

ENVIRONMENTAL PROTECTION May 1, 1998  
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Mr. Scott O. Seery, CHMM  
Alameda County Department of Environmental Health  
Hazardous Materials Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Re: **Meeting Summary and Work Plan Addendum**  
Shell Service Station  
1784 150<sup>th</sup> Avenue  
San Leandro, California  
WIC #204-6852-1404  
Cambria Project #240-612

Dear Mr. Seery:

Shell Oil Products Company and Cambria appreciate the opportunity to meet with you on April 28, 1998 regarding this site. During our meeting, we discussed topics related to the Risk Based Corrective Action (RBCA) assessment performed by Weiss Associates (WA) and Cambria's Corrective Action Plan (CAP). Presented below are a list of the topics that we covered related to the RBCA and CAP and our anticipated action items.

#### RBCA RELATED TOPICS

- 1) *What was WA's soil vapor sampling protocol?* We will check on this information.
- 2) *How do the Tracer analytical results compare to the off-site laboratory analytical results?* Cambria will investigate this.
- 3) *How does the gravelly sand logged in boring SVS-3 to 8 ft depth influence potential vapor transport? What is the extent of the gravelly sand?* Cambria will assess this in the next investigation phase.
- 4) *How do the TO-3 and CARB 410A vapor sampling methods compare?* Cambria will check into this.
- 5) *Do the separate-phase hydrocarbons influence aqueous-phase benzene concentrations when they are present in the wells?* Cambria will look for copies of chromatograms for the separate-phase hydrocarbons that were analyzed by Shell and analyze them for benzene concentrations. If the separate-phase hydrocarbons are depleted in benzene, then there is likely little or no impact to aqueous-phase benzene concentrations.

- 6) ***RBCA Worksheet 3.3 - Where are the utilities located and could they influence vapor migration?***  
Cambria will assess utility locations and assess whether they could affect vapor migration during the upcoming investigation.
- 7) ***RBCA Worksheet 4.1 - Do we have outdoor air inhalation risk-based screening levels (RBSLs) based on the vapor data instead of the soil data?*** Cambria will check on this and submit it if it is available.
- 8) ***RBCA Worksheet 4.2 - Why was the on-site exposure not assessed?*** Cambria will check on this and amend the RBCA if no data is available.
- 9) ***RBCA Worksheet 5.1 - Why were all the RBCA default values used when there is site-specific data available?*** Cambria will check on this.
- 10) ***RBCA Worksheet 5.3 - The plume area calculations appear incorrect.*** Cambria will check into this.
- 11) ***RBCA Worksheet 6.3 - What would be the volatilization to indoor air based on benzene concentrations in ground water?*** Cambria will calculate this.

## **CAP RELATED TOPICS**

As indicated below, Cambria has amended the investigation work plan to include three borings on the residential property southwest of the Shell site. The borings will be advanced by either cone penetrometer or GeoProbe. Recommended boring locations are presented on Figure 1. Sampling procedures are presented below. We will also research information regarding the former pump islands at the northeast portion of the site.

***Sampling Procedures:*** We will collect soil samples at five ft intervals, at lithologic changes and from just above the static water table. The borings will continue below the first-encountered ground water for water sampling using dedicated bailers or other approved sampling method to assess whether hydrocarbons have impacted ground water. The estimated depth of each boring will be 25 to 30 ft. We will select soil samples for chemical analysis based on observations of staining and odor and on the results of field screening with an organic vapor analyzer. Our standard field procedures are presented as Attachment A.

Mr. Scott O. Seery  
May 1, 1998

CAMBRIA

**Soil Analysis:** Selected soil samples will be analyzed for total petroleum hydrocarbons as gasoline (TPHg) by modified EPA Method 8015; benzene, ethylbenzene, toluene and xylenes (BTEX) and methyl tert-butyl ether (MTBE) by EPA Method 8020.

**Ground Water Analysis:** Samples collected from the borings will be analyzed for TPHg by modified EPA Method 8015, BTEX and MTBE by EPA Method 8020.

Execution of this proposed work is contingent upon securing an access agreement with property owners. We will conduct this amended work prior to installing the additional monitoring wells proposed in our previous work plan. Installation of well MW-7 will depend upon the results of the boring samples.

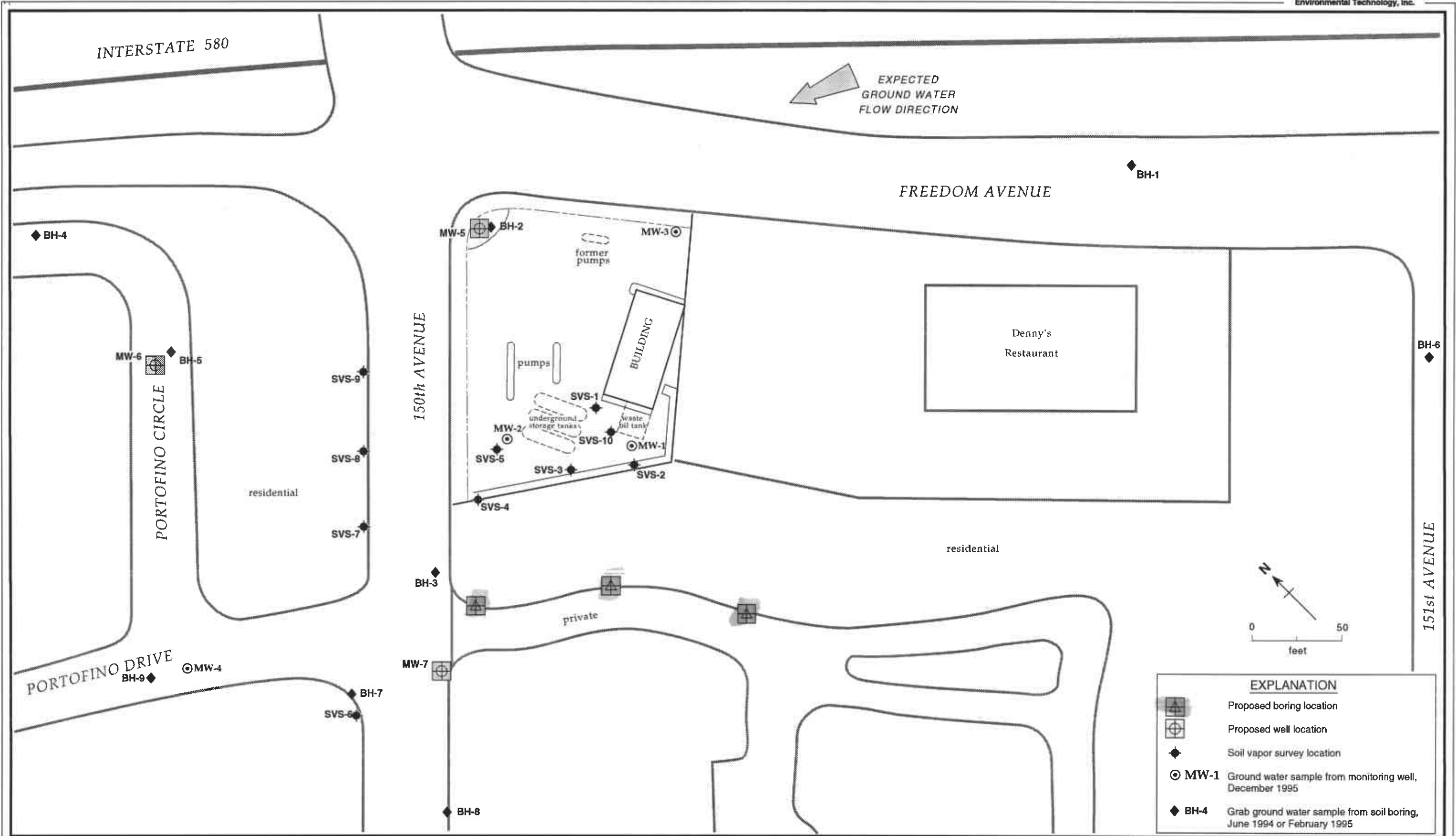
We trust that this submittal meets your requirements. Please call me if there are additional topics that need to be addressed or if you have any additional questions regarding this site.

Sincerely,  
Cambria Environmental Technology, Inc.

  
N. Scott MacLeod, R.G.  
Principal Geologist

cc: A. E. (Alex) Perez, Shell Oil Products Company, P.O. Box 8080, Martinez, CA 94553  
Brad Boschetto, Shell Oil Products Company, 3611 S. Harbor Blvd, Ste. 160, Santa Ana, CA 92799

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EXPLANATION	
	Proposed boring location
	Proposed well location
	Soil vapor survey location
	Ground water sample from monitoring well, December 1995
	Grab ground water sample from soil boring, June 1994 or February 1995

Figure 2. Proposed Monitoring Well and Boring Locations - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California

**ATTACHMENT A**

Standard Field Procedures for Borings

## 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.

## **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.