

3284

WORKPLAN FOR SOIL AND GROUNDWATER INVESTIGATION

**FORMER COOPER TIRE SHOP
1200 East 12th Street
Oakland, CA 94606**

**Prepared For:
MR. BOB BASTON
61 Skyway Lane
Oakland, CA 94619**

**Submitted By:
BERNABE & BRINKER, INC.
2240 Wood Street
Oakland, CA 94606
(510) 451-3482**

**Prepared by:
Mark R. Varney
(510) 633-0789
April 22, 1997**

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1.0 INTRODUCTION

The subject site, the former Cooper Tire Shop (CTS), is located at 1200 East 12th Street in the City of Oakland in Alameda County, California (see Figure 1). The site contact person is Mr. Bob Baston, telephone number 510-569-2252.

In a March 27, 1997, letter to Mr. Baston (see Appendix A), the Alameda County Health Care Services Agency (ACHCSA) has requested an additional groundwater investigation in the area downgradient of the former tank area and overexcavation site (see Figure 2).

This Workplan for Conducting Soil Borings (WP) presents a scope of work for conducting two soil borings to investigate the extent of soil and groundwater contamination at the subject site.

2.0 BACKGROUND

On July 23, 1996, Bernabe & Brinker, Inc. (B&B) removed two 500-gallon, underground gasoline storage tanks as documented in B&B's March 27, 1997, TANK CLOSURE REPORT. Soil contamination was noted on the bottom of the overexcavated area of Tank 1 where the backhoe had attained its maximum reach. Initial soil sampling results of the July 23, 1996, tank removal detected 760 parts per million (ppm) total hydrocarbons as gasoline (TPHG) and 0.59 ppm, 4.0 ppm, and 9.1 ppm of toluene, ethylbenzene and xylenes, respectively. Benzene was non-detect (ND). Composite pit sample SA-1,2 taken during overexcavation activities on August 16, 1996, detected 210 ppm TPHG and 0.28 ppm, 0.31 ppm, 1.7 ppm and 4.9 ppm benzene, toluene, ethylbenzene and xylenes (BTEX), respectively.

Because of these results the ACHCSA requested further investigation to determine the extent of soil contamination and if groundwater had been affected (see Appendix A, March 27, 1997, Letter from ACHCSA).

3.0 PROPOSED WORKPLAN FOR THE CONDUCTING OF TWO SOIL BORINGS

B&B proposes the following scope of work:

- . Obtain a permit for conducting soil borings from the Alameda County Flood Control and Water Conservation District Zone 7 and notify appropriate agencies prior to conducting field activities.
- . Drill two soil borings to further investigate the horizontal and vertical extent of vadose zone soil contamination.
- . Collect soil samples from each boring at approximately 5-foot depth intervals, at changes in lithology and at the occurrence of apparent soil contamination for construction of a boring log and for chemical analysis.
- . Analyze selected vadose zone soil samples from the boring for TPHG and BTEX.

- . Collect grabwater samples from each boring and analyze for TPHG and BTEX concentrations.
- . Seal the borings.
- . Prepare a Site Assessment Report.

3.1 Predrilling Activities

Before commencing drilling activities, B&B will obtain a soil boring permit from the Alameda County Flood Control and Water Conservation District Zone 7 and visit the site to mark the soil boring locations. B&B will conduct a subsurface utility survey by contacting Underground Service Alert (USA) to minimize the potential of encountering unexpected utilities while conducting soil boring activities.

3.2 Rationale for Location of the Soil Borings

The soil boring locations are based on groundwater flow direction and gradient data obtained from monitoring wells located at the Glass on the Move (GM) site at 1111 East 12th Street, Oakland. This site is across the street and approximately one block north of CTS.

Approximately one-half block southwest of the CTS site is a hill sloping to the southwest. Groundwater gradients generally follow topographical contours, which appears to be confirmed by GM site data. The location of the proposed soil borings are shown in Figure 2.

The proposed soil borings will be located within 10 feet and in the downgradient direction of the overexcavated area in accordance with the California Regional Water Quality Control Board's "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites," dated August 10, 1990.

3.3 Soil Boring and Sampling Procedures

The borings are proposed to be drilled to a depth of about 20 feet to intersect groundwater. Borings will be drilled by a State of California C-57 licensed water well driller using 8-inch diameter, hollow-stem, auger drilling equipment. The augers will be steam-cleaned before drilling each boring to prevent introduction of offsite contamination.

The augers will be steam-cleaned before drilling each boring to prevent cross-contamination between borings or the introduction of offsite contamination for the initial boring. Representative soil samples will be collected at approximately 5-foot depth intervals below the ground surface, at changes in lithology, and at occurrences of apparent contamination by advancing a California modified split-spoon sampler, equipped with 2-inch diameter by 6-inch long brass tubes, into the undisturbed soil beyond the tip of the augers. The sampling equipment will be cleaned before each sampling event by washing with a nonphosphate solution followed by a rinse in tap water.

The lateral extent of the groundwater contaminant plume is proposed to be investigated by collecting a "grab" groundwater sample from each of the two soil borings by introducing a clean polyethylene bailer down the auger stem to groundwater. After retrieving the bailer and the groundwater sample, the water will be decanted into sterilized, 40 milliliter, glass vials having Teflon-lined screw caps, immediately sealed in the vials with no headspace present, and labeled to include: date and time collected, sample name and location, project number, and sampler name. The samples will be immediately stored in an iced-cooler for transport to a California Department of Health Services (DHS) certified laboratory accompanied by chain-of-custody documentation.

All samples will be field-screened for apparent contamination by TPHG and BTEX. Field-screening methods include the detection of apparent soil contamination as evidenced by visible hydrocarbon stains, odors, and headspace analyses of soil samples using a Hydrocarbon Vapor Tester (HVT).

Headspace analysis will be conducted by sealing a soil sample in a quart-size plastic bag and allowing hydrocarbons, if present, to volatilize into the headspace of the bag. The headspace will be tested by inserting the probe of the HVT into the headspace, while minimizing the entry of fresh air, and recording the response in ppm.

In the borings, soil samples having apparent contamination, as indicated by the above field-screening methods, will be collected for analysis for TPHG and BTEX. If no apparent contamination is detected in the borings, the vadose zone sample collected nearest to groundwater will be analyzed for TPHG and BTEX.

Each soil sample collected for chemical analysis will be quickly covered with Teflon sheeting and capped with plastic end-caps. Each tube will be labeled to show site address, project number, sample name and depth, date and time collected and sampler name. Each sample will be stored in an individual plastic bag in an iced-cooler while being transported to a DHS certified laboratory accompanied by chain-of-custody documentation.

Detailed boring logs will be prepared from auger return material and split- spoon samples. The soil will be logged according to the Unified Soil Classification System by a field geologist under the direction of a California Registered Geologist.

Drill cuttings will be stored on site, contained in plastic sheeting or 55-gallon steel drums. The stored cuttings will be labeled to show contents, date stored, suspected chemical contaminant, expected date of removal, company name, contact person and telephone number. Disposal of the cuttings and drums is the responsibility of the client. After the cuttings are characterized by chemical analysis, ~~TPP~~ will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the cuttings and drums, or both in an appropriate manner as an additional work item. Maintenance of the plastic sheeting or drums containing the soil is the responsibility of the client.

3.3.1 Chemical Analyses

All soil samples and groundwater grab samples are proposed to be analyzed for TPHG by the DHS Method 8015M and for BTEX by the Modified EPA Method 8020. +MTBE.

4.0 SITE ASSESSMENT REPORT

After completing the above scope of work, B&B will prepare a report documenting the results of the investigation. The report will include: copies of all required permits, an area map, a detailed site map providing the locations of the soil borings, graphic boring logs, a table summarizing results of chemical analysis, and copies of certified analytical reports and chain-of-custody documentation.

Recommendations for further action or site closure will be developed based on the results of this investigation.

5.0 SITE SAFETY PLAN

A Site Safety Plan for conducting work under this workplan is included in Appendix B.

6.0 TIME SCHEDULE

The projected time schedule for implementation of the activities described in this workplan is presented below. The schedule reflects a relatively problem-free program. However, delays in the workplan review, permitting or laboratory analysis could lengthen the project schedule. Access difficulties, adverse weather, and regulator review could also delay the proposed time schedule. B&B will make every effort to adhere to the project schedule.

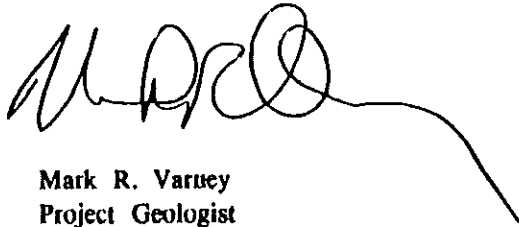
- Week 1: Client Submits WP for Regulatory Approval.
- Week 3: Regulator Approval Received.
- Week 4: Conduct Soil Borings.
- Week 6: Receive Chemical Analyses.
- Week 8: Submit Report to Client.

7.0 REFERENCES

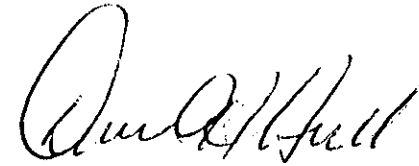
Varney, Mark R., 1997, TANK CLOSURE REPORT, Former Cooper Tire Shop, 1200 East 12th Street, Oakland, CA 94606, March 20, 1977.

This report has been prepared for Bernabe and Brinker, Inc. under the direction of a Registered Geologist whose seal and signature appears hereon.

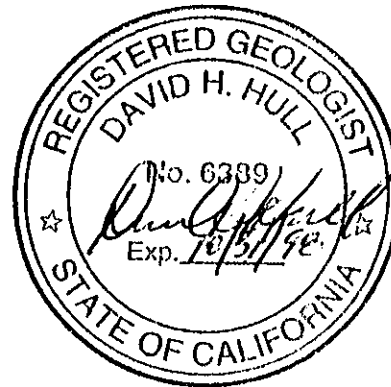
The findings, recommendations, specifications or professional opinions are presented, within the limits of, and in accordance with, generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.



Mark R. Varney
Project Geologist



David H. Hull, R.G.
Registered Geologist (No. 6389)



FIGURES

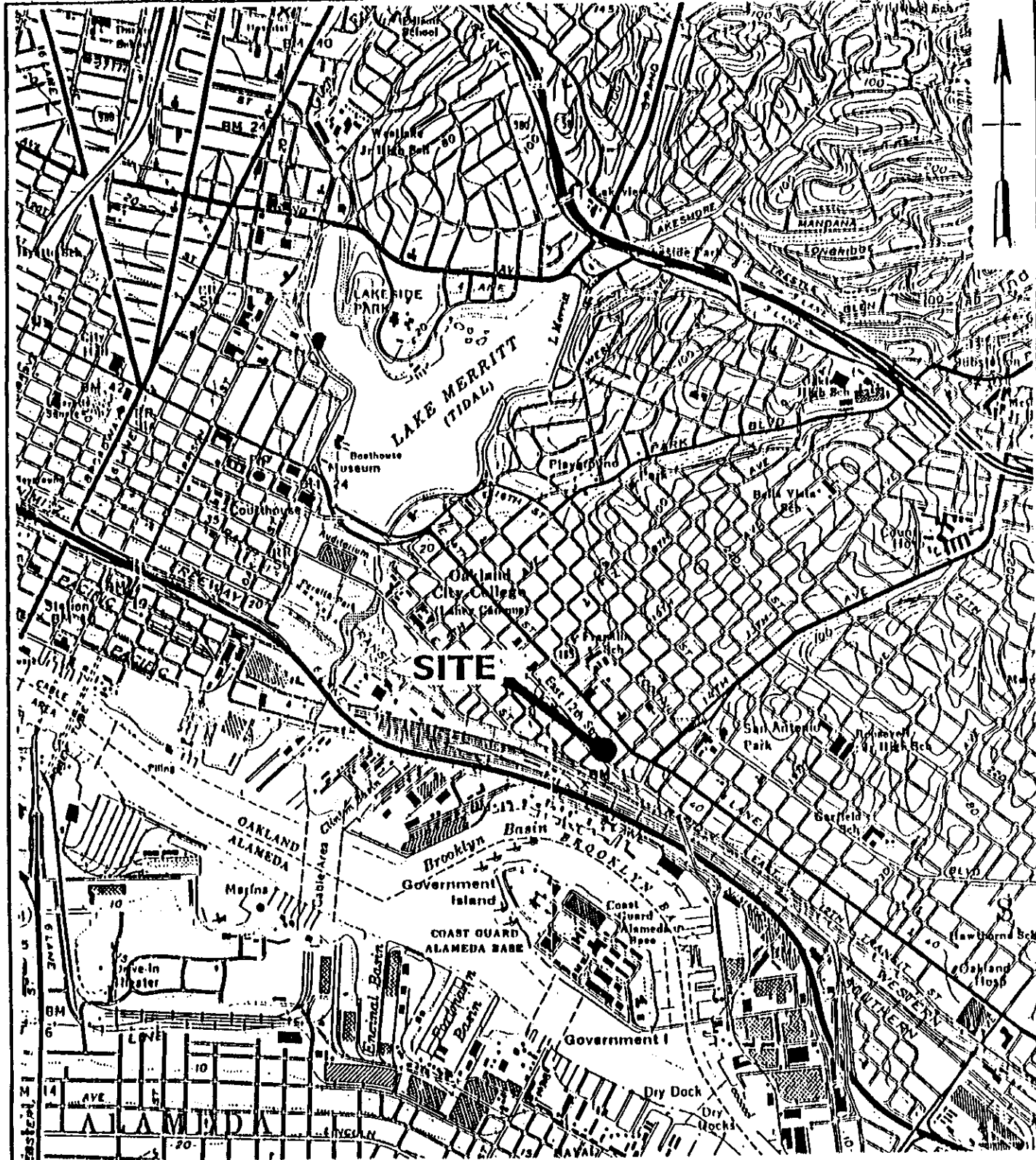
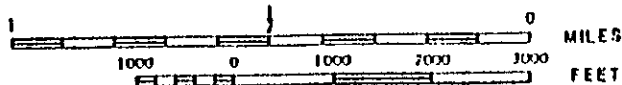


FIGURE 1. SITE LOCATION MAP



Base map from USGS 7 1/2 minute series
 Oakland East and Oakland West quadrangles, 1980.

BERNABE & BRINKER, INC.

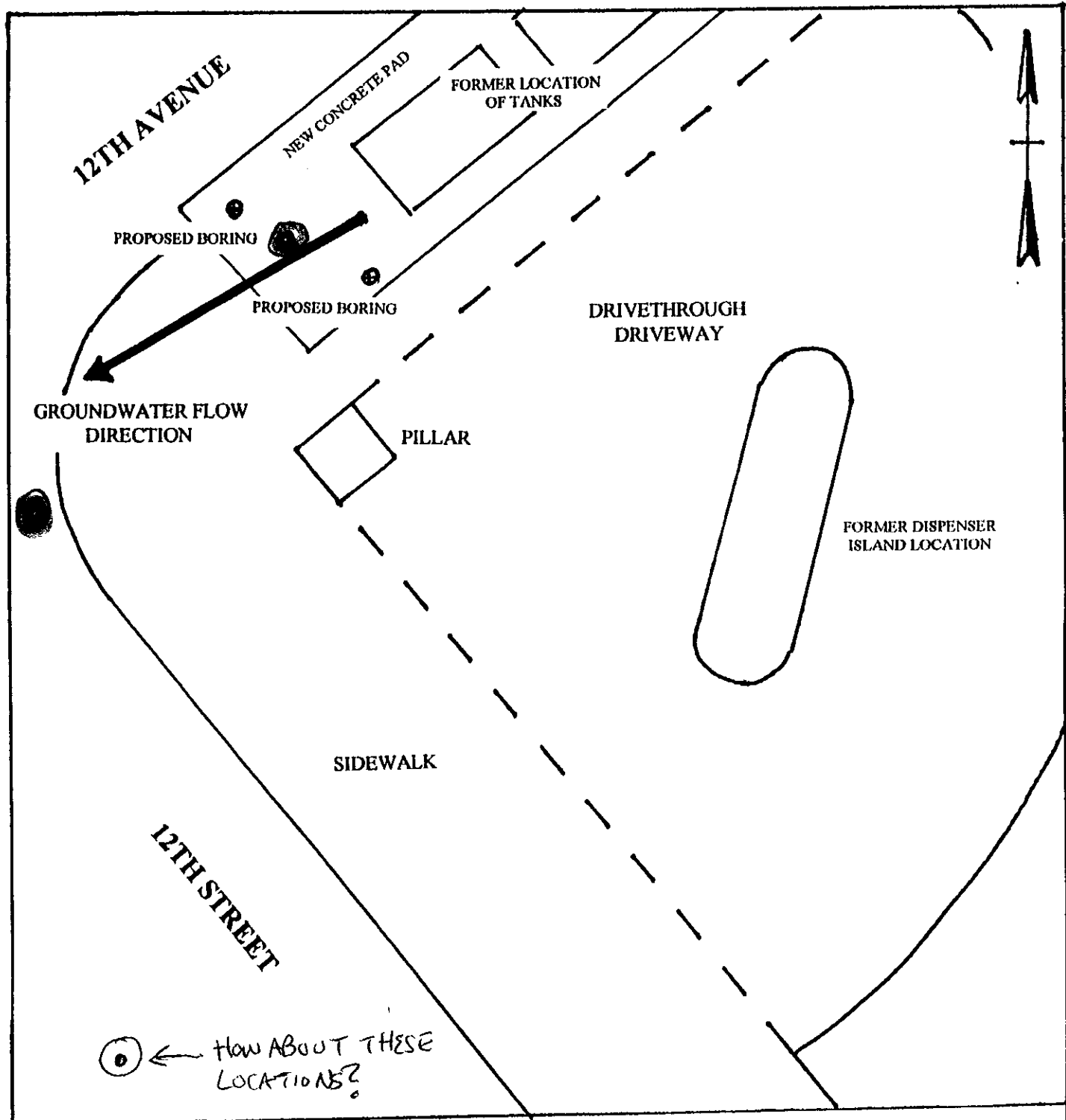
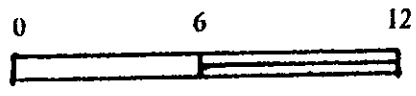


FIGURE 2 PROPOSED SOIL BORING LOCATIONS
1200 EAST 12TH STREET, OAKLAND



SCALE: 1" = 6'

BERNABE & BRINKER, INC.

APPENDIX A

ACHCSA MARCH 27, 1997, LETTER

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

March 27, 1997
StID # 3284

Mr. Robert Baston
61 Skyway Lane
Oakland CA 94619

Re: 1200 E. 12th St., Oakland CA 94606, Former Cooper Tire Shop

Dear Mr. Baston:

Our office has received and reviewed the March 20, 1997 Tank Closure Report provided by Bernabe & Brinker. The report details the soil sampling beneath the two former 500 gallon gasoline tanks along the northern side of this site on July 23, 1996. In addition, samples from the spoils pile generated from the excavation was sampled.

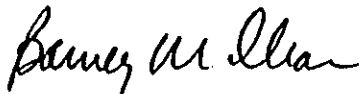
Recall, the initial soil sample results detected 760 ppm (parts per million) TPHg (Total Petroleum Hydrocarbons as gasoline) and ND, 0.59, 4.0 and 9.1 ppm BTEX (benzene, toluene, ethylbenzene and xylenes) respectively, in soil sample S-1, the sample from the west end of Tank 1. All other soil samples were unremarkable. However, because of this result, additional overexcavation was performed in this area on August 16, 1996. Excavation was performed from 8-9 feet down to approximately 14 feet and two soil samples taken which were composited into one sample labeled SA-1,2. This sample detected 210 ppm TPHg, and 0.28, 0.31, 1.7 and 4.9 ppm BTEX, respectively. Two soil samples from beneath the former fuel dispensers were also taken for analysis. Little to no contaminants were found in the samples from beneath the dispenser. Based upon these results, further investigation is required to determine the extent of soil contamination and determine if groundwater has been impacted with petroleum hydrocarbon. Our office encourages the use of a temporary rapid site assessment tool ie Hydropunch, Geoprobe etc. to perform this additional investigation. At a minimum, two borings should be advanced downgradient of Tank 1. Soil and groundwater samples should be taken for analysis. Chemical analysis should be for the following parameters; TPHg and BTEX.

Please submit a work plan to perform the above additional subsurface investigation within 30 days or by April 28, 1997.

Mr. Robert Baston
StID # 3284
1200 E. 12th St.
March 27, 1997
Page 2.

Please contact me at (510) 567-6765 if you have any questions.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

c: B. Chan, files
Mr. J. Brinker, Bernabe & Brinker, 2240 Wood St., Oakland
CA, 94607

wp1200

APPENDIX B
SITE SAFETY PLAN

BERNABE & BRINKER, INC.

SITE SAFETY PLAN

Site 1200 EAST 12th STREET Project# _____

Original Site Safety Plan: Yes (X) No () Revision# _____

Plan Prepared by MARK R. VARNBY Date 4/30/97

Plan Approved by _____ Date _____

Please respond to each item as completely as possible.
Where an item is not applicable, please mark "N/A."

1. KEY PERSONNEL AND RESPONSIBILITIES

(Include name, telephone number, health and safety responsibilities, i.e., project manager - Joe Smith - responsible for supervision of all site activities.)

Project Manager JAMES E. BRINKER

Site Safety Manager ERNIE F. BERNABE JR.

Alternate Site Safety Manager JAMES E. BRINKER

Field Team Members MARK R. VARNBY

Agency Reps: [Please specify by one of the following symbols: Federal:(F), State:(S), Local:(L), Contractor(s):(C)]

B&B SITE SAFETY PLAN

2. JOB HAZARD ANALYSIS:

Hazard Level: High() Moderate() Low() Unknown ()

Hazard Type: Liquid() Solid() Sludge() Vapor/Gas()

Known or suspected hazardous materials present on site:

TPHG, BTEX

Characteristics of hazardous materials included above:

(Complete for each chemical present:)

MATERIAL #1: Corrosive() Ignitable() Toxic()
Reactive() Volatile() Radioactive()
Biological Agent()

Exposure Routes: Inhalation() Ingestion() Contact()

MATERIAL #2: Corrosive() Ignitable() Toxic()
Reactive() Volatile() Radioactive()
Biological Agent()

Exposure Routes: Inhalation() Ingestion() Contact()

MATERIAL #3: Corrosive() Ignitable() Toxic()
Reactive() Volatile() Radioactive()
Biological Agent()

Exposure Routes: Inhalation() Ingestion() Contact()

MATERIAL #4: Corrosive() Ignitable() Toxic()
Reactive() Volatile() Radioactive()
Biological Agent()

Exposure Routes: Inhalation() Ingestion() Contact()

B&B SITE SAFETY PLAN

2.2 JOB-SPECIFIC HAZARDS

For each labor category, specify the possible hazards based information available (i.e., Task-driller, Hazards-trauma from drill rig accidents, etc.) For each hazard, indicate steps to be taken to minimize the hazard.

DRILLING RIG - RIG ACCIDENTS, -
AVOID CONTACT WITH AUGERS, EARPLUGS
CARS - COME OFF WORK SITE

The following additional hazards are expected on site (i.e., snake-infested area, extreme heat, etc.):

Measures to minimize the effects of the additional hazards are:

3. MONITORING PLAN

3.1 (a) Air Monitoring Plan

Action levels for implementation of air monitoring. Action levels should be based on published data available on contaminants of concern. Action levels should be set by persons experienced in industrial hygiene.

Level (i.e., .5ppm)	Action Taken (i.e., commence perimeter monitoring)
<u>NA</u>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

B&B SITE SAFETY PLAN

(b) Air Monitoring Equipment

Outline the specific equipment to be used, calibration method, frequency of monitoring, locations to be monitored, and analysis of samples (if applicable):

NO MONITORING REQUIRED

If air monitoring is not to be implemented for this site, explain why:

LEVELS OF CONTAMINATION ARE LOW

3.2 Personnel Monitoring

(Include hierarchy of responsibilities in decision-making on the site).

JAMES E. BEINKER, MARK R. VARNBY

3.3 Sampling Monitoring

(a) Techniques used for sampling

SOIL SAMPLING - BRASS TUBES

WATER SAMPLING - 40ml VOLS

SAMPLING OF SOIL BY SPLIT SPOON

H₂O SAMPLING BY DEDICATED POLY

BAILER

B&B SITE SAFETY

(b) Equipments used for sampling _____

OVA METER

(c) Maintenance and calibration of equipments _____

4. **PERSONAL PROTECTIVE EQUIPMENT (PPE)**
Equipment used by employees for the site tasks and operations being conducted. Be specific (i.e., hard hat, impact resistance goggles, other protective glove, etc.).

GLOVES, HARD HATS, EAR PLUGS, STEEL
TOE BOOTS, SAFETY GOGGLES.

5. **SITE CONTROL AND SECURITY MEASURES**
The following general work zone security guidelines should be implemented:

- Work zone shall be barricaded and caution tape be used.
- Excavations shall be closed when drilling and sampling activities are not actually taking place.
- No excavations shall be left unattended. Visitors will not enter the work zone unless they have attended a project safety briefing.
- Persons will not leave the work zone without first passing through the decontamination zone.

B&B SITE SAFETY PLAN

6. DECONTAMINATION PROCEDURE

List the procedures and specific steps to be taken to decontaminate equipment and PPE.

EQUIPMENT AND PERSONNEL WASHED
WITH TSP AND RINSED WITH WATER

7. TRAINING REQUIREMENTS

Prior to mobilization at the job site, employees will be attend a safety briefing. The briefing will include the nature of the wastes and the site, donning personal protection clothes and equipment, decontamination procedures and emergency procedures.

8. MEDICAL SURVEILLANCE REQUIREMENTS

If any task requires a very high personnel protection level, personnel shall provide assurances that they have received a physical examination and they are fit to do the task. Also, personnel will be instructed to look for any symptom of heat stress, heat stroke, heat exhaustion, or any other unusual symptom. If there is any report of that, it will be immediately be followed through, and appropriate action will be taken.

9. STANDARD OPERATION PROCEDURES

Bernabe & Brinker, Inc. is responsible for all Bernabe & Brinker, Inc. employees on the site. Each contractor shall provide all the equipment necessary to meet safe operation practices and procedures for their personnel on site, and be responsible for the safety of their workers.

A. "Three Warning" system is utilized to enforce compliance with Health and Safety procedures practices which will be implemented at the site for worker safety:

*Eating, drinking, chewing gum, or tobacco, and smoking will be allowed only in designated areas.

B&B SITE SAFETY PLAN

*Wash facilities will be utilized by workers in the work areas before eating, drinking, or use of toilet facilities.

*Containers will be labeled, identifying them as waste, debris, or contaminated clothing.

*All excavation/drilling work will comply with regulatory agencies requirement.

*All site personnel will be required to wear hard hats and advised to take adequate measures for self-protection.

*Any other action which is determined to be unsafe by the site safety officer.

10. CONFINED SPACE ENTRY PROCEDURES

No one is allowed to enter any confined space operation without proper safety measures. Specifically, in case of an excavated Tank Pit no one should enter at no time.

11. EMERGENCY RESPONSE PLAN

Fire extinguisher(s) will be on site prior to excavation. Relevant phone numbers are:

Person	Title	Phone Number
<u>JAMES B. BRINKER</u>	Project Manager	<u>510-451-3482</u>
<u>OAKLAND FIRE DEPT.</u>	Fire	911 or <u>510-238-3856</u>
<u>OAKLAND POLICE DEPT.</u>	Police	911 or <u>510-238-3481</u>
<u>ACME AMBULANCE</u>	Ambulance	911 or <u>510-653-6622</u>
_____	Poison Control Center	<u>(800) 523-2222</u>
<u>NONE</u>	Site Phone	_____
<u>JAMES B. BRINKER</u>	Nearest Off-Site Number	<u>510-451-3482</u>
<u>MEDINA C. BERNABE</u>	Medical Advisor	<u>510-569-2252</u>
<u>LVN</u>	Client Contact	_____

B&B SITE SAFETY PLAN

U.S. EPA - ERT.....(201) 321-6660
Chemtrec.....(800) 424-9300
Centers for Disease Control.....Day:
(404) 329-3311
Night:
(404) 329-2888
National Response Center.....(800) 424-8802
Superfund/RCRA Hotline.....(800) 424-8802
TSCA Hotline.....(800) 424-9065
National Pesticide Information Services....(800) 845-7633
Bureau of Alcohol, Tobacco, and Firearms...(800) 424-9555

**HEALTH AND SAFETY
COMPLIANCE STATEMENT**

I, ERNESTO F. BERNABE JR., have received and read a copy of the project Health and Safety Plan.

I understand that I am required to have read the aforementioned document and received proper training under the occupational Safety and Health Act (29 CFR, Part 1910.120) prior to conducting site activities at the site.

James E. Brinkley 4-30-97
Signature Date

NEAREST HOSPITAL HIGHLAND HOSPITAL TEL. NO. 510-437-4800