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Chevron

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583

Marketing Department
Phone 510 842 9500

December 22, 1993

Ms. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Service Station #9-0100
2428 Central Avenue, Alameda, CA

Dear Ms. Shin:

Enclosed is the Investigation Workplan dated December 20, 1993, prepared by our consultant Weiss Associates for the above referenced site. The proposed work includes drilling three soil borings and completing the borings as ground water monitor wells. Selected soil and ground water samples collected will be analyzed for total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), and BTEX. This work will be done to evaluate the results of the previous investigation performed by Gen-Tech Environmental and assess the extent of any hydrocarbons in the soil and/or ground water.

We are currently awaiting a response from the analytical laboratory utilized by Gen-Tech to perform the analyses on soil and ground water samples. It appears that some of the data may not have been interpreted correctly and we are awaiting correspondence from the lab addressing this issue.

Chevron and Weiss Associates are ready to begin work following your review and formal concurrence.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller

Mark A. Miller
Site Assessment and Remediation Engineer

cc: Mr. Eddy So, RWQCB - Bay Area
Ms. B.C. Owen
File (9-0100 SA WP1)

Mr. Robert Stahl
Stahl-Wooldridge Investment Properties
2428 Central Avenue
Alameda, CA 94501

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

December 20, 1993

Mark Miller
Chevron USA Products Company
P.O. Box 5004
San Ramon, CA 94583-0804

Re: Investigation Workplan
Chevron Service Station #9-0100
2428 Central Avenue
Alameda, California
WA Job# 4-782-01

Dear Mr. Miller:

This letter presents Weiss Associates' (WA) workplan to conduct a subsurface investigation at the Chevron service station referenced above (Figure 1). The objective of the investigation is to collect soil and ground water samples to 1) confirm analytic results reported in an earlier investigation; 2) assess the vertical and horizontal extent of hydrocarbons, if any, in soil and ground water beneath the site; and, 3) assess the direction of ground water flow beneath the site. Presented below are a brief site history and WA's workplan to conduct this phase of the investigation.

BACKGROUND

It is reported that Chevron operated a service station at this location from 1922 until 1970. The station was abandoned in January 1970 when one 7,500 and three 3,000-gallon underground fuel storage tanks were removed from the site. In February 1971, Chevron sold the property to Stahl Wooldridge Construction Company (Stahl Wooldridge), who in 1973, constructed a multi-story hotel at the site.

Earlier this year, Stahl Wooldridge retained Gen-Tech Environmental of San Jose, California to conduct a Reconnaissance Soil and Groundwater Assessment at the subject property.[1] As part of their report, Gen-Tech reviewed historical aerial photographs and identified the former locations of the tank area and pump islands. Additionally, another service station was identified across Central Avenue in the aerial photos between 1947 and 1973. We believe this building is still used as an automotive repair shop.

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[1] Gen-Tech Environmental, June 22, 1993, Reconnaissance Soil and Groundwater Assessment, Site at 2428 Central Avenue, Alameda, California, Consultant's report prepared for Stahl Woodridge Construction Company, 5 pp and 4 attachments.

The Gen-Tech investigation consisted of drilling two borings to 15 feet below the surface and collecting soil and ground water samples from each boring. No total petroleum hydrocarbons as gasoline (TPH-G) were detected in any of the soil samples. However, 211 parts per million (ppm) TPH as diesel (TPH-D) and benzene, toluene, ethyl benzene and xylenes (BTEX) were each detected at about 8 ppm in the 10 ft soil sample near the former pump island (Boring EB-1). Grab water samples collected from each boring were also analyzed for TPH-G, TPH-D and BTEX. The analytic reports indicate about 28,000 parts per billion (ppb) TPH-D were detected in the sample from boring EB-1. Additionally, up to 1,700 ppb benzene, 1,100 toluene, 180 ppb ethyl benzene and 800 ppb xylenes were detected in this same sample. Based on the ratio of benzene to xylene in the grab water sample it is uncertain that these concentrations are the result of the Chevron station operations almost 24 years ago.

Therefore, to evaluate the accuracy of the previous results, and to assess the extent of hydrocarbons, if any, in soil and ground water beneath the site, WA proposes installing 3 ground water monitoring wells near the site, as described in the following section.

PROPOSED INVESTIGATION

To achieve the objectives of the investigation, WA will install three ground water monitoring wells at the locations shown in Figure 2. We will install one well adjacent to Gen-Tech boring EB-1, one well along Park Avenue approximately north of the first well, and the third well in the hotel parking lot west of Gen-Tech boring EB-1.

The specific scope of work for this project includes:

1) Preparing a site safety plan;
2) Reviewing local agency files to evaluate the distribution of hydrocarbons in the site vicinity and the most likely regional ground water flow direction;
3) Drilling three soil borings and collecting soil samples for hydrogeologic description and chemical analysis;
4) Analyzing selected soil samples for petroleum hydrocarbons;
5) Completing the soil borings as 2-inch diameter ground water monitoring wells;
6) Developing the wells and analyzing ground water samples for hydrocarbons;

7) Surveying the well top-of-casing elevations referenced to mean sea level, measuring ground water depths and calculating the ground water elevations, gradient and flow direction;

8) Conducting an area well survey;

9) Arranging for the disposal of soil cuttings and ground water produced during drilling, well development and water sampling; and,

10) Reporting the results.

Each of these tasks is described below.

Task 1 - Site Safety Plan

WA will prepare a site-specific safety plan for this investigation. The site safety plan will identify potential site hazards and specify procedures to protect site workers and the public.

Task 2 - Local Agency Review

WA will review Alameda County Department of Environmental Health (ACDEH) files to evaluate the distribution of hydrocarbons in the site vicinity and the regional ground water flow direction.

Task 3 - Soil Boring and Sampling

WA will drill three soil borings as described above to confirm previously reported analytic results and to assess the extent of hydrocarbons in soil and ground water beneath the site. Each boring will be logged by a WA geologist and surveyed in the field with a photoionization detector (PID) for volatile hydrocarbon vapor.

WA will collect soil samples in the borings at least every 5 ft to characterize the subsurface sediments and for possible chemical analysis. Samples will be collected with a washed split-barrel drive sampler lined with steam-cleaned, 2-inch diameter brass tubes. After removal from the sampler, the tubes will be immediately trimmed, capped with Teflon tape and plastic end caps, hermetically sealed with duct tape, and labeled and refrigerated for delivery under chain-of-custody to a certified analytical laboratory.

Drill cuttings from the borings will be stored on and covered with plastic sheeting. Based on the analytic results, the soil will be transported to an appropriate facility for disposal.

Task 4 - Soil Analysis

WA will submit selected soil samples to a state-certified laboratory for analysis for:

- TPH-G and TPH-D by Modified EPA Method 8015, gas chromatography with flame ionization detection (GC\FID), and
- BETX by EPA Method 8020, gas chromatography with photoionization detection (GC\PID).

WA will tabulate and evaluate the analytic results.

Task 5 - Install Ground Water Monitoring Wells

WA will install ground water monitoring wells in each of the borings. The wells will be constructed with flush-threaded, 2-inch diameter, 0.020-inch slotted schedule 40 PVC well screen and blank casing. We will place Lone Star #3 Monterey sand into the annular space to about 2 ft above the screened interval. Approximately 2 ft of hydrated bentonite will separate the sand from the overlying cement sanitary surface seal. We will construct the wells to monitor the first water-bearing zone encountered.

Task 6 - Well Development, Water Sampling and Chemical Analysis

WA will develop the wells using airlift evacuation and surge block agitation. During development, we will purge the wells of at least ten well-casing volumes of water. We will collect ground water samples at least 24-hours after development.

Prior to sampling, WA will evacuate at least four well-casing volumes of ground water from each well using dedicated PVC bailers. We will decant water samples into 40-ml glass volatile organic analysis (VOA) vials and label and refrigerate them for transport under chain-of-custody to the analytic laboratory. The laboratory will analyze a trip blank to check for cross-contamination during sample transport.

The ground water samples will be analyzed for:

- TPH-G and TPH-D by Modified EPA Method 8015, GC\FID
- BETX by EPA Method 8020, GC\PID

Task 7 - Well Elevation Survey

The well top-of-casing elevations will be surveyed referenced to mean sea level by a California-registered land surveyor. WA will measure water depths and calculate ground water elevations, gradient and flow direction. We will tabulate ground water elevation data and will prepare a ground water elevation contour map.

Task 8 - Area Well Survey

WA will conduct an area well survey consisting of reviewing ACDEH and Department of Water Resources (DWR) records to identify water wells within one-half mile of the site. We will prepare a map showing their locations and will tabulate well owners and uses.

Task 9 - Soil and Water Disposal

WA will arrange for disposal of the soil cuttings through the Chevron-approved contractor of Intergrated Wastestream Management of Milpitas, California. WA will transport water produced at the site from steam cleaning, well development and purging to the Chevron Terminal in Richmond, California, for recycling.

Task 10 - Reporting

We will prepare a report presenting the results of the investigation. The report will include:

- A summary of the results,
- Site background and history,
- Topographic and geologic setting,

- Site location and area business maps,
- A site map with previous structures, and well and boring locations,
- Descriptions of well construction, development and sampling,
- Tabulated soil and ground water analytic results,
- Isoconcentration maps of selected hydrocarbons in ground water,
- Tabulated ground water elevation data and a water table elevation contour map,
- Conclusions,
- Boring Logs, and
- Laboratory analytic reports and chain-of-custody forms.

SCHEDULE

WA anticipates drilling the borings and installing the wells within two weeks of obtaining authorization from the local regulatory agency and/or encroachment permits from the property owner and the City of Alameda. Thereafter, WA anticipates sampling the wells within two weeks of their installation, and providing our report within four to five weeks of installing by January 1994 and anticipates submitting our report by mid-February 1994.

Attached is an estimated budget to provide the labor and material to conduct the work described above. We appreciate this opportunity to provide hydrogeologic consulting services to Chevron and trust that this submittal meets your needs. Please call if you have any questions.

Sincerely,
Weiss Associates

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

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Enclosures: Figures 1 and 2
Attachment A

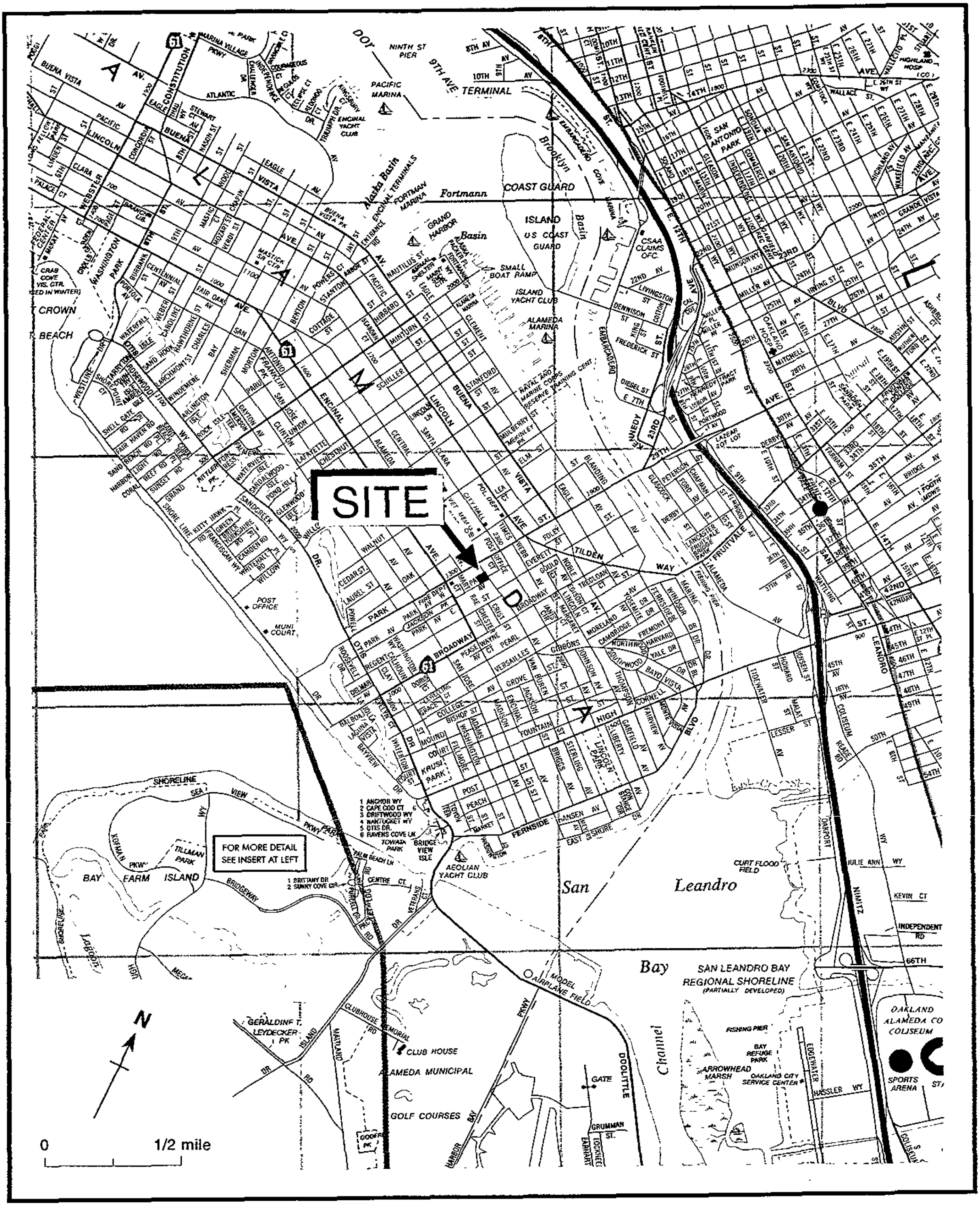

Figure 1. Site Location Map - Former Chevron Service Station #9-0100, 2428 Central Avenue, Alameda, California

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WEISS ASSOCIATES

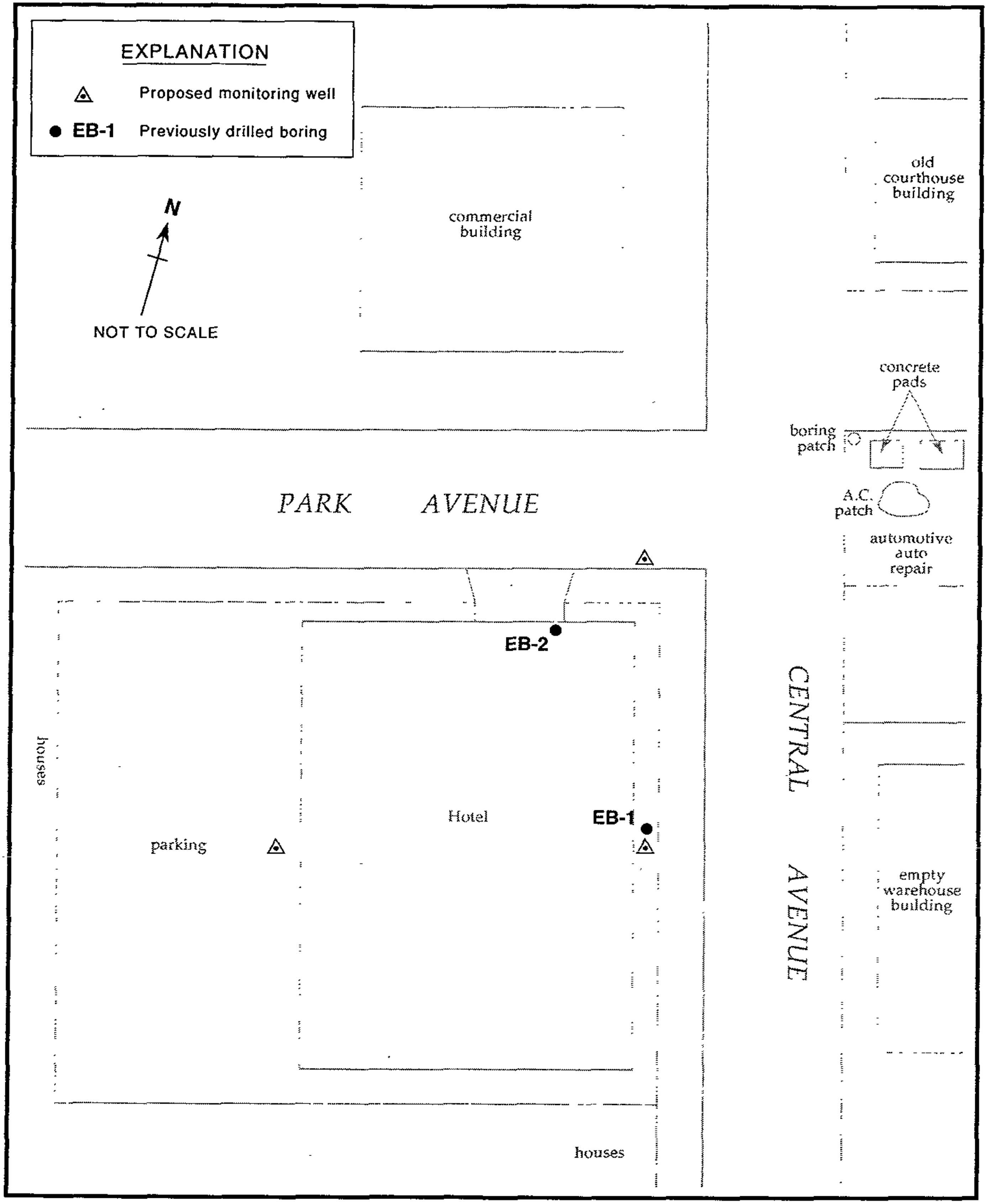

Figure 2. Proposed Well Locations - Former Chevron Service Station #9-0100, 2428 Central Avenue, Alameda, California