting to a hazardous dump site.

Based on the laboratory results and our report of the situation, the agencies will acknowledge whether or not they are at "allowable levels" and then qualify the sign off with "no further action required



K = Tank capacity in 1000 U. S. gallons  
 S = Soil sample results  
 GW = Groundwater sample results  
 Note: Sample results are total hydrocarbons (EPA5020/8015) in ppm.

BAY CENTER _ EMERYVILLE, CA.		
SCALE:	APPROVED BY:	DRAWN BY D.H.
DATE: 5-6-86		REVISED
AQUA SCIENCE ENGINEERS, INC.		
		DRAWING NUMBER Figure 2.

-- at this time".

Under this option soils already excavated during tank removal will be treated. These soils were tested for lead and motor fuels by Earth Metrics. The results indicate that levels for lead are below those considered hazardous, while levels for motor fuels were above 100 ppm. We propose to treat these soils to reduce motor fuel contamination and use the soil as backfill. Decontamination efforts will take place prior to any further excavation. The soils will then be stock piled and Option 2 begun.

**OPTION 3.** Transport contaminated soils to a hazardous materials dump site. This option would be exercised only if it is shown that heavy metals contamination is beyond levels that could be treated by encapsulation or if we were unsuccessful in having our onsite decontamination program approved by the regulatory agencies. Cost of excavating and transporting material to a hazardous materials dump site would run between \$195 and \$275 per cubic yard depending on the volume shipped. Recent closures of local Class II dump sites has reduced the feasibility of this alternative as well as increasing the costs. Class I dump sites are reluctant to accept materials which had previously been allowed at Class II sites.

#### —PHASE II—

#### **GROUNDWATER CONTAMINATION DEFINITION REMEDIAL ACTION**

The following scope of work defines a program of work designed to meet the State and County regarding unauthorized discharge of motor fuels into the groundwater.

**DECONTAMINATE GROUNDWATER IN THE TANK PITS** The tank pits will receive additional skimming until movement of fuels into the pits ceases. The floating product will be removed and treated on-site. Soluble fractions of motor fuels within the tank pit water will be reduced through aeration and accelerated biodegradation. Tank pit water will be treated until chemical analysis shows that hydrocarbon levels are low enough to allow disposal by discharging into a storm drain.

#### —PHASE III—

#### **INVESTIGATION AND DEFINITION OF POSSIBLE GROUNDWATER CONTAMINATION**

Present plans of the developer call for repaving the site and constructing a two-story parking facility in the approximate area of the tank pits. A definition of the presence of motor fuel contamination in groundwater will take place once plans specifying the location of the proposed facility is received by ASE. The exact location of the monitoring wells is unknown at this time, however, the proposed definition of possible groundwater contamination is presented below.

**PERIMETER MONITORING WELLS** The site is located in an area where

the groundwater is shallow and the groundwater gradient and subsequent groundwater movement can be assumed to be slight. However, the heterogenous nature of the fill materials may have allowed fuels pooled or mounded within the tank pit backfill to spread radially. We recommend that groundwater monitoring wells be placed about the perimeters of the tank pits at a distance of 30 feet from the tank pit perimeter. Soil and groundwater samples will be taken and analyzed for motor fuels and their soluble fractions (benzene, toluene & xylene). In response to a concern of the Alameda County Health Services - Hazardous Substances Division chlorinated hydrocarbons (EPA method 624, 625) in addition to motor fuels will be sampled from monitoring wells perimetering the waste oil pits. The effort here is to determine if other hazardous materials other than waste oil was discharged to soil and groundwater. Should the first tier of monitoring wells provide positive results, additional monitoring wells will be required to further define the extent of motor fuel contamination.

**PREPARE A REPORT** A report will be prepared defining the extent of contamination obtained from monitoring well data, and recommendations for appropriate remedial action, if additional action is required.