ENVIRONMENTAL
CONSULTANTS

June 28, 1994

Ms. Jennifer Eberle
Alameda County Health Care Services Agency
80 Swan Way
Oakland, CA 94621

RE: Work Plan for Subsurface Site Investigation
1211 7th Street, Oakland, CA

Dear Ms. Eberle:

Per your request, ACC Environmental Consultants, Inc. (ACC) presents this work plan to briefly describe the proposed scope of work for the property located at 1211 7th Street, Oakland, California.

The work plan was developed based on conversations with you and Mr. Willie Everidge, property owner and review of previous investigations. Per your request, a subsurface investigation of the soil and groundwater around the former underground storage tank excavation will be evaluated to assess the impact from a release of petroleum hydrocarbons.

If you have any questions regarding the proposed scope of work, please don't hesitate to call.

Sincerely,

Misty Kaltreider

Misty Kaltreider
Project Geologist

CC: Mr. Willie Everidge, Property Owner
Mrs. Hazel Everidge, Property Owner

1000 Atlantic Avenue, Suite 110 • Alameda, CA 94501 • (510) 522-8188 • FAX: (510) 865-5731

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ALCO
HAZMAT
94 JUL 13 AM 8:51

WORK PLAN
SUBSURFACE SITE INVESTIGATION
1211 SEVENTH STREET
OAKLAND, CALIFORNIA

Prepared For:

Ms. Jennifer Eberle
Hazardous Materials Specialist
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

June 1994
Job No. 94-6161-1

Prepared by: _____
Misty Kaltreider
Project Geologist

Reviewed by: _____
Christopher M. Palmer, CEG #1262
Certified Engineering Geologist

REGISTERED GEOLOGIST
CHRISTOPHER M. PALMER
№ 1262
CERTIFIED
ENGINEERING
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SUBSURFACE SITE INVESTIGATION - WORK PLAN
1211 7th STREET, OAKLAND

1.0 INTRODUCTION

ACC Environmental Consultants, Inc. ("ACC") presents to Ms. Jennifer Eberle of Alameda County Health Care Services Agency (ACHCSA) this Work Plan for a subsurface site investigation at the site located at 1211 7th Street, Oakland, Oakland, California (Figure 1). The purpose of this project is to evaluate the extent and nature of contamination in the area of the former fuel tanks.

The investigation includes **removal of piping and preforming associated sampling under the removed lines; removal and disposal of the stockpiled soil; and a soil and groundwater investigation.**

2.0 BACKGROUND

The subject property is an automobile service station. Four tanks were installed on the property in 1960. The tanks consisted of one 250 gallon waste oil and three 4,000 gasoline underground storage tanks (UST). In October 1992, Applied Environmental Solutions (AES), contractor, removed the UST from the above referenced property. The waste oil tank was located behind the service building on the southern side of the site. After overexcavation of the area around the waste oil tank, sample analysis indicated below laboratory detection limits for the constituents evaluated. no - 190ppm Pb

The three 4,000 gallon gasoline USTs were parallel to each other, on the east side of the service building. Six soil sample collected from the gasoline tank excavation indicated Total Petroleum Hydrocarbons (TPH) as gasoline and benzene levels from 3,200 parts per million (ppm) TPH as gasoline, and 2.1 ppm benzene (under the UST located on the west side of the excavation) to 20,000 ppm TPH as gasoline and 18 ppm benzene (from under the center UST).

During the tank removal, soil was stockpiled on-site. Analysis of samples collected from the stockpiled material indicated 870 ppm TPH as gasoline, 1.0 ppm benzene and 95 ppm total lead.

Laboratory analysis of additional samples collected from the stockpiled material in November 1993 indicated up to 2.2 ppm TPH as gasoline, 84 ppm total lead, and below detectable levels of benzene, + low hits of toluene, ethylbenzene, and total xylenes ~~(BTEX)~~.

Laboratory analysis of additional samples collected from the existing gasoline excavation in September 1993 indicated up to 2.0 ppm benzene, and 365 ppm total lead + up to 4,380 ppm TPH-g

As a result of analytical results reported during the tank excavation, ACHCSA has requested additional investigation of the subsurface to evaluate the extent of soil impact.

3.0 SCOPE OF WORK

Prior to performing the subsurface investigation, ACC will assist the property owner in obtaining proposals from qualified contractors to remove and dispose of the stockpiled material. The proposal will include costs for hauling and disposing of the material at proper facilities based on the analytical results.

In addition to soil disposal, ACC will obtain cost for removal and proper disposal of the piping currently on-site. ACC will oversee the contractors work to ensure proper manifesting and disposal of the stockpiled soil and piping. During piping removal, ACC will collect soil samples. One sample per 20 linear feet of piping will be collected from within two feet below the pipeline trench. The samples will be collected using a 40 pound slide hammer and sampler equipped with pre-cleaned brass tubes which will be pushed into undisturbed material within the pipeline trench.

The sampler and equipment will be decontaminated before and after each use by steam cleaning or by an Alconox solution wash, tap water rinse and deionized water rinse.

After collection, each sample will be preserved in the following manner. Both ends of the sample will be covered with Teflon tape and plastic caps will be taped on to prevent volatilization. Each sample will be labeled with a unique sample number and pertinent sample information, placed in a plastic Ziploc bag, entered on a chain of custody form and packed in a chilled ice chest pending transport to a certified analytical laboratory. Each sample collected from the former fuel line will be submitted to an EPA accredited analytical laboratory for analysis of TPH as gasoline with BTEX by EPA test method 8015/8020 and total lead by Atomic Absorption method. ok

4.0 DRILLING PROGRAM

4.1 Borings

Drilling permits will be obtained from the Alameda County Flood Control and Water Conservation District, Zone 7 prior to drilling and sampling activities. The locations of the proposed borings will be marked with white paint. Figure 2 illustrates the proposed boring locations. The work will be scheduled upon acceptance of the Work Plan by the regulatory agencies.

The ACHCSA and Underground Services Alert (USA) will be notified at least 48 hours prior to commencing work.

During drilling, undisturbed soil samples will be obtained for chemical analyses and geotechnical classification at five-foot intervals, distinct lithologic changes and at the soil/groundwater interface. Sampling will begin at five feet below grade and continue to the bottom of each boring, approximately 20 feet below ground surface (see Appendix A, "Soil Sampling in Boreholes"). Grab groundwater samples will be collected from each boring when groundwater is encountered during drilling (see Appendix B " Water Sampling in Wells and Boreholes"). ✓ HP?

A Photoionization detector (PID) will be used by ACC personnel to prescreen the soil to be sampled.

Cuttings will be placed in sealed drums, labeled and left on-site pending the analytical results. Disposal of the cuttings will be arranged once analytical results are known. follow up

A minimum of two samples per boring? yes will be submitted to a CAL/EPA certified analytical testing laboratory for analysis of TPH as gasoline using EPA Test Method 8015 and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Test Method 8020 to evaluate the plume extent and determine if groundwater has been impact. + Pb?

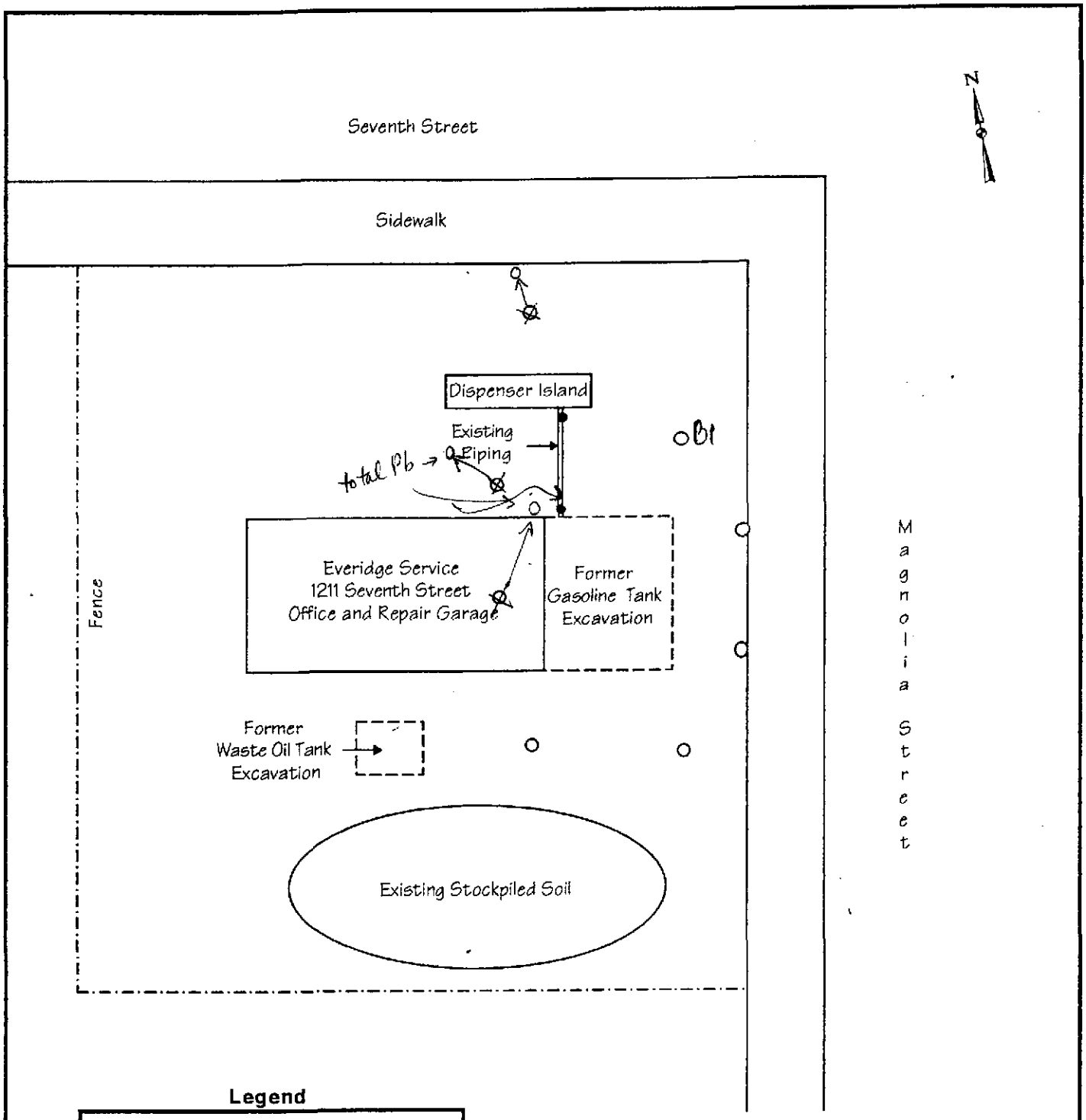
no MWs yet?

5.0 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 C.

6.0 TECHNICAL REPORTS

A technical report discussing the subsurface findings and documenting disposal of the stockpiled soil and piping at the site will be submitted to the client for review and acknowledgement prior to sending the final report to Alameda County Health Care Services Agency and the Regional Water Quality Control Board.



Legend

Proposed Trench Samples	●
Proposed Boring Locations	O
Former Tank Excavation	⬚

Scale: 1" = 20'

June 29, 1994	Drawn By: MCK	Project: 6083-1	Figure 1

Site Plan
1211 7th Street
Oakland, California

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APPENDIX A

SOIL 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 CAL EPA-Department of Toxic Substances Control (DTSC), the Bay Area Regional Water Quality Control Board, and the Health Services Agency - Department of Environmental Health establish the general and specific criteria for sampling.

SAMPLE INTERVALS

Undisturbed soil samples will be obtained for chemical analysis and geo- technical 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 or two three-inch-long tubes between two 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, tap water rinse and deionized water rinse. 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 18 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 by the next business 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 Photoionization 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.

SAMPLE LABELING AND CHAIN OF CUSTODY

Samples selected for analysis will be labeled with self-adhesive, pre- printed labels indicating project name (or number), sample number, boring/well number, sample depth, date and time of sample collection, and required analyses. The same information will be recorded on the chain of custody.

APPENDIX B

WATER SAMPLING IN WELLS AND BOREHOLES

GENERAL CONSIDERATIONS

In general, the composition of water within the well casing and in close proximity to the well is not representative of groundwater quality. This may be due to contamination by drilling fluids or equipment or disparities between the oxidation-reduction (redox) potential in the well and the redox potential in the aquifer. To obtain a representative sample of groundwater, the well should be pumped or bailed until the well is thoroughly flushed of standing water and contains fresh water from the aquifer. One common procedure is to pump or bail the well until a minimum of three boring volumes (or alternatively, 10 well volumes) have been removed.

At the least, pumping should continue until water in casing storage has been removed. There are at least two common methods for determining that water in casing storage has been removed and water is flowing freely from the aquifer: (1) Monitor water level while pumping. When the pumping water level has "stabilized," it is likely that little or no water from casing storage is being pumped. (2) Monitor the temperature, pH and conductivity of the water while pumping. When these parameters "stabilize," it is probable that little or no water from casing storage is being pumped and that most of the water is coming from the aquifer. ACC utilizes the latter method.

PURGING

During each round of sampling, static water level will be measured prior to purging using an electronic sounder. All water-level measurements will be recorded to the nearest 0.01 foot with respect to mean sea level.

A minimum of three bore volumes will be purged from the well prior to sampling. Bore and well volumes will be calculated using the table in this Appendix. To ensure that water in the well has been exchanged, pumping or bailing shall commence at the top and work downward. The well will be allowed to return to 80% of the original water level before sampling.

Temperature, pH and specific conductance will be measured for each boring volume pumped. Purging will continue until these field-measured water quality parameters have stabilized and the water is, in the judgment of the geologist, representative of water in the aquifer. Data obtained from field water quality measurements will be recorded in the field log book or data sheets. To ensure cross contamination does not occur, a separate allotment of groundwater collected from the purge water outlet stream will be used for field measurements; samples intended for laboratory analysis will not be used.

Temperature, pH and specific conductance meters will be calibrated per manufactures guidelines. Calibration will be documented in the field log book or data sheets and will include a description of the calibration method, identification number of equipment, and/or reagents used in calibration.

VOLUME OF WATER IN CASING OR HOLE

Dia. of Casing or Hole (inches)	Gallons/foot of Depth	Cubic Feet/foot of Depth	Liters/Meter of Depth	Cubic Meters/ Meter of Depth
1	0.041	0.0055	0.509	0.509×10^{-3}
1.5	0.092	0.0123	1.142	1.142×10^{-3}
2	0.163	0.0218	2.024	2.024×10^{-3}
2.5	0.255	0.3410	3.167	3.167×10^{-3}
3	0.367	0.0491	4.558	4.558×10^{-3}
3.5	0.500	0.0668	6.209	6.209×10^{-3}
4	0.653	0.0873	8.110	8.110×10^{-3}
4.5	0.826	0.1104	10.26	10.26×10^{-3}
5	1.020	0.1364	12.67	12.67×10^{-3}
5.5	1.234	0.1650	15.33	15.33×10^{-3}
6	1.469	0.1963	18.24	18.24×10^{-3}
7	2.000	0.2673	24.84	24.84×10^{-3}
8	2.611	0.3491	32.43	32.43×10^{-3}
9	3.305	0.4418	41.04	41.04×10^{-3}
10	4.080	0.5454	50.67	50.67×10^{-3}
11	4.937	0.6600	61.31	61.31×10^{-3}
12	5.875	0.7854	72.96	72.96×10^{-3}
14	8.000	1.0690	99.35	99.35×10^{-3}
16	10.44	1.3960	129.65	129.65×10^{-3}
18	13.22	1.7670	164.18	164.18×10^{-3}
20	16.32	2.1820	202.68	202.68×10^{-3}
22	19.75	2.6400	245.28	245.28×10^{-3}
24	23.50	3.1420	291.85	291.85×10^{-3}
26	27.58	3.6870	842.52	342.52×10^{-3}
28	32.00	4.2760	397.41	397.41×10^{-3}
30	36.72	4.9090	456.01	456.02×10^{-3}
32	41.78	5.5850	518.87	518.87×10^{-3}
34	47.16	6.3050	585.68	585.68×10^{-3}
36	52.88	7.0690	656.72	657.72×10^{-3}

Notes: 1 Gallon = 3.785 Liters
1 Meter = 3.281 Feet
1 Gallon Water Weighs 8.33 lbs. = 3.785 Kilograms
1 Liter Water Weighs 1 Kilogram = 2.205 lbs.

Temperature will be measured with a mercury-filled, Centigrade-scaled, bimetallic-element thermometer, or electronic thermistor.

Acidity/alkalinity (pH) will be measured by dipping the pH probe in the water source or sample; pH will be measured soon after collection of the sample, preferably within a few minutes.

Conductivity will be measured by dipping the conductivity probe in the water source or sample. The temperature of the sample will be used to calculate specific conductance from the conductivity measurement. Measurements shall be reported in units of micromhos per centimeter at 25°C.

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 (EPA Method 602) will be contained in 40 ml VOA vials and will contain a small amount of preservative (HCl) in the vial. 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 containers will be labeled with self-adhesive, pre-printed tags. Labels will contain the following information in waterproof ink:

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

All samples will stored in ice filled coolers to be delivered to an EPA/CAL accredited laboratory for analysis.

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. Drums of water will be disposed of at an accepting facility.

DOCUMENTATION

Sampling information will be recorded in ink in a bound notebook with consecutively numbered pages. Pages will not be removed for any reason. Alternatively, specially formatted field data sheets may be used to record the information collected during water quality sampling. Errata may be marked out with a single line and initialed by the person making the change. The log book and data sheets will be placed in the project file when sampling is completed.

FIELD EQUIPMENT DECONTAMINATION PROCEDURES

Bailers and string will be properly decontaminated and disposed of off- site. All other sampling equipment, such as buckets and stands, will be decontaminated after each use by washing in an Alconox solution, followed by tap water and deionized water rinses. Equipment will be sealed in plastic bags or sealed containers to prevent contact with solvents, dusts, or other types of 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 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. Rinsate will be disposed of at an accepting facility.

APPENDIX C

SITE SPECIFIC
HEALTH AND SAFETY PLAN

ACC - SITE SAFETY PLAN

A. GENERAL INFORMATION

Project Title: **1211 7th Street, Oakland**
Project No.: **6162-1**
Project Manager: **Misty Kaltreider**
Location: **Everidge Service, 1211 7th Stree, Oakland**
Prepared by/date: **Misty Kaltreider**
Approved by/date: _____

Scope of Work/Objective(s): **Removal of Piping and Stockpiled Soil**
Soil Borings
Proposed Date of Field Activities: **July 1994**

Documentation/Summary:

Overall Chemical Hazard: Serious [ ] Moderate [ ]
Low [X] Unknown [ ]

Overall Physical Hazard: Serious [ ] Moderate [X]
Low [ ] Unknown [ ]

B. SITE/WASTE CHARACTERISTICS

Waste Types(s):
Liquid [X] Solid [X] Sludge [ ] Gas/Vapor [ ]

Characteristics:
Flammable/Ignitible [ ] Volatile [X] Corrosive [ ] Acutely Toxic [
Explosive [ ] Reactive [ ] Carcinogen [X] Radioactive [ ]

Other: _____

Physical Hazards:
Overhead [ ] Confined Space [X] Below Grade [ ] Trip/ [X]
Fall

Puncture [ ] Burn [ ] Cut [ ] Splash [X] Noise [X]

Other: _____

Site History/Description and Unusual Features:
Drilling and Sampling adjacent to open tank pit
Locations of Chemicals/Waste: **In soil**

Estimated Volume of Chemicals/Waste: **Unknown**
Site Currently in Operation: Yes [X] No [ ]

C. HAZARD EVALUATION

List and Evaluate Hazards By Task (ie. sampling/drilling)

Task	Physical Hazard	Level of Protection
1	Piping Removal	D
2	Stockpile Removal	D
3	Drilling and Sampilng	D

Chemical Hazard Evaluation:

Compound	PEL/TWA	Route of Exposure	Acute Symptoms	Odor Threshold/Desc.
Gasoline	**300 ppm**	**inhalation, dermal, ingestion**	**Skin Blisters, Nausea, Central Nervous System Disorder**	**Characteristic Odor**

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: **Gasoline**
Type of Monitoring: **Air**
Frequency: **Continous - As needed**
Equipment: **HNu**

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

E. EMERGENCY INFORMATION

Ambulance **911**
Hospital Emergency Room **451-4900**
Directions to Hospital (attach map) **Peralta Hospital - 450 30th Street.**
Poison Control Center **911**
Police **911**
Fire Department **911**
Laboratory **ChromaLab Analytical**
UPS/Fed. Express **N/A**
Client Contact **Mr. Willie Everidge (510) 452-0266**

SITE RESOURCES

Water Supply Source **On-site**
Telephone **On-site**
Cellular Phone, if available ---
Other ---

EQUIPMENT CHECKLIST

Protective Gear	Quantity	Equipment	Quantity	Equipment	Quantity
Respirator	1	PID (HNu)	1	Baggies	1 box
Organic Cartridges	2	Liter bottles	10	Chain of Custody Forms	1 set
Tyvek	1	VOA Vials	20	Labels	1 set
Gloves, Nitrile	1 pair	Surveyors Tape	1	Paper Towels	1 roll
Steel Toed Boots	1 pair	Rope	100 feet	Trash Bags	1
First Aid Kit	1	Camera/Film	1	Buckets	3
Safety Glasses	1 pair	Bailers	5	Brushes	2
Portable eye wash	1	Cooler	1	TSP	1 box
Ear Plugs	1 pair	Teflon Tape	1 roll	Boring Logs	1 set

SITE SAFETY REVIEW

General Information
Date **7/9/94** **Time** _____ **Project No. 6162-1**
Site **1211 7th Street, Oakland**
Client Contact **Mr. Willie Everidge (510) 452-0266**
Objectives **Soil Boring**
Types of Chemicals Anticipated **Gasoline**

Topics Discussed

Physical Hazards **Typical Hazards assciated with drilling**

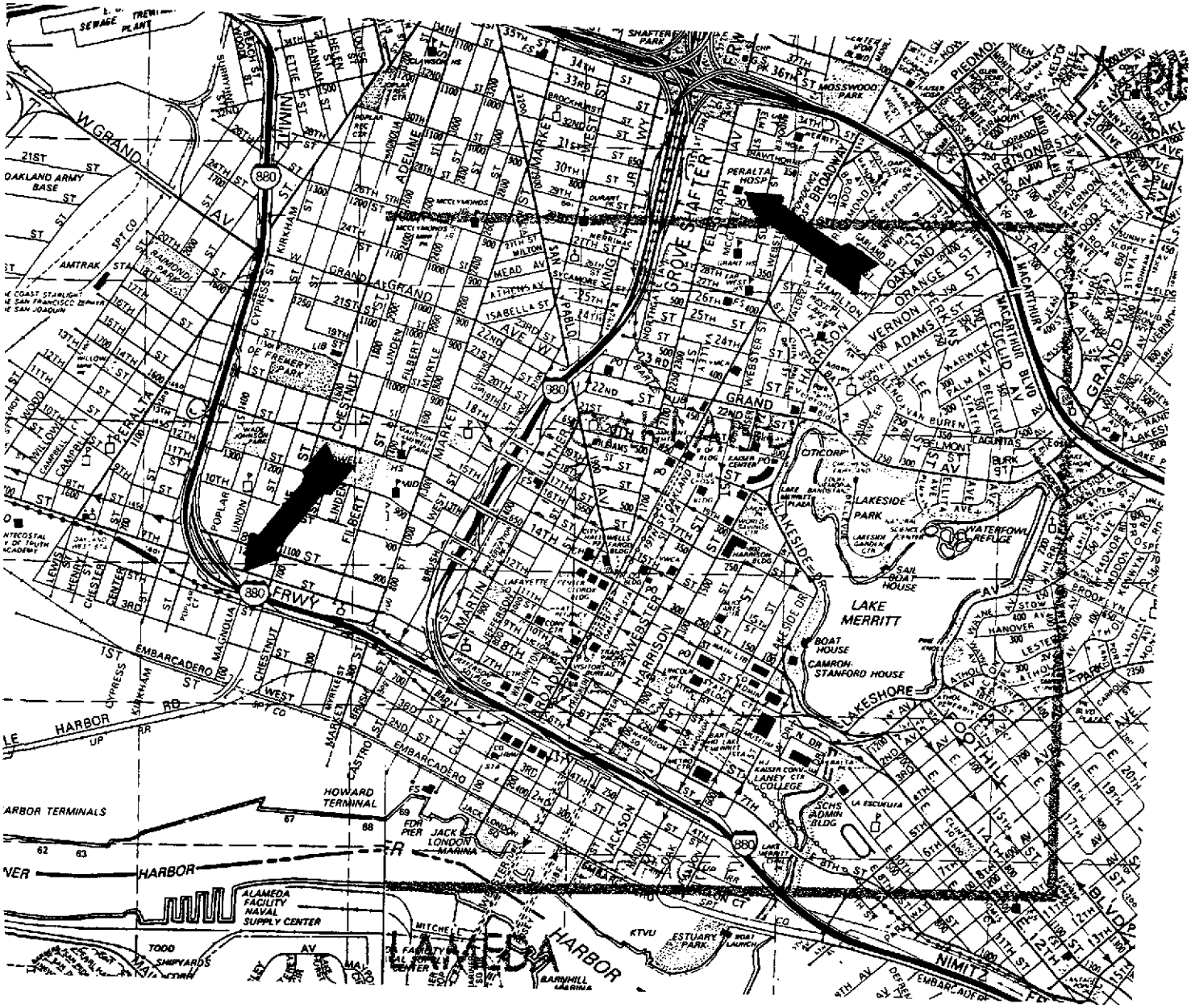
Personal Protection **Level D, modified as required**

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

Special Site Considerations **None anticipated**

ATTENDEES

Name Printed	Signature



HOSPITAL LOCATION MAP