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~~02/11/92~~ 90, 1992

Mr. Thomas Peacock  
Alameda County Health Care Services Agency  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, CA 94621

RE: Preliminary Site Assessment Work Plan for  
Peralta Community College-Maintenance Yard

Dear Mr. Peacock:

Enclosed, please find the Preliminary Site Assessment (PSA) work plan for the soil investigation for the above referenced project.

During an underground storage tank removal on September 1992, elevated levels of contaminants were observed in the soil and water within the pit. The tank excavation was left open pending additional investigation.

This work plan includes determining the lateral extent of contamination around the tank excavation through the use of eight soil borings. During drilling, two soil and one groundwater sample will be collected from each boring and submitted to an analytical laboratory for analysis of Total Petroleum Hydrocarbons (TPH) as gasoline, TPH as diesel, benzene, toluene, ethylbenzene and total xylenes (BTEX) and total oil and grease. The results of the soil and groundwater sample analyses will be used to determine the most cost effective remedial strategy.

The proposed work will begin once approval has been granted. Though fencing is in place around the excavation, the District is very concerned about their liability for any damage or personal harm resulting from the open excavation. Prior to closing the excavation, this proposed work would need to be performed to determine if further soil removal from the excavation is needed. Therefore your rapid response regarding approval of this PSA is greatly appreciated.

If you have any questions regarding this work plan, please feel free to call me.

Sincerely,

  
Misty Kaltreider  
Geologist


cc: Mr. Robert Mibach - Peralta Community College District, Physical Plant  
Ms. Susan Churchill - Principal  
Mr. Rich Hiatt - Regional Water Quality Control Board

WORK PLAN  
PRELIMINARY SITE ASSESSMENT  
PERALTA COMMUNITY COLLEGE DISTRICT - MAINTENANCE YARD  
501 5TH STREET  
OAKLAND, CALIFORNIA

Prepared for:

Mr. Thomas Peacock  
Alameda County Health Care Services Agency  
Hazardous Materials Division  
80 Swan Way, Room 200  
Oakland, CA 94621

Prepared by:

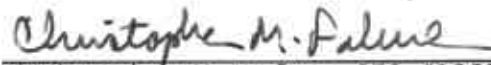
  
Misty G. Kaltreider  
Geologist



Reviewed by:

  
Susan Bayne Churchill, REA, #668  
Principal

Reviewed by:

  
Christopher M. Palmer CEG #1262  
Certified Engineering Geologist

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**WORK PLAN  
PERALTA COMMUNITY COLLEGE DISTRICT - MAINTENANCE YARD**

**1.0 INTRODUCTION**

During an underground storage tank removal on September 1992, at the facility known as the Peralta Community College District - Maintenance Yard ("the Site"), located at 501 5th Street in Oakland, California (Figure 1), elevated levels of contaminants were observed in the soil and water within the pit. The tank excavation was left open pending additional investigation.

This work plan describes the proposed procedures to be used by ACC Environmental Consultants, Inc., ("ACC") during the soil and groundwater investigation at the site. The object of this project is to drill eight boring around the existing tank excavation and collect soil and groundwater samples to determine the extent of contamination for design of a cost effective remedial strategy.

**1.1 Site History**

The property is owned by Peralta Community College District. The site is used as the maintenance yard for the college. Five underground storage tanks, two (2) 6000-gallon gasoline, one (1) 2000-gallon diesel, one (1) 2000-gallon ethyl (premium) gasoline and one (1) 550-gallon waste oil, existed on the site since prior to 1960's. During that time, the property was owned by the City of Oakland and the site was used and the City's corporation yard. According to personnel at the college, in 1981, the four fuel tanks were abandoned in place by filling with water.

**2.0 SITE DESCRIPTION**

**2.1 Hydrogeologic Setting**

The site is located in the East Bay Plain of the Coast Range physiographic province. The East Bay Plain is an area composed of flat alluvial lowland sand bay and tidal marshes lying between the bedrock hills of the Diablo Range to the east and San Francisco Bay to the west. Geologic materials underlying the plain are classified as consolidated and unconsolidated. The presence of consolidated materials beneath the site are estimated to begin at a depth of about 1,000 feet below the ground surface and are not considered to be aquifers. The unconsolidated materials, present from ground surface and to a depth of about 1,000 feet, contain the groundwater aquifers of the East Bay Plain. These materials consist of a heterogeneous mixture of clay, silt, sand and gravel mainly derived by erosion from the Diablo Range.

Major groundwater-bearing materials beneath the East Bay Plain occur at depths ranging from about 50 to 1,000 feet below ground surface. Groundwater from these aquifers is presently used mostly for irrigation and industrial purposes. Groundwater flow is generally in a direction from

the Diablo Range toward San Francisco Bay.

## 2.2 Background

On September 3, 1992, R. S. Eagan, contractor, excavated and removed the underground storage tanks. During excavation, water was observed within the pit at approximately seven (7) feet below the ground surface.

A total of eight soil samples and one water sample were collected from the excavation. Laboratory analysis of the soil revealed up to 228 parts per million (ppm) of TPH as diesel, 134 ppm of TPH as gasoline and 2407 parts per billion (ppb) benzene, 4617 ppb toluene, 7170 ppb ethylbenzene, 6147 ppb total xylenes and 547 ppm oil and grease. Laboratory analysis of the water revealed 173 ppm TPH as diesel, 15 ppm TPH as gasoline, 286 ppb benzene, 698 ppb toluene, 300 ppb ethylbenzene, 808 ppb total xylenes and 284 ppm oil and grease.

Sample results from under the fuel lines and the dispenser island revealed elevated levels constituents up to 612 ppm of TPH as gasoline, 449 ppm of TPH as diesel, 5912 ppb benzene, 14,724 ppb toluene, 10,481 ppb ethylbenzene, 32,353 ppb total xylenes and 15,000 ppm oil and grease.

As a result, Alameda County Health Care Agency - Hazardous Materials Section is requesting a Work Plan addressing the extent of contamination.

## 3.0 SOIL INVESTIGATION

To ascertain the lateral extent of contamination eight borings will be drilled within the vicinity of the tank excavation to approximately 7 feet in depth (the anticipated groundwater level). During drilling, at least one undisturbed soil sample and one groundwater sample will be obtained from each boring for chemical analysis and soil classification. The samples will be submitted to Excelchem, of Sacramento, a CAL/EPA accredited analytical laboratory for soil and groundwater analysis.

Soil samples for lithologic identification will be collected every three feet beginning at three feet below existing grade pavements to the bottom of the boring (see Appendix A, "Sampling in Boreholes").

The samples that will be submitted to Excelchem will be analyzed according to the August 1990, Tri-Regional Board Staff Recommendations of analysis of underground fuel tanks as diesel and gasoline and will include; Total Petroleum Hydrocarbons (TPH) as gasoline by EPA test method 5030, TPH as diesel by EPA test method 3550, Oil and Grease by EPA test method 5520 and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA test method 8020. Waste oil constituents such as chlorinated solvents and metals were found to be below regulatory action cleanup levels in soil and water samples collected during the tank removal, and therefore will not be tested during this phase of the work.

### 3.1 Drilling and Soil Sampling

Drilling permits will be obtained from the Alameda County Water Conservation and Flood Control District - Zone 7 at least five days prior to drilling and sampling activities. The location of the proposed borings will be marked with white paint. The District, Alameda County Health Department-Environmental Health Division and Underground Service Alert (USA) will be notified at least 48 hours prior to commencing work.

The borings will be performed by Environmental Control Associates, of Watsonville, California (license # 00379). The borings will be accomplished using 5-foot sections of decontaminated 3/4-inch I.D. galvanized steel probe pipe which is connected to a 1-foot galvanized steel soil core tube. Decontaminated stainless steel insert rods are placed through the probe pipe and sampling core. The probe pipe, soil core and insert rods are together pneumatically driven using a percussion hammer to the depth desired. The insert rods are removed and the probe pipe and core is driven 1-foot to obtain a soil sample. The soil sample is then removed from the probe pipe and the sample ends are sealed with teflon tape and plastic end caps. Each sample is labeled with the project name, date and time of collection, designated sample number and placed in a sealed air tight baggie and stored in an iced cooler pending laboratory analysis.

### 3.2 Groundwater Sampling

Groundwater sampling within the borehole will be performed using a 6-foot long section of decontaminated 3/4-inch I.D. perforated or slotted galvanized steel probe pipe which is connected to five foot sections of unslotted probe pipe. Groundwater samples will be collected using decontaminated stainless steel bailers and placed into pre-cleaned containers for the appropriate analysis.

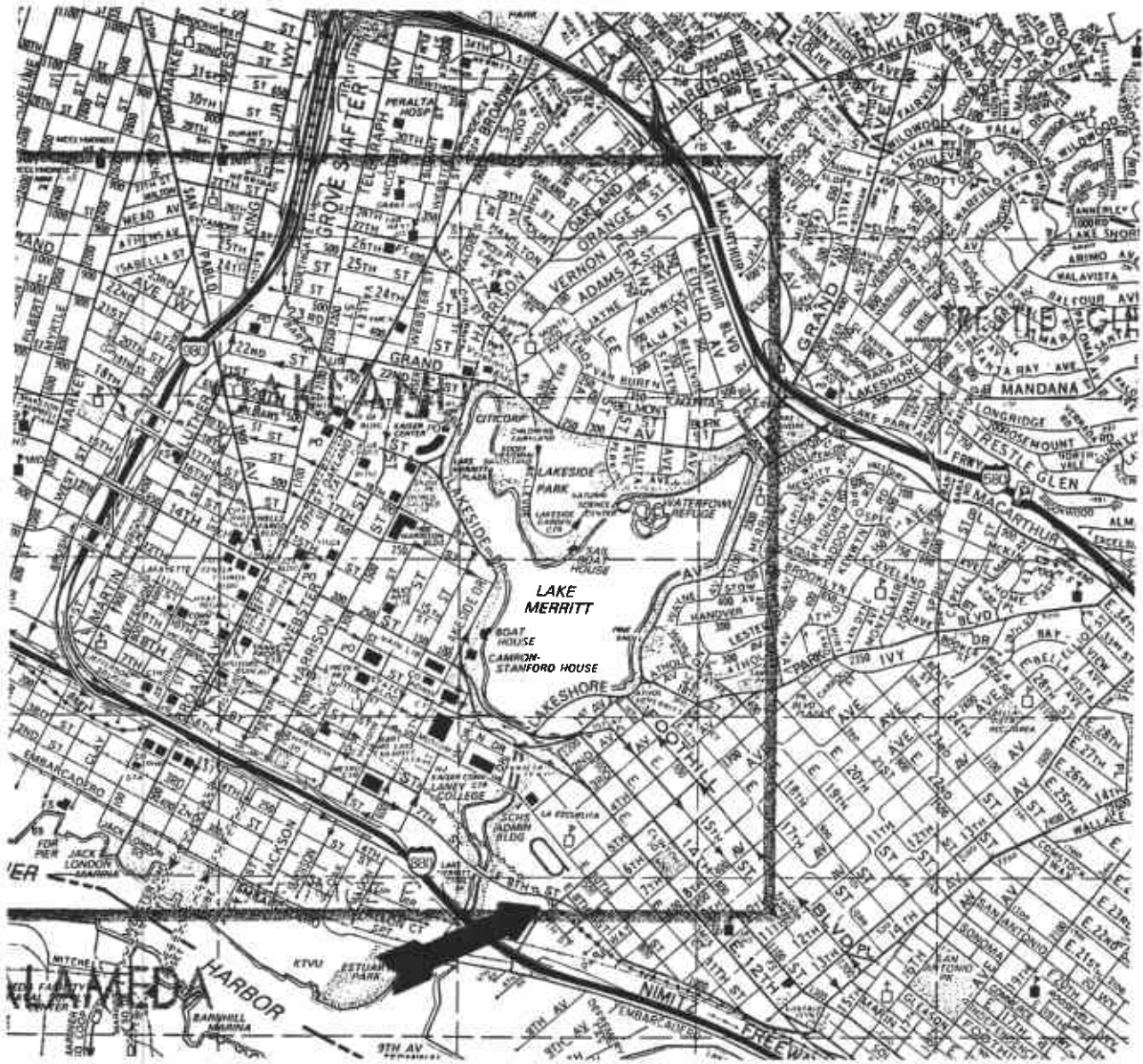
The samples collected will be labeled with the project name, date and time of collection, designated sample number and placed in an iced cooler pending laboratory analysis.

## **4.0 HEALTH AND SAFETY PLAN**

A site health and safety plan which encompasses the proposed work at the site and complies with the requirements of 29 CFR Part 1910.120 is presented in Appendix B.

## **5.0 TECHNICAL REPORTS**

A technical report discussing the procedures and findings will be submitted to the Alameda County Environmental Health Department and the Regional Water Quality Control Board shortly after completion of the work.



(Source: Thomas Bros. Guide)



ACC Environmental Consultants, Inc.  
 1000 Atlantic Avenue, Suite 110  
 Alameda, California 94501

Vicinity Map  
 Maintenance Yard  
 Peralta Community College  
 Oakland, California





Project No. 6045-1

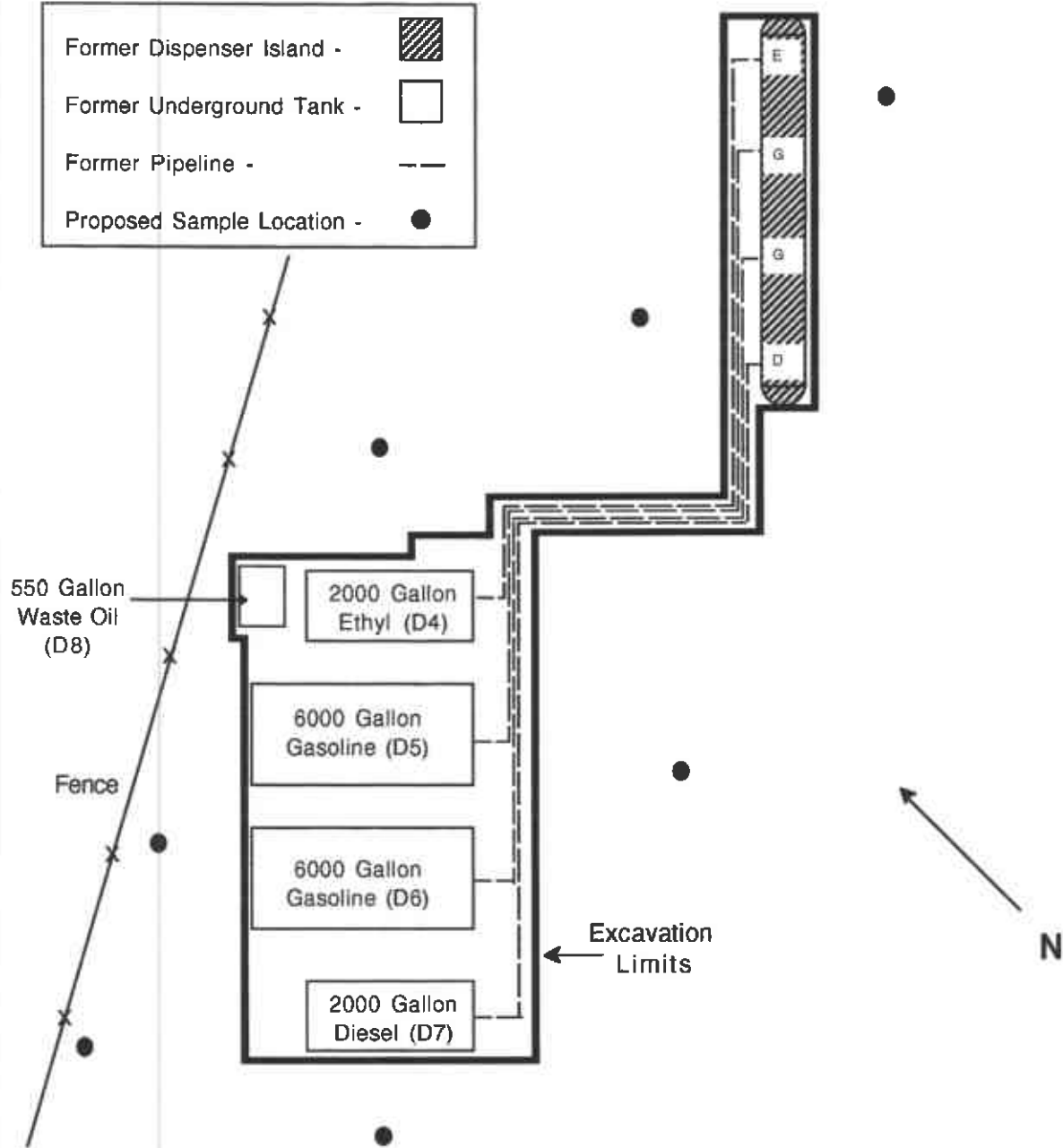
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Figure 1

**Key**

Former Dispenser Island -	
Former Underground Tank -	
Former Pipeline -	
Proposed Sample Location -	



**Site Map**

Scale: 1" = 13'

ACC Environmental Consultants, Inc.  
 1000 Atlantic Avenue, Suite 110  
 Alameda, California 94501

Site Map  
 Maintenance Yard  
 Peralta Community College  
 Oakland, California

Project No. 6045-1

Date: 9/29/92

Dn by: CS

Figure 2



**APPENDIX A**  
**SAMPLING IN BOREHOLES**

## **SOIL SAMPLING IN BOREHOLES**

U.S. Environmental Protection Agency standards serve as the foundation for all field sampling operations performed by ACC. EPA SW 846 is the primary publication from which procedures are derived. While some aspects of field and laboratory work may be delegated to the California Department of Health Services, the California Water Resources Control Board, the Bay Area Regional Water Quality Control Board, and the Department of Environmental Health establish the general and specific criteria for sampling.

## **SAMPLE INTERVALS**

Undisturbed soil samples will be obtained for chemical analysis and geotechnical classification at five-foot intervals or at distinct lithologic changes, beginning at five feet below grade.

## **COLLECTION DEVICES**

Samples will be collected using a 2-inch or 2.5-inch inside diameter Modified California Split Spoon Sampler containing three, six-inch-long brass tubes. The sample collection device and tubes will be decontaminated before and after each use by steam cleaning or by an Alconox solution wash. The sampler will be driven ahead of the auger using a 140-pound drop hammer. The average blow counts required to drive the sampler the last 12 inches will be recorded on the boring logs.

## **PRESERVATION AND HANDLING**

After collection, sample tubes will be labeled, sealed at each end with Teflon sheeting and PVC end caps, placed in ziplock bags and stored in an ice filled cooler to be delivered under chain-of-custody to a State-certified laboratory later that same day.

## **SOILS CLASSIFICATION**

Soil exposed at the ends of each brass tube will be examined by a geologist for obvious signs of contamination and classified according to the Unified Soil Classification System. These observations will be recorded in the boring logs.

Selection of samples for laboratory analysis will be based primarily on headspace readings using a Photo ionization device (PID) and position within the boring. In general, samples with headspace readings over 50 ppm or that have visual or olfactory indications of contamination will be submitted for analysis. One sample will also be selected from one or two sampling intervals below the apparent lower limit of contamination to obtain a "zero line" value. In addition, the sample closest to the depth of the storage tank invert will be submitted for analysis. If the water table is above the tank invert, the sample closest to the water table will be selected.

## **WATER SAMPLE COLLECTION**

Wells and borings will be sampled using a new, clean, disposable Teflon bailer attached to new, clean string. Sample vials and bottles will be filled to overflowing and sealed so that no air is trapped in the vial or bottle. Once filled, samples shall be inverted and tapped to test for air bubbles. Samples will be contained in vials and bottles approved by the US EPA and the Regional Water Quality Control Board. Some analyses may require separate sample containers in accordance with EPA methods described in 40 CFR Part 136 and SW-846.

Water samples intended for volatile hydrocarbon analysis will be contained in 40 ml VOA vials prepared according to EPA Method 602 will contain a small amount of preservative (HCL) in the VOA. Samples intended for analysis by EPA Method 601 and EPA 624 GCMS procedures will not be preserved. Water samples intended for low level diesel analysis will be stored in amber glass 1-liter bottles to reduce degradation by sunlight. Antimicrobial preservative (HCL) may be added to the sample if a prolonged holding time is expected prior to analysis.

## **SAMPLE LABELING AND CHAIN OF CUSTODY**

Sample containers will be labeled with self-adhesive, pre-printed tags. Labels will contain the following information in waterproof ink:

- o Project number (or name)
- o Sample number (or name)
- o Sample location (Well number, etc.)
- o Date and time samples were collected
- o Treatment (preservative added, filtered, etc.)
- o Name of sample collector

The same information will be recorded on the chain of custody.

All purged water will be stored on site in steel, DOT-approved drums. Drums will be labeled as to contents, suspected contaminants, date container filled, expected removal date, company name, contact and phone number. The drums will be left on-site for subsequent disposal pending receipt of analytical results.

## **DRILLING EQUIPMENT DECONTAMINATION PROCEDURES**

The sampling equipment will be decontaminated before and after each use by steam cleaning or washing in an Alconox solution, followed by tap water and deionized water rinses. Only clean water from a municipal supply will be used for decontamination of drilling equipment. Equipment will be sealed in plastic bags or other sealed containers to prevent contact with solvents, dust or other contamination.

All rinsate used in the decontamination process will be stored on site in steel DOT approved drums. Drums will be labeled as to contents, suspected

contaminants, date container was filled, expected removal date, company name, contact and phone number. These drums will be sealed and left on-site for subsequent disposal pending receipt of analytical results.

**APPENDIX B**

**SITE SPECIFIC  
HEALTH AND SAFETY PLAN**





D. SITE SAFETY AND WORK PLAN

Site Control: Attach map of the site.

Perimeter identified? [Y] Site secured? [Y] Work areas identified? [Y]

Zone(s) of contamination identified? [N]

Air Monitoring:

Contaminant of Interest	Type of Sample	Monitoring Equipment	Frequency of Sampling
<b>Gasoline</b>	<b>air</b>	<b>HNu</b>	<b>Continuous - as needed</b>
<b>diesel</b>	<b>air</b>	<b>HNu</b>	<b>Continuous - as needed</b>

Decontamination procedures and solutions:

**Tri-sodium phosphate and water, triple rinsed**

Special Site Equipment: (Sanitary facilities, lighting, etc)

**None anticipated**

Site Entry Procedures and Special Considerations

**Underground Services Alert (USA) notified to avoid underground utilities**

Work Limitations (time of day, weather conditions, etc.)

**None anticipated**

General Spill Control, if applicable: **N/A**

Investigation-Derived Material Disposal (expendables, cuttings, etc.)

**Drum cuttings and rinsate water in covered, labeled 55-gallon DOT certified drums.**

Sample Handling Procedures:

**Soil samples collected in brass tubes, teflon tape and plastic end caps taped to each end. Water samples collected in VOA vials without headspace and liter jars. All samples will be placed in ice-filled coolers until pick-up by laboratory.**



E. EMERGENCY INFORMATION

Ambulance **911**

Hospital Emergency Room **(510) 534-0855**

Directions to Hospital (attach map) **Highland General Hospital - 1411 E. 31st Street -- From Site, South on E 8th Street, left on 14th Street (19 blocks) Left on Vallecito. Hospital is on Corner of Vallecito, E 31 Street and 14th Street.**

Poison Control Center **911**

Police **911**

Fire Department **911**

Laboratory **Geochem Environmental Laboratory**

UPS/Fed. Express **N/A**

Client Contact **Mr. Robert Mibach (510) 466-7200**

Site Contact **Mr. Robert Mibach (510) 466-7200**

SITE RESOURCES

Water Supply Source **On-site**

Telephone **On-site**

Cellular Phone, if available **---**

Other **---**

EQUIPMENT CHECKLIST

<u>Protective Gear</u>	<u>Quantity</u>	<u>Instrumentation</u>	<u>Quantity</u>
Respirator	[ ]	O2/Explosimeter	[ ]
Cartridges(type)	[ ]	PID (HNU)	[1]
Protective Suit type: <b>Tyvek</b>	[1]	Draeger Pump (tubes)	[ ]
Gloves (pr) type: <b>Nitrile</b>	[1]	Heat Stress Monitor	[ ]
Steel Toed Boots	[1]	Personal Sampling Pumps	[ ]

Hard Hat	[1]	First Aid Equipment	Quantity
Safety Glasses	[1]	-----	-----
Ear Plugs	[1]	First Aid Kit	[ ]
		Portable eye wash	[ ]
		Blood pressure monitor	[ ]
		Fire extinguisher	[ ]

<u>Miscellaneous</u>	<u>Quantity</u>	<u>Sampling Equipment</u>	<u>Quantity</u>
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Surveyor's tape	[1]	Liter bottles	[6]
Fiberglass tape	[ ]	Half gallon bottles	[ ]
Rope/string (100')	[3]	VOA bottles	[6]
Surveying Flags	[ ]	String	[ ]
Camera/film	[1]	Hand bailers	[3]
Banner tape	[ ]	Spoons	[ ]
Coolers	[1]	Personal sampling pump supplies	[ ]
Teflon tape (roll)	[1]	Shovel	[ ]
Bottle labels (set)	[1]		
Baggies (set)	[1]		
Custody seals	[ ]		
Chain of custody forms	[1]		
Federal Express forms	[ ]		
Bubble wrap	[ ]		
Trash bags	[1]		
Paper towels (roll)	[1]		
Detergent/TSP (box)	[1]		
Buckets	[3]		
Brushes	[2]		

SITE SAFETY REVIEW

General Information

Date \_\_\_\_\_ Time \_\_\_\_\_ Project No. **6045-1**

Site **Peralta Community College - Maintenance Yard**

Location **501 5th Street, Oakland, California**

Client Contact **Mr. Robert Mibach (510) 466-7200**

Objectives **Soil Borings**

Types of Chemicals Anticipated **Gasoline and Diesel**

Topics Discussed

Physical Hazards **Typical Hazards associated with drilling**

Chemical Hazards **Gasoline and Diesel**

Personal Protection **Level D, modified as required**

Decontamination **Equipment to be decontaminated after each boring.  
Rinsate water will be drummed**

Special Site Considerations **None anticipated**

ATTENDEES

Name Printed

Signature

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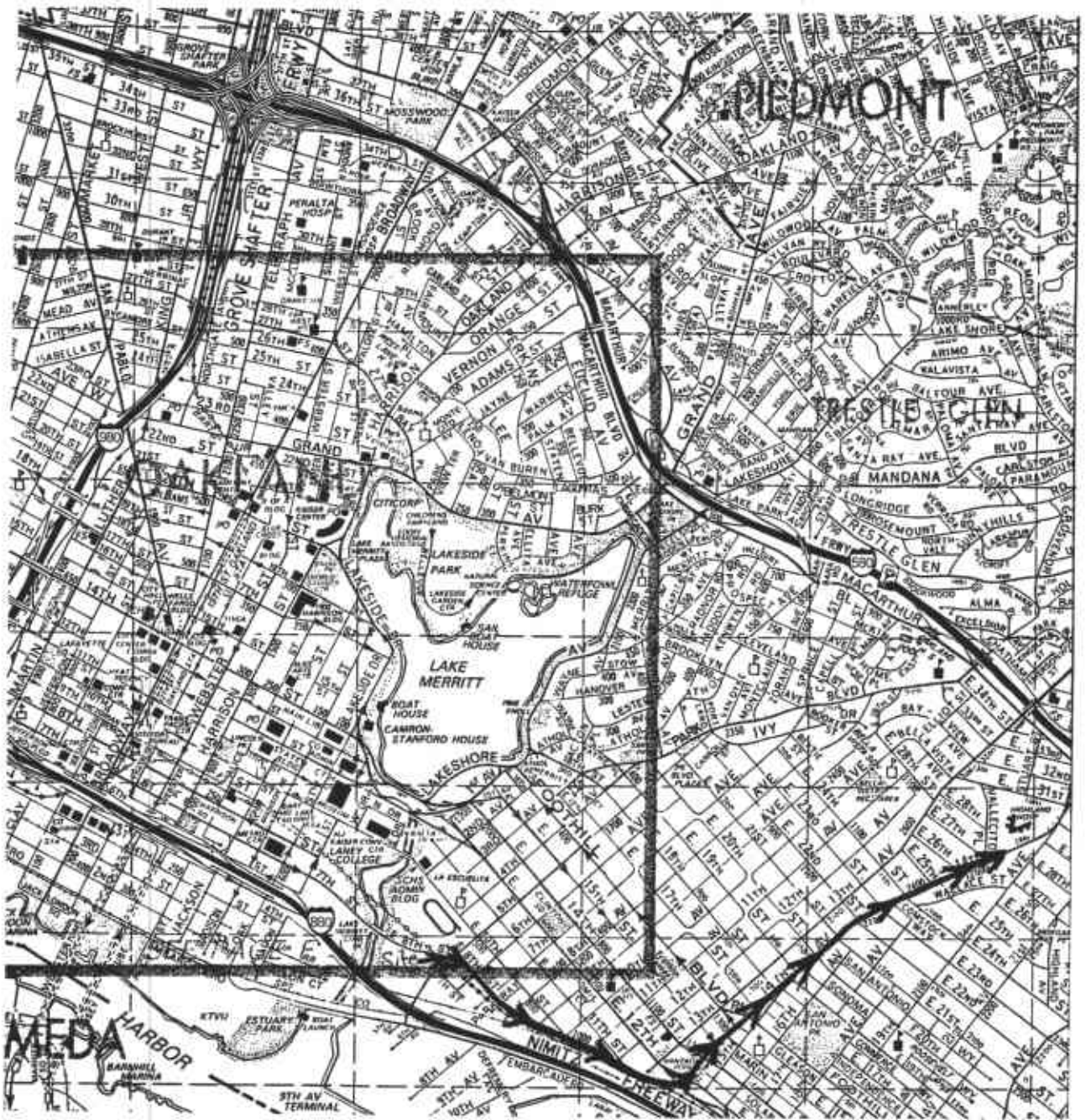
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HOSPITAL LOCATION MAP