Weiss Associates
Environmental and Geologic Services
5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-450-6000

January 26, 1995

Juliet Shin
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Suite 250
Alameda, CA 94502-6577

Re: Shell Service Station
WIC #204-0072-0502
2160 Otis Drive
Alameda, California
WA Job #81-0429-104

Dear Ms. Shin:

On behalf of Shell Oil Company (Shell), Weiss Associates (WA) has prepared this letter to respond to your October 28, 1994 letter to Shell Engineer, Dan Kirk and WA's extension letter dated December 14, 1994. In your letter, you request the submittal of a work plan to conduct additional site investigations to determine the source of volatile organic compounds (VOCs) in ground water beneath the site (Figure 1). Shell and WA have maintained that there is no evidence that VOCs have been detected at the site, except for low concentrations in ground water from well MW-2. However, to resolve this VOC issue, Shell has authorized WA to review project files and develop this workplan to address whether the VOCs are migrating from an onsite or offsite source, which is the final step before case closure can be granted for this site.

WA's review of the soil analytical history of this site indicate that no VOCs were detected in soil samples collected during previous site investigation activities. This includes analyses conducted on soil samples collected during the waste oil tank removal[1] (June 1987), the drilling/installation of well S-1[2] (September 1987), the drilling/installation of wells MW-1 and MW-2[3] (April 1990), and the drilling/sampling of borings BH-C, BH-D and BH-E[4] (December 1992).

WA's review of analyses conducted on ground water samples collected from well S-1 (immediately adjacent to the former waste oil tank) since April 1990 have not resulted in the

[1] Blaine Tech Services, Inc., 1987, Sampling Report 87165-T-1, Shell Service Station, 2160 Otis Drive, Alameda, California.
[2] Pacific Environmental Group, 1987, Soil and Groundwater Investigation at Shell Service Station, 2160 Otis Drive, Alameda, California.
[3] Weiss Associates, 1990, Quarterly Report - Second Quarter 1990, 2160 Otis Drive, Alameda, California.
[4] Weiss Associates, 1993, Subsurface Investigation, 2160 Otis Drive, Alameda, California.

detection of VOCs[5]. As stated above, no VOCs were detected in soil samples collected following removal of the waste oil tank and during the drilling of well S-1.

The absence of VOCs in soil samples collected from various areas of the site, and the absence of VOCs in soil and ground water samples collected from well S-1, suggests the site is not a likely source for the VOCs detected in ground water at well MW-2. Potential offsite sources for the VOCs include possible leakage along a storm drain and sewer line both of which trend down the middle of Otis Drive adjacent to the site, and possible leakage along laterals leading to the storm drain and/or sewer line from the shopping mall that surrounds the site. The shopping mall probably dates from the early 1960s. Since that time it is likely that one or more dry cleaning establishments have operated at the mall. Prior to the enactment of Federal RCRA (1976) it was common for dry cleaning establishment to dispose of spent dry cleaning fluids to the local sewer or storm drain system. Leakage along sewer/storm drain systems resulting from such discharge of spent dry cleaning fluids is well documented.

Although Shell and WA believe the VOCs are from an offsite source, Shell will conduct an additional investigation in the vicinity of well MW-2 to expedite the request for case closure.

The components of the investigation will include:

- Drilling soil borings approximately 40 ft upgradient (south) and 25 ft downgradient (northeast) of well MW-2 to determine the source of the VOCs (Figure 2);
- Collecting soil samples from each boring and analyzing them for VOCs by EPA Method 8010;
- Installing temporary wells to the same depth as well MW-2 in the two borings;
- Purging the temporary wells and collecting ground water samples and analyzing them for VOCs by EPA Method 601;
- Removing the temporary wells and grouting the holes once the ground water samples have been collected; and
- Attempting to locate storm drains and sanitary sewer lines in the vicinity of well MW-2 to assist in locating the source area.

WA believes the method of installing temporary wells to the same depth as existing well MW-2 and collecting samples from them will provide better ground water data than a hydropunch-like sample could provide. Furthermore, we would like to stipulate that if no VOCs are detected in soil and ground water samples from the boring south of MW-2, that Alameda County Department of Environmental Health will acknowledge that the VOCs are not from an onsite source, no further investigation will be required of Shell and the request for case closure would be granted.

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[5] Weiss Associates, 1994, Quarterly Report - Third Quarter 1994, 2160 Otis Street, Alameda, California.

Once the workplan is approved, WA will start the permitting process and begin work as soon as possible. A report will be submitted once all the data has been received and evaluated. If you have any questions or comments please call me or Jim Carmody at (510) 450-6000.

Sincerely,
Weiss Associates

Joyce E. Adams

Joyce E. Adams
Senior Staff Geologist

James W. Carmody

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

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Attachments: Figures

Dan Kirk, Shell Oil Company, P.O. Box 4023, Concord, California 94524
Kevin Graves, Water Quality Control Board-San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612

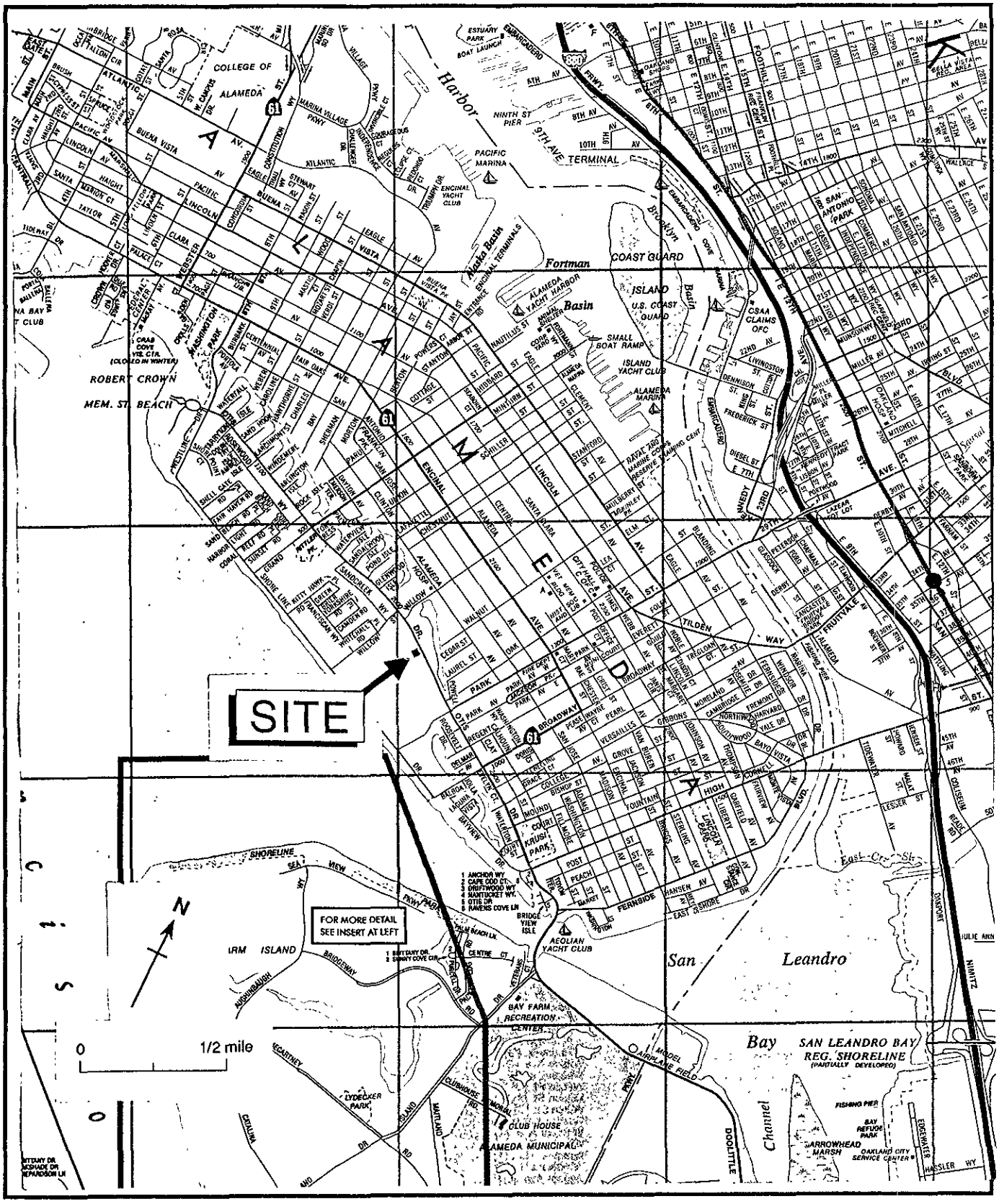

Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0502, 2160 Otis Drive, Alameda, CA

8/21/90

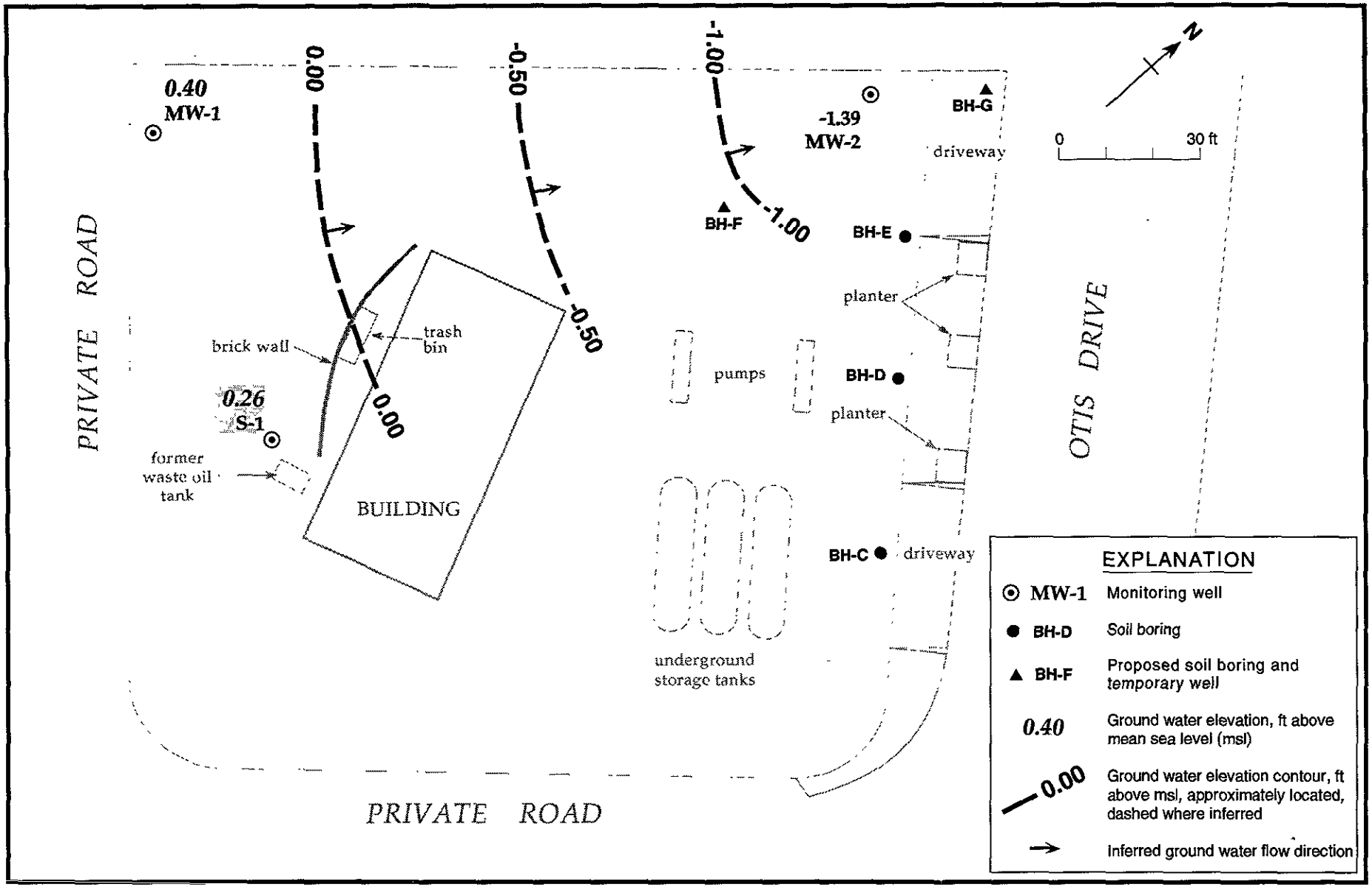

Figure 2. Monitoring Well Locations, Soil Boring Locations, Proposed Soil Boring Locations and Ground Water Elevation Contours - November 1, 1994 - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California