

20107

# Environmental Restoration Services

Site Investigations \* Fuel Tank Closures and Installations \* Site Remediation \* Regulatory Reporting

Alameda County Health Care Services  
Department of Environmental Health  
1131 Harbor Bay Parkway, Second Floor  
Alameda, CA 94502

January 27, 2005

Alameda County

MAR 14 2005

Attn: Mr. Barney Chan; Haz Mat. Specialist for : DiSalvo Trucking  
4919 Tidewater Ave., Oakland Health

Re: **Investigative Workplan**

Dear Mr. Chan,

This Workplan has been prepared by Environmental Restoration Services, (ERS) to address requirements by the Alameda County Department of Environmental Health (ACDEH) for the performance of a soil and groundwater investigation at a Underground Storage Tank (UST) site, 4919 Tidewater Ave., Oakland, California.

The purpose of this investigation is to re-investigate the horizontal extent of hydrocarbons in order to better estimate the volume of diesel impacted soil, and to further determine the horizontal extent of hydrocarbons in the groundwater. This information will also be used to profile the soil for disposal at the most cost effective landfill.

This report first reviews the known site history, describes the site vicinity, and presents existing chemical data. Then, recommendations for further investigation are given including on-site soil and groundwater sampling.

## **1.2 Site Location**

The site is located in a light industrial district of Oakland, California on property at 4919 Tidewater Ave.(Figure 1).

## **1.3 Previous Subsurface Work at Site**

Previous subsurface work at the site includes soil excavation and bio remediation, groundwater disposal, soil borings and sampling, monitor well construction and sampling. Description and chemical results from all work conducted to date are given in reports by Geo Environmental Technology (GTE) of San Jose dated April, 1989, June 1989 and February 1991, in reports by Gen-Tech Environmental, Inc., (GTE) dated May 1994 and November 1994, in a Report by ERS dated September of 1995 and a report by PIERS Environmental dated December 2000.

## **2.0 SITE DESCRIPTION**

### **2.1 Site Description and Hydrogeologic Setting**

The site is located on the west side of Tidewater Ave.. A 8000 square foot metal building is located on the northwest portion of the approximate three acre parcel. The majority of the remaining property is paved with asphalt.

The site is located at the fringe of the San Francisco Bay on soil that appears to have been imported to fill the location to approximately four feet above the mean high tide elevation. The imported fill caps the entire site and contains sands, gravels, concrete and asphalt. Native silty clay, silt, clayey sand and peat underlie this fill.

### **2.2 Vicinity Map**

A vicinity map is given in Figure 1 which includes the location of any known hydraulic influences. The San Francisco Bay lies approximately 100 feet southeast of the site. A site map is given in Figure 2 which includes information on adjacent streets, site building locations, locations of existing wells, past soil borings and former tanks.

### **2.3 Existing Analytical Results**

In April of 1994, three monitoring wells were installed at the site by Gen-Tech Environmental (GTE) of San Jose CA.. Eleven soil borings were also advanced at the same time by GTE. Groundwater grab samples were recovered from each boring and tested for TPH/g, TPH/d and BTEX. In August of 1995, one monitoring well and two soil borings were installed at the site by ERS of Menlo Park, CA..

In December of 2000, 16 borings were constructed PIERS Environmental Services of San Jose, to determine the presence of hydrocarbons in the soil and groundwater around the entire property. Soil samples were recovered from depths of between 6 and 7 feet bgs. showed trace to non-detectable amounts of TPH/d.

#### **2.3.2 Depth to Groundwater**

Depth to groundwater based on the monitor well sampling is approximately two feet below ground surface.

#### **2.3.3 Soil Profile**

The boring logs for the monitor wells show predominantly import sands and gravels underlain with peat.

### **2.4 Waste Removal**

Three fuel tanks, one waste oil tank and approximately 40,000 gallons of hydrocarbon impacted groundwater have been removed from the site. No documentation exists for the disposal of soils, wash water, or groundwater from monitor well construction. Groundwater and wash-water generated by the shallow soil borings was placed in 55-gallon drums. Soils generated by borings are presently stored on-site in a 55-gallon drums.

### **3.0 RECOMMENDATIONS FOR ADDITIONAL INVESTIGATION**

Because the analytical soil sample data collected during the PIERS December 2000 investigation indicated trace to non-detectable amounts of diesel, ERS believes that levels of diesel in the soil need to be investigated above the previously investigated depth of between 6 and 7 feet bgs.. This will serve two proposes, one being a more precise estimate of the amount of soil to be disposed of, and two, being able to establish a soil disposal profile in order to pre-establish a disposal site for the affected soil.

Since the lateral extent of groundwater contamination at the site had been defined over four years ago, the investigative scope of work will also be comprised of groundwater sampling at select boring locations to see if the size of the groundwater plume has grown or reduced between investigations.

#### **3.1 Reconnaissance Boring Installation, Soil and Groundwater Sampling**

Approximately twelve borings will be constructed to determine the presence of hydrocarbons in the soil and groundwater in the same vicinity as the December 2000 boring locations. As such, the planned borings SS-1 through SS-12 are shown in Figure 2. Additional soil borings may be installed as needed based on field observations/conditions of the proposed borings. Choice of locations of any additional borings will be made by the field engineer.

Prior to mobilization of the drilling equipment on-site, and prior to leaving the site, all associated equipment and well installation equipment will be thoroughly cleaned to removed all soil, oil, grease, mud, tar, etc. The cleaning process will consist of TSP cleaning of the drilling equipment and a clean water final rinse. Before drilling each boring, all drill stems, bits, and other down-hole equipment will be cleaned.

##### **3.1.1 Soil Boring Procedure**

The borings will be advanced using a small diameter push rig (Geo-Probe or equivalent) to a depth of approximately five feet. All of the soil recovered from the boring will be logged under the supervision of a registered civil engineer. Visual and olfactory observations of petroleum hydrocarbons will be made and recorded on the boring log.

##### **3.1.2 Soil Sampling Procedures**

Soil samples will be recovered from each boring at depths of two and five feet. Each sample will cut from the continuous core container at the desired sample depth. The container will then be sealed with Teflon sheet and plastic caps. The soil samples will be immediately stored on ice.

##### **3.1.3 Groundwater Grab Sampling Procedures**

After completion of drilling, selected borings will be allowed to recharge with groundwater. Then, a new, disposable bailer will be inserted into the boring for recovery of a groundwater grab sample. The groundwater will be emptied into sample containers obtained directly from the analytical laboratory. An effort will be made to minimize exposure of the sample to air. The groundwater samples will be immediately stored on ice.

Care shall be taken to collect all excess water resulting from the sampling and cleaning procedures. The excess water will be contained in a pre-labeled 55-gallon drum on-site pending receipt of laboratory analyses. The borings will be backfilled immediately after completion of the sampling with a cement grout mixture containing approximately 3% bentonite.

### 3.1.4 Laboratory Analyses

The following analyses will be performed by North State Labs (NSL) of South San Francisco, CA, on the soil and groundwater samples obtained from the borings:

- TPH-diesel (EPA Method 8015M) with silica-gel cleanup
- TPH-gasoline (EPA Method 8015M)
- BTEX (EPA Method 8020)
- Total Lead (EPA Method 6010)

### 3.2 Reporting

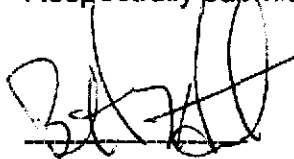
A report will be prepared which documents the investigation including boring logs, sampling field notes, chains of custody, and laboratory reports

### 4.0 SITE SAFETY PLAN

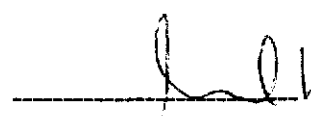
A site safety plan will be prepared by the consultant prior to initiation of the field activities. The site safety plan will comply with all federal and state regulations for worker safety and hazardous material handling, transport, and disposal. The site safety plan will consider possible worker exposure during drilling and sampling operations in accordance with applicable OSHA standards.

If you have any questions regarding these comments or scope of work, or wish to add to or alter the scope of this investigation, please do not hesitate to call Ben Halsted at 650-325-3216 so I may resubmit any revisions.

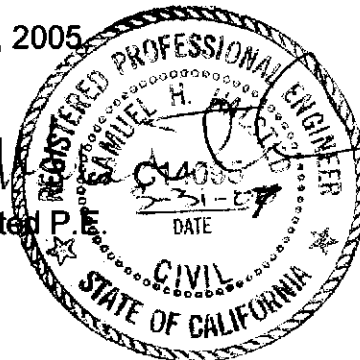
Respectfully submitted this 27th day of January, 2005.



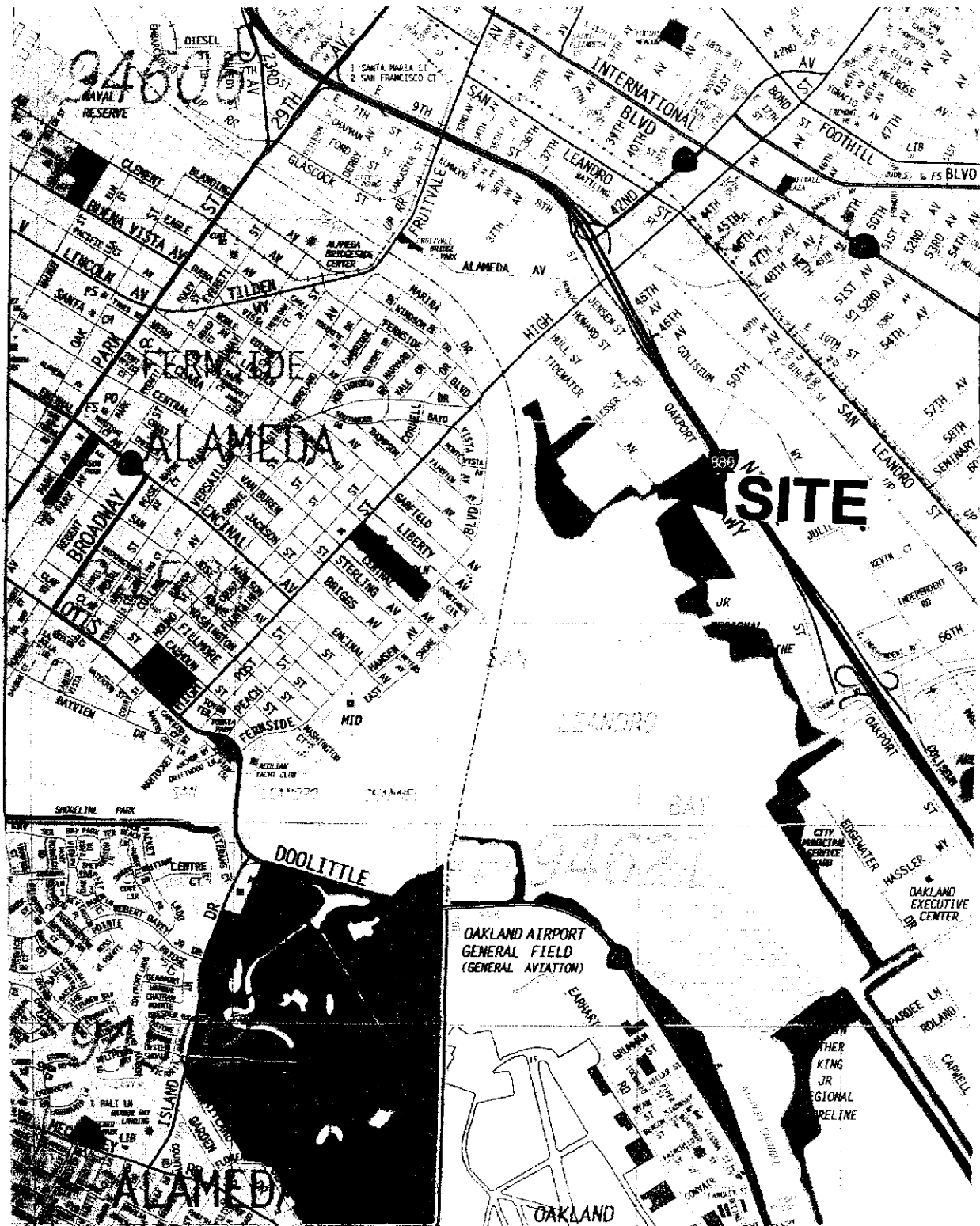
Bennett T Halsted  
Project Manager



Samuel H Halsted P.E.  
CE 14095

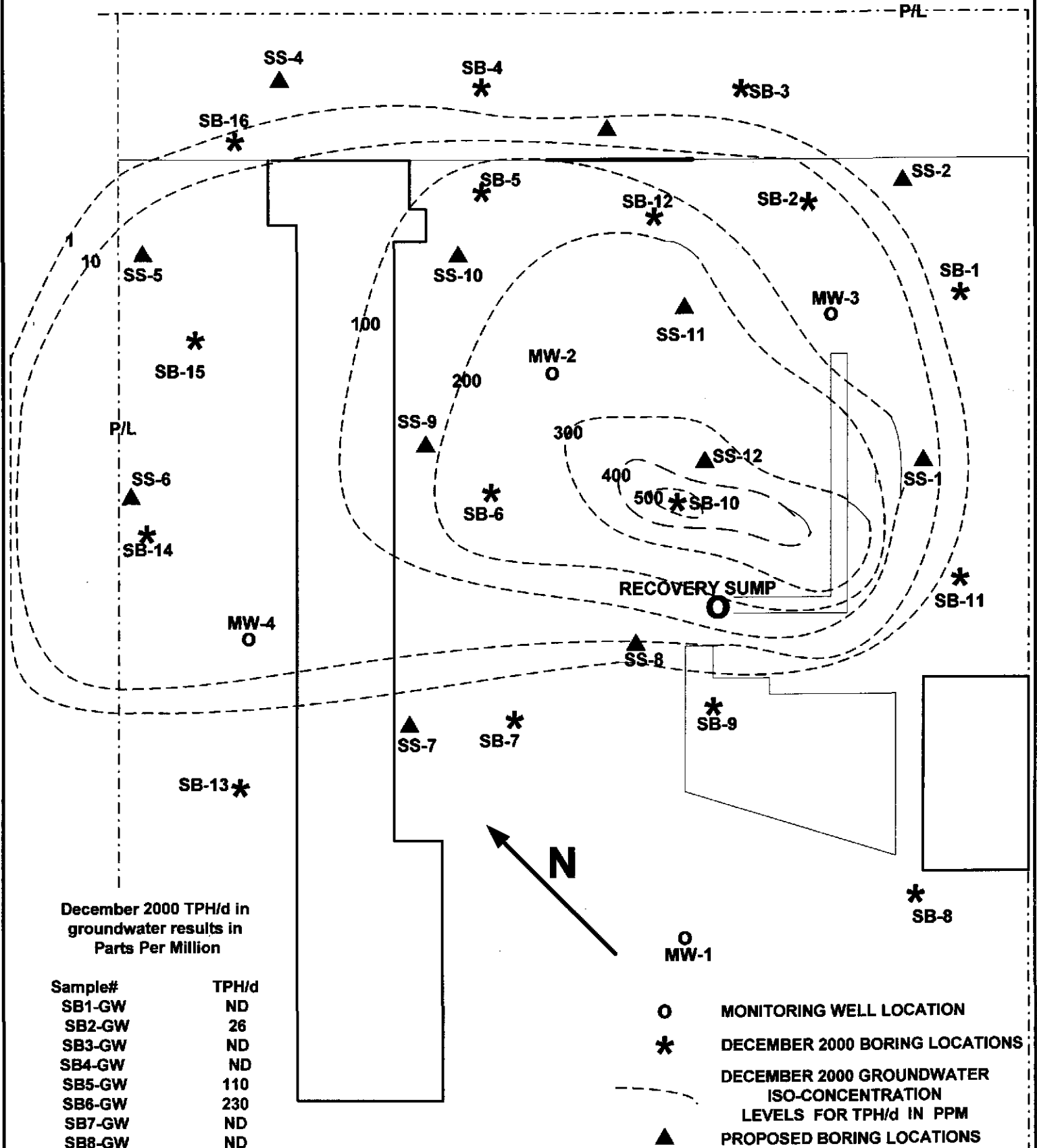


# FIGURES



<b>VICINITY MAP</b>		
4919 Tidewater Ave., Oakland, CA		
DATE 1/27/05	SCALE: 1"= 1900'	BY:
Environmental Restoration Services		<b>FIGURE 1</b>
500 Santa Cruz Ave., Menlo Park, CA 94025		

# TIDEWATER AVE



December 2000 TPH/d in groundwater results in Parts Per Million

Sample#	TPH/d
SB1-GW	ND
SB2-GW	26
SB3-GW	ND
SB4-GW	ND
SB5-GW	110
SB6-GW	230
SB7-GW	ND
SB8-GW	ND
SB9-GW	ND
SB10-GW	670
SB11-GW	ND
SB12-GW	190
SB13-GW	ND
SB14-GW	44
SB15-GW	48
SB16-GW	2

- MONITORING WELL LOCATION
- \* DECEMBER 2000 BORING LOCATIONS
- DECEMBER 2000 GROUNDWATER ISO-CONCENTRATION LEVELS FOR TPH/d IN PPM
- ▲ PROPOSED BORING LOCATIONS

## SITE PLAN

4919 Tidewater Ave., Oakland, CA

DATE 1/27/05

SCALE: 1"= 50'

BY:

Environmental Restoration Services

500 Santa Cruz Ave., Menlo Park, CA 94025

**FIGURE 2**