CAMBRIA

ENVIRONMENTAL PROTECTION

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January 14, 1999

Mr. Scott Seery
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

1/29/99
- Call (message) to D. Atarde (Cambria). Requested Shell vis-a-vis Cambria make haste in acquiring the necessary utility maps from OPW and/or Cal Trans. We can then meet to brainstorm boring locations. Their requirement is not an option. SAS

Re: **Soil and Water Investigation Work Plan**
Shell-branded Service Station
9750 Golf Links Road
Oakland, California
WIC #204-5508-2808
Cambria Project #240-0735-013

Dear Mr. Seery:

On behalf of Equiva Services LLC (Equiva), Cambria Environmental Technology, Inc. (Cambria) is submitting this *Soil and Water Investigation (SWI) Work Plan* for the above referenced site, as requested by Alameda County Health Care Services Agency (ACHCSA) in the December 3, 1998 letter. This work plan proposes to investigate subsurface conditions at this site and adjacent properties through the use of available utility maps, property file reviews, and a well survey.

BACKGROUND

Site Location: This operating Shell-branded service station is located at the intersection of Golf Links Road and Mountain Boulevard in Oakland, California (Figure 1). The area surrounding the site is both commercial and residential. Highway 580 runs near the northern boundary of the site.

1995 Waste Oil Underground Storage Tank (UST) Removal: On March 7, 1995, Weiss Associates of Emeryville, California (WA) observed the removal of a 550-gallon, single-walled, steel waste oil (UST) and collected soil samples from the tank excavation floor and side walls. The highest hydrocarbon concentrations detected were 190 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg) and 3,900 mg/kg total petroleum hydrocarbons as diesel (TPHd). No benzene was detected.

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

Cambria Environmental Technology, Inc.

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

4/14

· Meeting today w/Derek Ataide. We discussed boring locations/ number, substantially based on utility locations. W.P. to be finalized shortly.

SOS

3/31

· Call to D. Ataide (Cambria) re: meeting, utility maps, etc. No further contact has been received since 1/29

SOS

1995 Subsurface Investigation: On December 15, 1995, WA installed one soil boring in the vicinity of the former waste oil UST. The only hydrocarbons detected were 2.8 mg/kg TPHd at 30.5 feet below ground surface (ft bgs) and 56 mg/kg petroleum oil and grease at 40.5 ft bgs. No ground water was encountered at a maximum depth explored of 48 ft bgs.

1998 Dispenser Upgrade: On February 4, 1998, Cambria observed station upgrade activities and collected soil samples from beneath one dispenser. The highest hydrocarbon concentrations detected were 7,800 mg/kg TPHg and 37 mg/kg benzene beneath dispenser D-4 (northeastern most dispenser) at a depth of 4.0 ft bgs (Figure 1). No field indications of hydrocarbons were observed beneath the other dispensers.

1998 Subsurface Investigation: On July 6, 1998 and July 31, 1998, Cambria installed one soil boring adjacent to the northeastern dispenser. Drilling refusal was encountered at 16 ft bgs using a GeoProbe rig. Cambria returned on July 31, 1998 and completed the boring to a depth of 30 ft bgs with a hollow-stem auger rig. **Maximum concentrations of 14,000 mg/kg TPHg and 100 mg/kg benzene** were detected in soil sample SB-1-13.0', collected **at approximately 13 ft bgs.** A thin zone of perched water, corresponding with a silty sand layer, was encountered at approximately 12 ft bgs. Water samples could not be collected from this perched zone due to insufficient water volume.

PROPOSED SCOPE OF WORK

Based on Cambria's December 29, 1998 conversation with Scott Seery of the ACHCSA, it was concluded that an investigation of the subsurface history for this site and adjacent properties is necessary before embarking on further field activities. Mr. Seery was concerned by the varying elevation of bedrock beneath the site and it's influence on the depth and flow direction of ground water in the area. Only perched water was encountered in the July 1998 investigation and no water was encountered during the WA investigation (total depth of 48 ft bgs) near the former waste oil tank. By investigating available documentation for this site and adjacent properties, we hope to obtain a better understanding of the water table location and identify any pathways to the existing water table.

To this end, Cambria proposes the following scope of work:

- Obtain utility maps for this site and adjacent properties from the City of Oakland;
- Attempt to obtain drainage and utility maps from the California Department of Transportation (Caltrans) for previous work done around Highway 580;
- Perform a well survey around the site (quarter-mile radius) with assistance from the Alameda County Flood Control District and the California State Department of Water Resources. Cambria will use this survey to obtain ground water elevations in the vicinity of the site.

With the information obtained from this research, Cambria and the ACHCSA can determine whether

or not further investigation is necessary to determine the extent and severity of the hydrocarbons discovered during upgrade activities. The research will strive to determine the depth and flow direction(s) of ground water beneath the service station and to identify any potential migration pathways or conduits. The horizontal extent of the perched water table and the silty sand layer (approximately 12–15 ft bgs) will be a main concern. In addition, ~~if further investigation is warranted~~, we hope to better determine in what area to perform this investigation.

Upon ACHCSA approval of this work plan, Cambria will proceed with obtaining the aforementioned documents for review. As discussed, Cambria will present our findings to ACHCSA and a course of action in reference to site closure will be determined.

CLOSING

We appreciate your continued cooperation on this project. Please call Darryk Ataide at (510) 420-3339 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

Michael Paves
Project Engineer

Diane Lundquist, P.E.
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
DIANE M. LUNDQUIST
NO. C46725
CIVIL
STATE OF CALIFORNIA

cc: Karen Petryna, Equiva Services LLC, P.O. Box 6249 Carson, California 90749-6249

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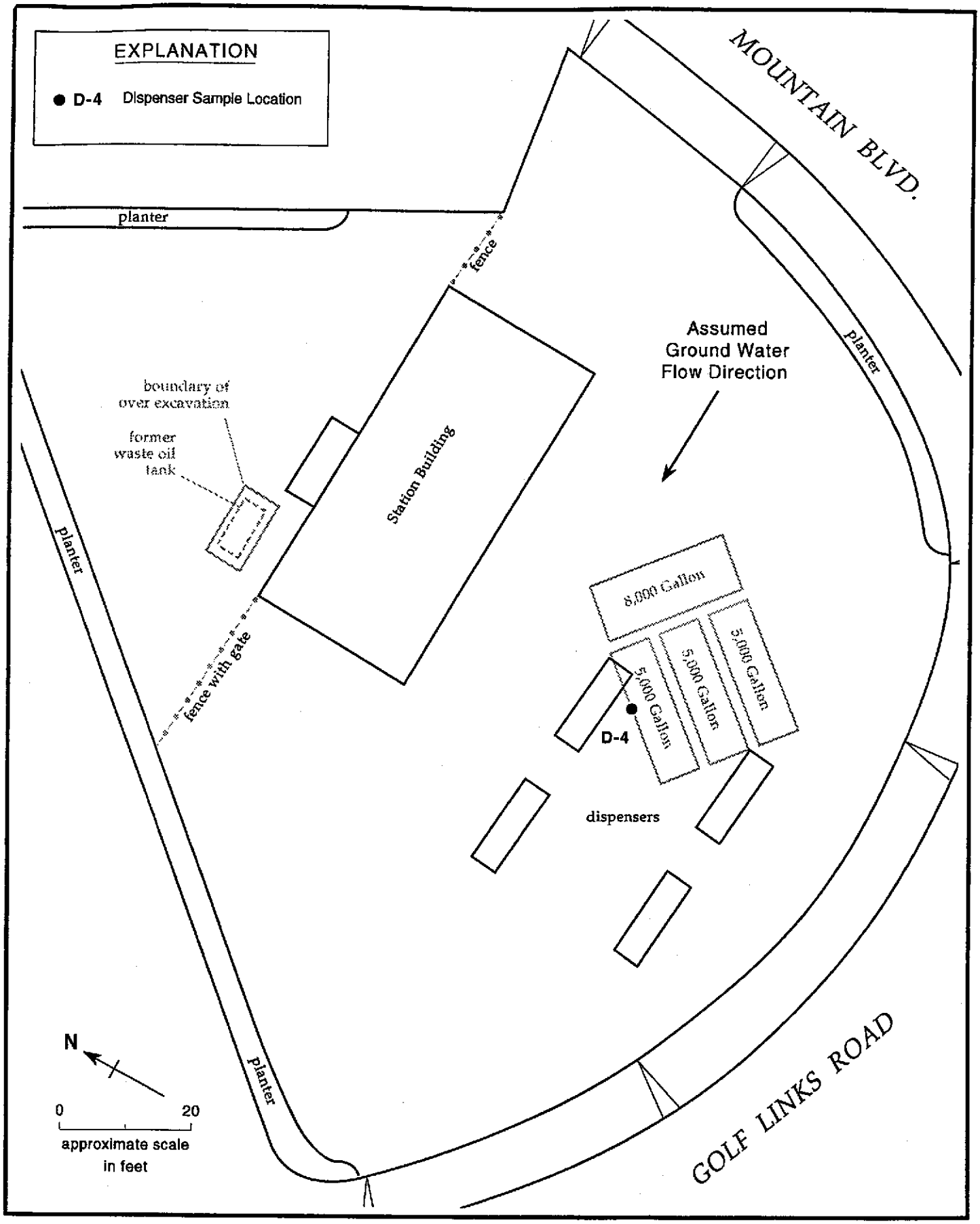

Figure 1. Dispenser Sample Location - Shell Service Station, 9750 Golf Links Road, Oakland, California