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September 10, 1999

3284

Mr. Barney Chan
Alameda County Health Care Services
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Re: Addendum to Workplan
1200 E. 12th Street
Oakland, California
Project No. 3406

Dear Mr. Chan:

AEI Consultants (AEI) is submitting the following addendum to the workplan that was previously submitted by Bernabe and Brinker, Inc. for the property referenced above. A copy of the workplan is attached for reference. The workplan was submitted by Bernabe and Brinker, Inc. in response to a letter sent by your office dated March 27, 1997 requesting an additional groundwater investigation at the property.

The proposed workplan describes activities to advance two soil borings down gradient from the former underground storage tanks. Soil and groundwater samples will be collected from the borings. AEI will implement the scope of work described in the Bernabe and Brinker, Inc. workplan with the following additions:

- Borings will be advanced in the locations identified on the attached site map.
- The soil borings will be advanced with a Geoprobe type drilling rig. No soil cuttings are expected to be produced.
- Permits will be obtained from the city of Oakland and the Alameda County Public Works Agency. Underground Service Alert (USA) will be notified prior to drilling in the public right of way.
- Soil samples will be collected approximately every five feet. Groundwater samples will be collected through the direct push rods. If groundwater does not generate using this method then a grab groundwater sample will be collected following removal of the rods.
- Soil and groundwater samples will be analyzed for TPH as gasoline (EPA method 8015), BTEX, and MTBE (EPA method 8020).
- Confirmation of any detected MTBE will be completed by EPA method 8260 for fuel oxygenates.

Corporate Headquarters

Los Angeles
(310) 798-4255

Phoenix
(602) 240-5990

San Francisco
(800) 801-3224

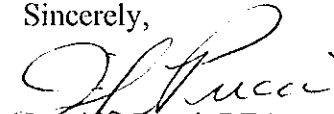
Seattle
(425) 401-8500

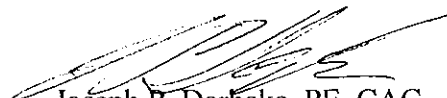
New York
(212) 279-7770

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Please contact us at (925) 283-6000 as soon as you have had a chance to review these additions.
We would like to schedule drilling for the week of September 13-17, 1999, if possible.

Sincerely,


Jennifer Pucci, REA
Senior Project Manager


Joseph P. Derhake, PE, CAC
Senior Author



Attachment.

cc: Robert Baston, 61 Skyway Lane, Oakland, CA 94619

12TH AVENUE

NEW CONCRETE PAD

SB-2

SB-1

FORMER USTs

SIDEWALK

12TH STREET

SIDEWALK

FORMER
DISPENSER
ISLAND

BUILDING



SCALE, FT

● Proposed soil boring location



AEI CONSULTANTS
 901 MORAGA ROAD, SUITE C, LAFAYETTE, CA

SITE PLAN

1200 EAST 12TH STREET
OAKLAND, CALIFORNIA

FIGURE 2

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 ^{geoprobe} 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 + MTBE.

- 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.~~ *geoprobe or equivalent mobile rig.*

~~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.~~ *will need to change*

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, ^{and MTBE.} (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, ~~PPF~~ 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.} Confirmation of any detected MTBE will be done by EPA Method 8260.

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 D.

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.

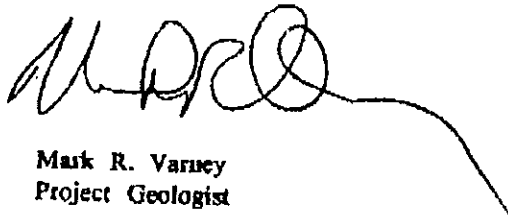
- Week 1: Client Submits WP for Regulatory Approval.
- Week 3: Regulator Approval Received.
- Week 4: Conduct Soil Borings.
- Week 6: Receive Chemical Analyses.
- Week 8: Submit Report to Client.

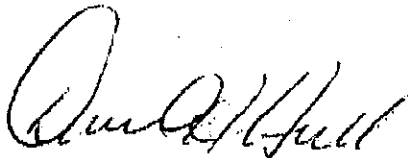
7.0 REFERENCES

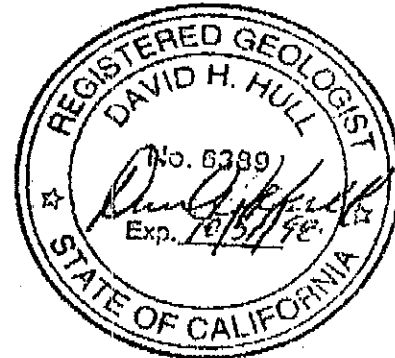
Varnoy, Mark R., 1997, TANK CLOSURE REPORT, Former Cooper Tire Shop, 1200 East 12th Street, Oakland, CA 94606, March 20, 1977.

This report has been prepared for Bernabe and Briker, 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)



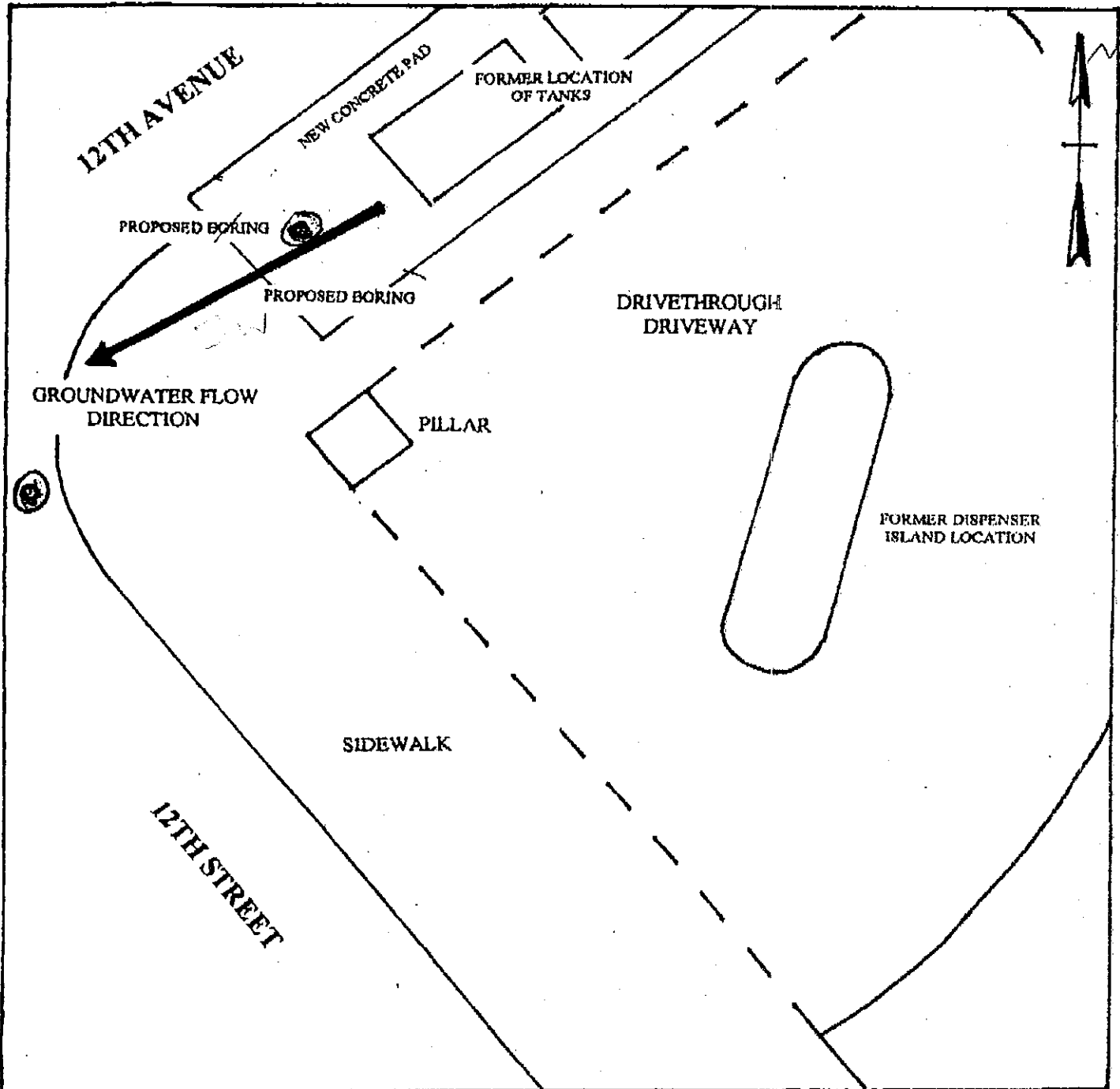
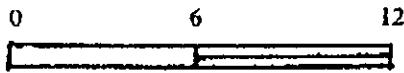


FIGURE 2 **PROPOSED SOIL BORING LOCATIONS**
 1200 EAST 12TH STREET, OAKLAND



SCALE: 1" = 6'

BERNABE & BRINKER, INC.