

June 10, 1999

Ms. Eva Chu
Alameda County Health Care Services
Environmental Health Services Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577



Re: Workplan for Geoprobe Investigation
Former Chevron Service Station 9-5928
701 San Pablo Ave.
Albany, California

Dear Ms. Chu:

Cambria Environmental Technology (Cambria) is submitting this workplan on behalf of Chevron Products Company (Chevron). Your correspondence of June 8, 1998 stated that a determination of risk posed by the residual soil contamination at the site must be made prior to site closure. The purpose of this investigation is to acquire soil and groundwater data you have requested in the vicinity of the former underground storage tanks (USTs) in order to evaluate the risk associated with residual contamination.

This site is a former Chevron service station that was operated on leased property until 1978. At the time of lease termination, the trustee of the property owner's estate requested that Chevron not remove any of the facilities or improvements on the site, including the USTs. According to records provided by the current property owner, four gasoline USTs were removed in February 1979. However, no report on this activity was available. The property was subsequently leased for non-petroleum use.

PROPOSED SCOPE OF WORK

To assess the lateral and vertical extent of hydrocarbons in soil and groundwater in the vicinity of the former tankfield, Cambria proposes to collect soil and groundwater samples from six Geoprobe® borings. Specific tasks that we will perform are described below.

Oakland, CA
Sonoma, CA
Portland, OR
Seattle, WA

Underground Utility Location: Cambria will contact an underground utility locator to clear the boring locations and, also, notify Underground Service Alert prior to drilling.

Cambria
Environmental
Technology, Inc.

Site Health and Safety Plan: Cambria will prepare a site safety plan to inform site workers of

1144 65th Street
Suite B
Oakland, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

99 JUN 17 PM 2:25
ENVIRONMENTAL
PROTECTION

Site Health and Safety Plan: Cambria will prepare a site safety plan to inform site workers of known hazards and to provide health and safety guidance. The plan will be kept on site at all times and signed by all site workers.

Permits: Cambria will obtain drilling permits from the Alameda County Environmental Health Services Department (ACEHSD) prior to beginning field operations.

GeoProbe® Borings: Cambria plans to advance approximately six soil borings using hydraulic-push (GeoProbe®) technology. The proposed boring locations are shown on Figure 1 and are based on data contained in the reports, *Tank Removal Report*, July 1996 by Semco/HK2, Inc., *Site Characterization and Remedial Excavation Report*, April 1998, also by Semco/HK2, Inc. and communication with the ACEHSD. The exact number and location of the soil borings will be based on field observation, site constraints and utility clearance. The scope of work includes:

- Collecting soil and groundwater samples from three borings drilled into, and beneath, the former tank cavity where hydrocarbons have previously been detected to further investigate this source of residual hydrocarbons.
- Drilling three additional borings outside the perimeter of the former UST cavity to investigate the horizontal distribution of hydrocarbons in soil and groundwater, and to obtain data on native soil characteristics.

The soil samples will be collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. We will obtain soil samples at a maximum of five-foot intervals, and from the capillary fringe in each boring, for contaminant characterization and lithologic description. A groundwater sample will be collected from about 3-5 ft below the water table. The horizontal location of each boring will be measured relative to on-site features using a measuring wheel or tape measure. Cambria's standard field procedures for GeoProbe® sampling are presented in Attachment A.

Chemical Analysis: Soil samples will be field screened and selected samples, along with groundwater samples, will be analyzed for:

- Benzene, toluene, ethyl-benzene, xylene (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8020, and
- TPHg and TPHd by modified EPA Method 8015.



Based on the fact that service station operations ceased in 1978, it is anticipated that MTBE will not be present in soil or groundwater. If, however, analysis by EPA Method 8020 indicates MTBE, its presence will be confirmed by EPA Method 8260.

Selected undisturbed soil samples, obtained from borings located outside the perimeter of the former tank cavity, will be tested for permeability, moisture content and fraction of organic carbon to estimate hydraulic conductivity and the expected retardation of hydrocarbon migration due to organic matter in the subsurface.



Soil and Water Disposal: Any soil cuttings will be stockpiled on plastic and covered with plastic on-site pending analysis and proper disposal. Rinseate and development water will be stored in drums pending proper disposal.

Reporting: After all analytical results are received and other study information is compiled, we will prepare a subsurface investigation report that, at a minimum, will contain:

- A summary of the site background and history,
- Descriptions of the drilling and soil sampling methods,
Boring logs,
- Tabulated soil and groundwater analytical results,
- A figure illustrating the GeoProbe® boring locations,
- Analytical reports and chain-of-custody forms,
- Soil and water disposal methods,
- A discussion of the hydrocarbon distribution in soil and groundwater,
- A Tier I evaluation of risk based on data from the investigation, and
- Conclusions and recommendations.

SCHEDULE

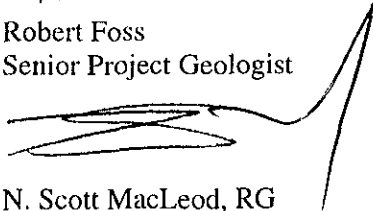
Cambria will perform this investigation after receiving drilling permits and written approval of this work plan from the ACEHSD. We will submit our investigation report approximately four to six weeks after finishing the fieldwork.

Please call me at (510) 420-3330 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Robert Foss

Robert Foss
Senior Project Geologist



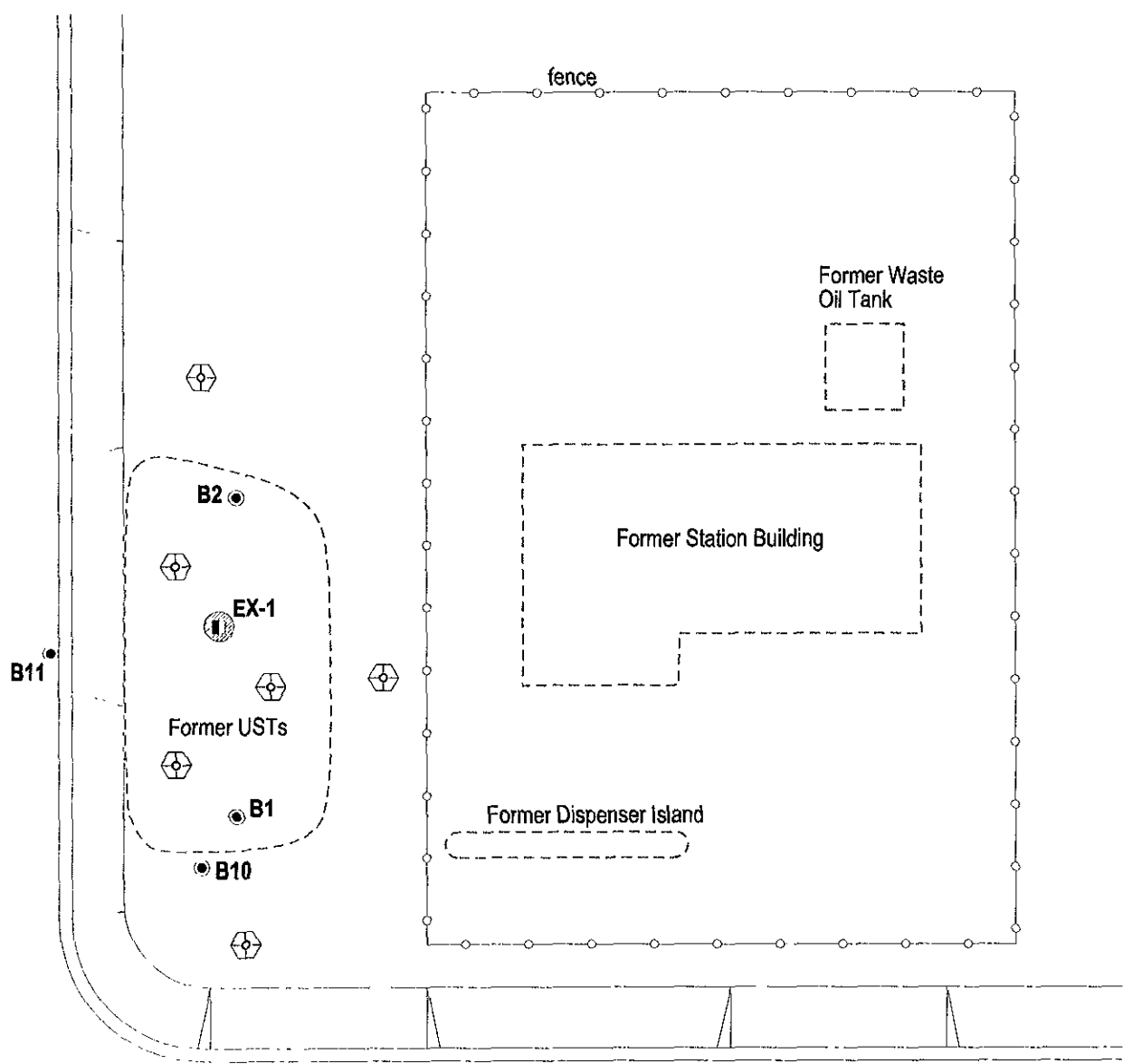
N. Scott MacLeod, RG
Principal Geologist



Attachment A: Standard Field Procedures for Geoprobe® Sampling




cc: Ms. Ingrid Werner, 22 Kensington Court, Kensington, CA 94707
Ms. Polly K. Higgins, 535 Pierce Street, Suite #429, Albany, CA 94706
Mr. Rod Simmons, Chevron Products Company
Ms. Bette Owen, Chevron Products Company (w/o attachments)

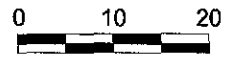
PORTLAND AVENUE



SAN PABLO AVENUE

EXPLANATION

-  Proposed Geoprobe location
- SB-1**  Soil boring location
- EX-1**  Exploratory pit and soil sample location



Scale (ft)

FIGURE

1

R:\9-5928\FIGURES\SITE-PLAN.DWG

Former Chevron Service Station 9-5928
 701 San Pablo Avenue
 Albany, California



C A M B R I A

**Proposed Geoprobe
 Boring Locations**

ATTACHMENT A
STANDARD FIELD PROCEDURES FOR GEOPROBE® SAMPLING

CAMBRIA

STANDARD FIELD PROCEDURES FOR GEOPROBE® SAMPLING

This document describes Cambria Environmental Technology's standard field methods for GeoProbe® soil and ground water sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon® tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

CAMBRIA

Field Screening

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech® or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Grab Ground Water Sampling

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.