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*By dehloptoxic at 8:51 am, Sep 18, 2006*

***CAL GAS***  
15595 WASHINGTON AVENUE  
SAN LORENZO, CA 94580

July 10, 2006

**Mr. Barney Chan**  
ACHCSA  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

**SUBJECT: WORK PLAN ADDENDUM**  
15595 Washington Avenue, San Lorenzo, CA

Dear Mr. Chan:

Enclosed, please find a copy of the June 8, 2006 subject Work Plan Addendum Report prepared by my consultant, Enviro Soil Tech Consultants.

I declare, under penalty of perjury, that the information and/or recommendations contained in this report are true and correct to the best of my knowledge.

Sincerely,

*M. Mohammadian*  
MEHDI MOHAMMADIAN

June 8, 2006

File No. 12-99-702-SI

**Mr. Barney Chan**  
Alameda County EHS  
1131 Harbor Bay Parkway  
Alameda, California 94502

**SUBJECT: WORK PLAN ADDENDUM**  
15595 Washington Avenue, in  
San Lorenzo, California

Dear Mr. Chan:

Thank you for the opportunity to meet with you on June 6 at the referenced site to further discuss the next phase of work for the site. It was a productive meeting and we appreciate the open and cordial discussion.

As agreed, we would like to amend our September 2004 work plan and June 2005 addendum in accordance with our recent site meeting. This addendum addresses 1) revised boring locations; 2) addition of CPT borings; 3) reduction in the number of proposed monitoring wells; 4) use of an on-site mobile laboratory; 5) deferment of domestic water well sampling; and 6) permit procurement.

### **1. Revised Boring Locations**

The first phase of data collection to be undertaken will be to drill a number of borings on the property to collect soil and groundwater samples.

Our previous work plan proposed eight on-site soil borings to delineate the extent of soil contamination in the vicinity of the present and former underground storage tanks. The purpose of this task was to make it possible to calculate the existing mass of hydrocarbons in soil that could serve as a continuing and future source of contaminants to groundwater. During our June 6 site meeting, it was agreed that this is a necessary task. However, after viewing the site, it was determined to move the location of some of these borings to make it possible to assess the magnitude of groundwater contamination in areas where no data have previously been collected. Thus, it was decided that two additional borings should be drilled west of the site, downgradient from MW-5. These borings will help to delineate the downgradient extent of groundwater contamination.

Figure 1 shows the revised locations of the soil borings. The original work plan proposed using hollow-stem auger drilling equipment, but ACHCSA subsequently requested that these be continuously sampled. Therefore, these borings will be drilled using direct-push equipment and continuous polyethylene sample sleeves. After removal from the sleeves, the samples will be screened with a PID for evidence of hydrocarbon vapors, and samples will be selected for analysis in the on-site mobile laboratory based on PID readings and visual observations (see item 4 below).

The water table has usually been between 5 and 10 feet below grade at the site, so it is anticipated that a water sample will be collected when the borings reach the saturated zone. After collecting the water sample and delivering it to the mobile lab for analysis, the borings will be advanced to a depth of approximately 25 feet, or 10-15 feet deeper than the normal depth to groundwater. Unless there have been more severe fluctuations in the depth to groundwater in the past, this depth should be sufficient to define the maximum depth of soil contamination. Upon termination, the borings will be backfilled with neat cement.

## **2. Cone Penetrometer Borings**

The second phase of the investigation will involve the drilling of Cone Penetrometer Test (CPT) borings.

In recognition of the possibility that multiple water-bearing zones may be present and contaminated, ACHCSA has requested that methods be applied to determine whether this is the case before installing monitoring wells. Therefore, we propose to use cone penetrometer testing equipment to drill three borings to assess the hydrogeology of the site. Two of these will be located on site, and the third will be located along the south curb of Via Enrico Street (Figure 1). One of the on-site CPT borings will be located close to the existing UST facility and near proposed monitoring well MW-6. If the existing UST's are the primary source of contaminants at the site, it is likely that this is where the deepest contamination will be found, and therefore we currently expect to drill this boring to a depth of approximately 50 feet. However, if a thick (20-30 feet) aquitard is encountered in this depth range, it may be possible to terminate the boring above 50 feet. Conversely, if no aquitard is encountered and it appears that a thick aquifer is present instead, the boring will be drilled deeper to determine whether an aquitard is present at greater depth.

The second CPT boring will be located near the southwestern corner of the property (Figure 1). In most quarters, this location appears to be cross-gradient from the suspected sources, although in March 2006 it was downgradient of the former UST facility. This location will be well suited to determining whether groundwater south of the site has been contaminated. The third CPT boring will be located even farther downgradient, in the same direction, to determine whether contaminants have migrated off site toward the south. The water sample from this boring will substitute for a water sample from the domestic water well that is located still farther south of the site (see item 5 below).

Because only three water samples will be collected during CPT drilling, it would not be economical or necessary to utilize a mobile laboratory for this task. These samples will be transported to a stationary lab for analysis. The laboratory methods will be the same as those utilized in the mobile lab (see item 4 below).

### **3. Installation of Monitoring Wells**

After the Geoprobe and CPT samples have been analyzed and interpreted, a hollow-stem auger drilling rig will be mobilized to the site and used to install monitoring wells. Our previous work plan called for the installation of seven or eight new wells; however, after visiting the site and identifying viable drilling locations, the number of wells was reduced to three. Depending on the results of the CPT borings, the wells may be clustered wells screened in two water-bearing zones.

Monitoring well MW-6 will be drilled in the central portion of the site, where no wells presently exist. MW-7 and MW-8 will be drilled along Lorenzo Avenue, probably in the parking lane. It is anticipated that these wells will be west of the downgradient limit of groundwater contamination, and therefore will be used as sentinel wells to detect any further migration of contaminants to the west.

The screen length in each water-bearing zone will be 10 feet, to insure that the sampling results are representative of hydrocarbon concentrations near the top of each zone. Figure 2 shows the proposed construction of the monitoring wells.

Soil and water samples from the wells will be transported to the stationary laboratory for analysis.

#### **4. Laboratory Analysis**

At the suggestion of Ms. Cherie McCaulou of the Regional Water Quality Control Board, a mobile laboratory will be used to expedite the first phase of data gathering. The rapid turnaround provided by mobile testing will increase the flexibility of decision making and allow for changes in boring depths and/or locations to better assess the problem. As requested by ACHSA, the soil samples will be analyzed for TPH-gasoline, BTEX, gasoline oxygenates, and 1,2-DCA and EDB by EPA method 8260 to provide the fullest utilization of the lab.

#### **5. Sample Collection from Domestic Water Supply Well**

On numerous occasions, ACHCSA has requested that ESTC collect a water sample from the domestic water supply well that is located on the southeast corner of Via Enrico Street and Lorenzo Avenue. During our on-site inspection, we observed that the well is not currently in use and appeared to be out of commission for a considerable length of time. Moreover, the well is located to the south or southwest of the Cal Gas property, and contour maps of the water table using the existing monitoring wells imply that the domestic well is not located in the predominant direction of groundwater flow. This suggests that the well is not likely to be either a passive receptor or an active influence on the groundwater flow direction. Hence, it was agreed during our meeting that the probability that this well is impacted is low.

Regional Water Board personnel suggested installing a CPT boring between the Cal Gas site and this domestic well as an alternative to sampling the well itself. If no contaminants are detected in the hydropunch sample, then it is very unlikely that the well has been impacted. A location on the south side of Via Enrico Street was agreed upon during the on-site meeting. This location is shown in Figure 1.

File No. 12-99-702-SI

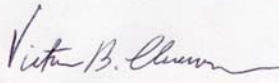
**6. Permit Procurement**

Because five of the proposed drilling locations are located on adjacent properties, it will be necessary to obtain permission and permits to drill at these off-site locations. ESTC will contact the City of San Leandro and ACHSA to obtain an encroachment permit for drilling in the City and County right-of-way. We will also contact the owner of the properties at 15576 and 15580 Lorenzo Avenue and request written permission to access the driveway between these properties. It is our understanding that the Regional Water Board will assist in this effort by providing ESTC with a copy of a standard letter that can be used to inform nearby residents of the proposed activities. Drilling will take place after the necessary permits have been obtained and copies have been forwarded to ACHCSA.

This report will be electronically filed with ACHSA per their new regulation requirements. If you have any questions, please feel free to contact our office at (408) 297-1500.

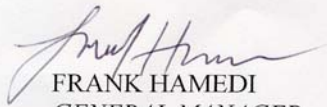
Sincerely,

**ENVIRO SOIL TECH CONSULTANTS**

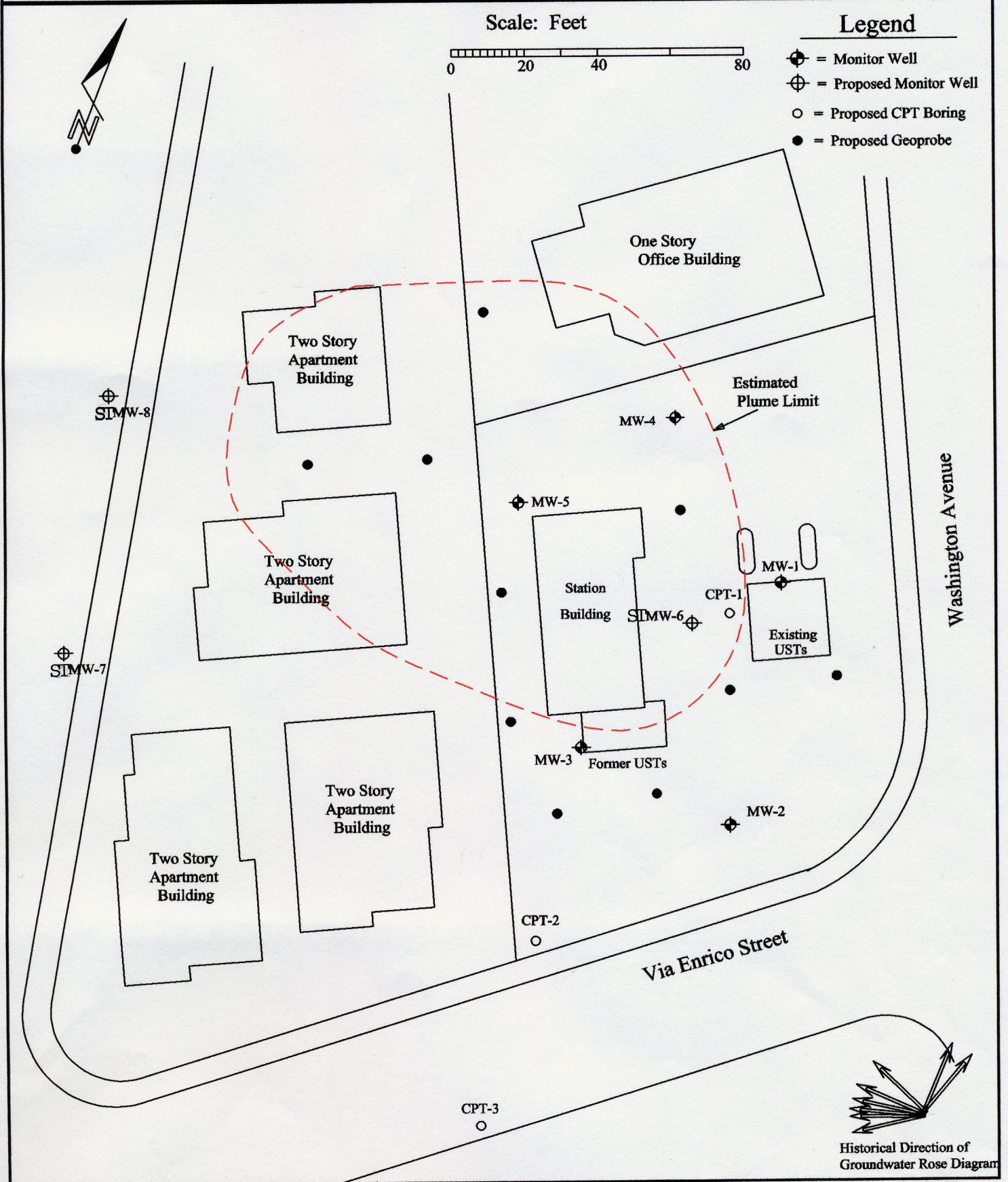
  
VICTOR B. CHERVEN  
R. G. #3475

  
LAWRENCE KOO  
C. E. #34938



  
FRANK HAMEDI  
GENERAL MANAGER

**ENVIRO SOIL TECH CONSULTANTS**





# WELL DETAILS

PROJECT NAME: \_\_\_\_\_

BORING/WELL NO. \_\_\_\_\_

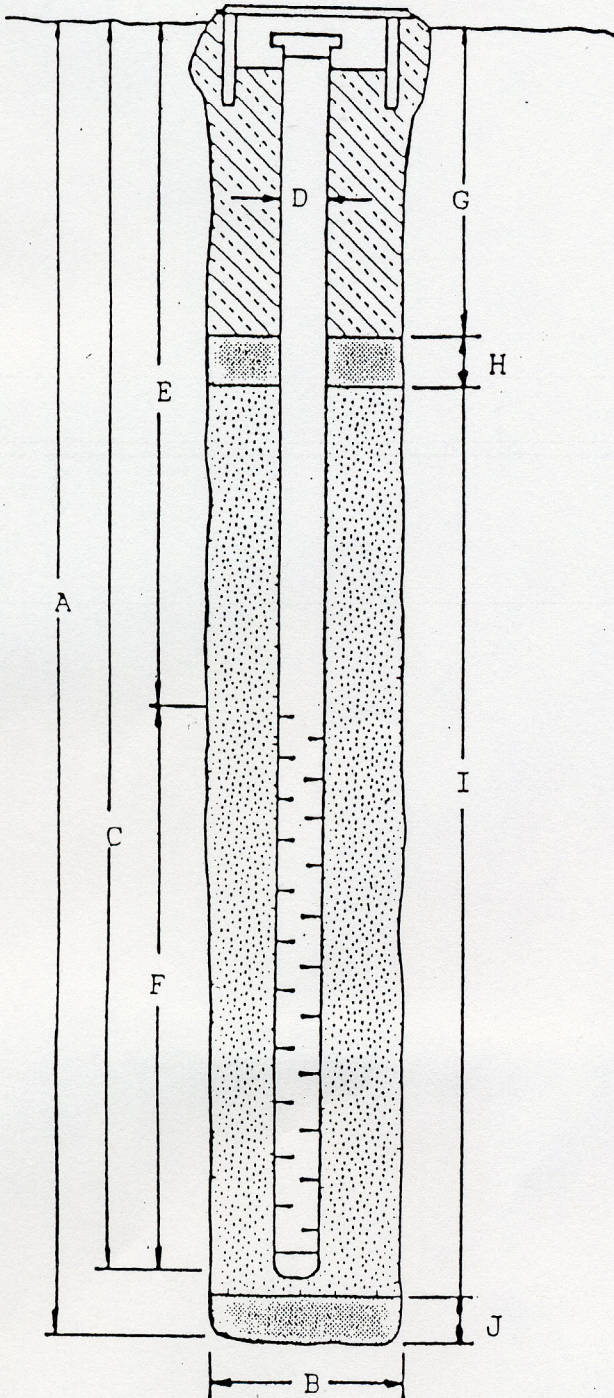
PROJECT NUMBER: \_\_\_\_\_

CASING ELEVATION: \_\_\_\_\_

WELL PERMIT NO.: \_\_\_\_\_

SURFACE ELEVATION: \_\_\_\_\_

G-5 Vault Box



A. Total Depth: \_\_\_\_\_

B. Boring Diameter: \_\_\_\_\_

Drilling method: \_\_\_\_\_

C. Casing Length: \_\_\_\_\_

Material: \_\_\_\_\_

D. Casing Diameter: \_\_\_\_\_

E. Depth to Perforations: \_\_\_\_\_

F. Perforated Length: \_\_\_\_\_

Perforated Interval: \_\_\_\_\_

Perforation Type: \_\_\_\_\_

Perforation Size: \_\_\_\_\_

G. Surface Seal: \_\_\_\_\_

Seal Material: \_\_\_\_\_

H. Seal: \_\_\_\_\_

Seal Material: \_\_\_\_\_

I. Gravel Pack: \_\_\_\_\_

Pack Material: \_\_\_\_\_

Size: \_\_\_\_\_

J. Bottom Seal: \_\_\_\_\_

Seal Material: \_\_\_\_\_