GRIBI Associates *Geological and Environmental Consulting Services*

$OP 537

April 12, 1999

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Susan Hugo

Subject: Workplan to Conduct Soil and Groundwater Investigation
1275 66th Street UST Site
Emeryville, California
GA Project No. 149-01-03

Ladies and Gentlemen:

Gribi Associates is pleased to submit this workplan on behalf of Liquid Sugars, Inc. to conduct a soil and groundwater investigation at the 1275 66th Street underground storage tank (UST) site in Emeryville, California (see Figure 1 and Figure 2). The proposed soil and groundwater investigation will include the drilling and sampling of approximately six soil borings at the site using Geoprobe coring equipment. The goal of the investigation will be to provide additional site characterization in order to better define closure requirements for the site.

SITE BACKGROUND

Mohawk Petroleum Company operated a bulk fuel facility on the project site from the late 1940s until the mid-1970s. This bulk fuel facility included three to four steel above ground storage tanks (ASTs) on concrete bases located within a concrete-bermed enclosure on the west side of the project site, in the approximate current location of the LSI boiler room.

Liquid Sugars, Inc. has occupied part or all of the project site parcel since the early 1960s. The Liquid Sugars facility formerly contained two 1,000-gallon gasoline USTs and one 10,000-gallon diesel UST located on the southwest side of the project site parcel. The two USTs were removed in November 1990, and soil samples collected beneath the removed USTs indicated both gasoline and diesel releases from the USTs.

Several investigations were conducted by Liquid Sugars to assess the nature and extent of releases from the former USTs. These investigations included: (1) The drilling and sampling of eight soil borings at the site in November 1991; (2) The drilling, installation, and sampling of two groundwater monitoring wells at the site in April 1993; and (3) The purging and sampling of the two site wells on nine occasions between July 1993 and February 1998. Results of these investigations seem to indicate limited hydrocarbon impact to subsurface soils immediately adjacent to the south and northeast sides of the former UST excavation cavity, with little

downgradient (west to southwest) soil impacts. Groundwater monitoring results from the two site wells has shown both gasoline and diesel impacts to groundwater, with diesel-range hydrocarbons in the well closer to the former USTs (MW-2)and gasoline-range hydrocarbons in the well further southwest from the former USTs (MW-1). Groundwater samples from MW-1 collected in November 1998 and February 1999 showed significant decreases in Total Petroleum Hydrocarbons as Gasoline (TPH-G) and Benzene from historical TPH-G and Benzene levels between 1993 and 1995.

As part of pending property transactions on four Liquid Sugars, Inc. (LSI) land parcels in Emeryville, Phase I and Phase II Environmental Site Assessments (ESAs) were conducted by consultants for both potential buyers and seller (LSI). Phase II ESAs were conducted on the project site and on the adjacent west LSI office/warehouse parcel by Aqua Science Engineers, Inc. and All Environmental, respectively (see Figure 3). Results of these investigations, along with previous investigation results, indicate that hydrocarbon impacts to subsurface soils are limited to two main areas: (1) An area extending a short distance southwest from the former USTs; and (2) An area immediately west from the former Mohawk bulk fuel plant ASTs. Groundwater impacts have not been fully defined.

PROJECT APPROACH

In order to proceed towards closure of this site, it will be necessary to further characterize soil and groundwater quality downgradient (southwest to west) from the former UST and AST source areas. However, because little is known about the downgradient extent of hydrocarbon impacts, it would not be prudent to install additional groundwater monitoring wells at this time. Rather, we recommend conducting a soil and groundwater investigation using Geoprobe™ coring equipment. The Geoprobe coring system allows for the sampling of a relatively large number of borings in a rapid and cost-effective manner, while generating a small volume of soil cuttings.

WORKPLAN ELEMENTS

The proposed soil and groundwater investigation will include the following workplan elements. All activities will be conducted in accordance with applicable local, State, and Federal guidelines and statutes.

Prefield Activities

Prior to implementing this workplan, written approval will be obtained from the Alameda County Department of Environmental Health. Also, a soil boring installation permit will be obtained from Alameda Department of Public Works. In addition, proposed boring locations will be marked with white paint, and Underground Services Alert (USA) will be notified at least 48 hours prior to drilling. Also, a private underground utility locator will clear proposed boring locations. Prior to initiating drilling activities, a Site Safety Plan will be prepared, and a tailgate safety meeting will be conducted with all site workers.

Location of Borings

Proposed soil boring locations are shown on Figure 4. Three of the investigative borings will be located west to southwest from the former Mohawk ASTs, with one boring sited inside the LSI warehouse building at 1285 66th Street and two of the borings sited on the adjacent Autumn Press site at 1280 65th Street. One of the three remaining borings will be located near the LSI maintenance shop, adjacent to a recent Aqua Science Engineers, Inc. boring (B-1) which encountered an elevated concentration of Benzene in a grab groundwater sample. The two remaining borings will be sited on the adjacent Autumn Press site in a west to southwest direction from both the LSI maintenance shop and the former LSI USTs.

Drilling and Sampling of Investigative Soil Borings

The six investigative soil borings will be drilled to a depth of about 15 feet below surface grade using Geoprobe hydraulically-driven soil coring equipment. This coring system allows for the retrieval of almost continuous soil cores, which are contained in a clear plastic acetate tube, nested inside a stainless steel core barrel. After the core barrel is brought to the surface and exposed, the core will be examined, logged, and field screened for hydrocarbons by a qualified Gribi Associates geologist using sight and smell. Following completion, the three investigative borings will be grouted to match existing grade using a cement\sand slurry. Soil cuttings generated during this investigation will be stored onsite in sealed DOT-approved containers.

Subsurface soils will be sampled at approximately five-foot intervals starting at five feet in depth. After the sample and core barrel are raised to the surface, each sample was collected as follows: (1) The filled acetate tube will be exposed for visual examination; (2) The selected sample interval will be collected by cutting the sample and acetate plastic tubing to the desired length (typically about five inches); (3) The ends of the selected sample will be quickly wrapped with Teflon sheets or aluminum foil, capped with plastic end caps, labeled and wrapped tightly with tape; and (4) The sealed soil sample will be labeled and immediately placed in cold storage for transport to the analytical laboratory under formal chain-of-custody. All coring and sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing first with water, then with dilute tri-sodium phosphate solution, and finally with distilled water. Cleaning rinseate will be contained onsite in a sealed drum pending laboratory results.

Following completion of soil sampling activities, 3/4 inch diameter Schedule 40 PVC well casing will be placed in each boring, with 0.01-inch slotted well screen from about 15 feet to five feet in depth, followed by blank well casing to above surface grade. If possible, two to three boring volumes of groundwater will then be purged from each well casing using a clean small-diameter stainless steel bailer. Grab groundwater samples will then be collected from each of the borings using the clean stainless steel bailer as follows: (1) Laboratory-supplied containers will be completely filled directly from the bailer with a minimum of agitation; (2) After making sure that no air bubbles are present, each container will then be tightly sealed with a Teflon-lined septum; and (3) Each container will then be labeled and placed in cold storage for transport to the analytical

laboratory under formal chain-of-custody. All sampling equipment will be thoroughly cleaned and decontaminated between each sample collection by triple rinsing as described above.

Laboratory Analysis of Soil and Water Samples

Approximately two soil samples will be selected from each soil boring for laboratory analysis, based on (1) Obvious field evidence of hydrocarbons; and (2) The desire to characterize the vertical extent of hydrocarbon-impacted soils. In addition, grab groundwater samples will be analyzed from the four downgradient borings and from the boring adjacent to the LSI maintenance shop. All soil and water samples will be analyzed for the following parameters:

USEPA 8015M Total Petroleum Hydrocarbons as Gasoline (TPH-G
USEPA 8020 Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
USEPA 8020 Methyl-t-Butyl Ether (MTBE)
USEPA 8015M Total Petroleum Hydrocarbons as Diesel/Motor Oil (TPH-D/MO)

All analyses will be conducted by a California-certified analytical laboratory with two-week turn around on lab results.

Preparation of Summary Report

A report of findings will be prepared for submittal to the Alameda County Department of Environmental Health. This report will describe all investigative methods and results, and will include tabulated laboratory analytical results, as well as laboratory reports and chain-of-custody records.

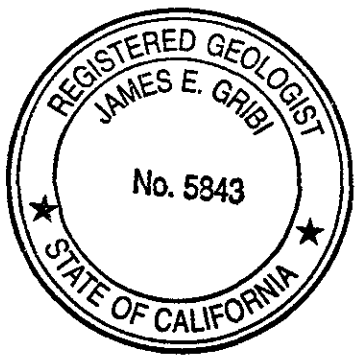
PROJECT SCHEDULE

Subject to your approval, Gribi Associates is prepared to begin the proposed workplan activities immediately. Based on our understanding of the project and subject to rig availability, we expect to complete the proposed soil and groundwater investigation within four to six weeks following workplan approval.

We appreciate the opportunity to present this workplan for your review. Please contact us if you have questions or require additional information.

Very truly yours,

James E. Gribi
Registered Geologist
California No. 5843

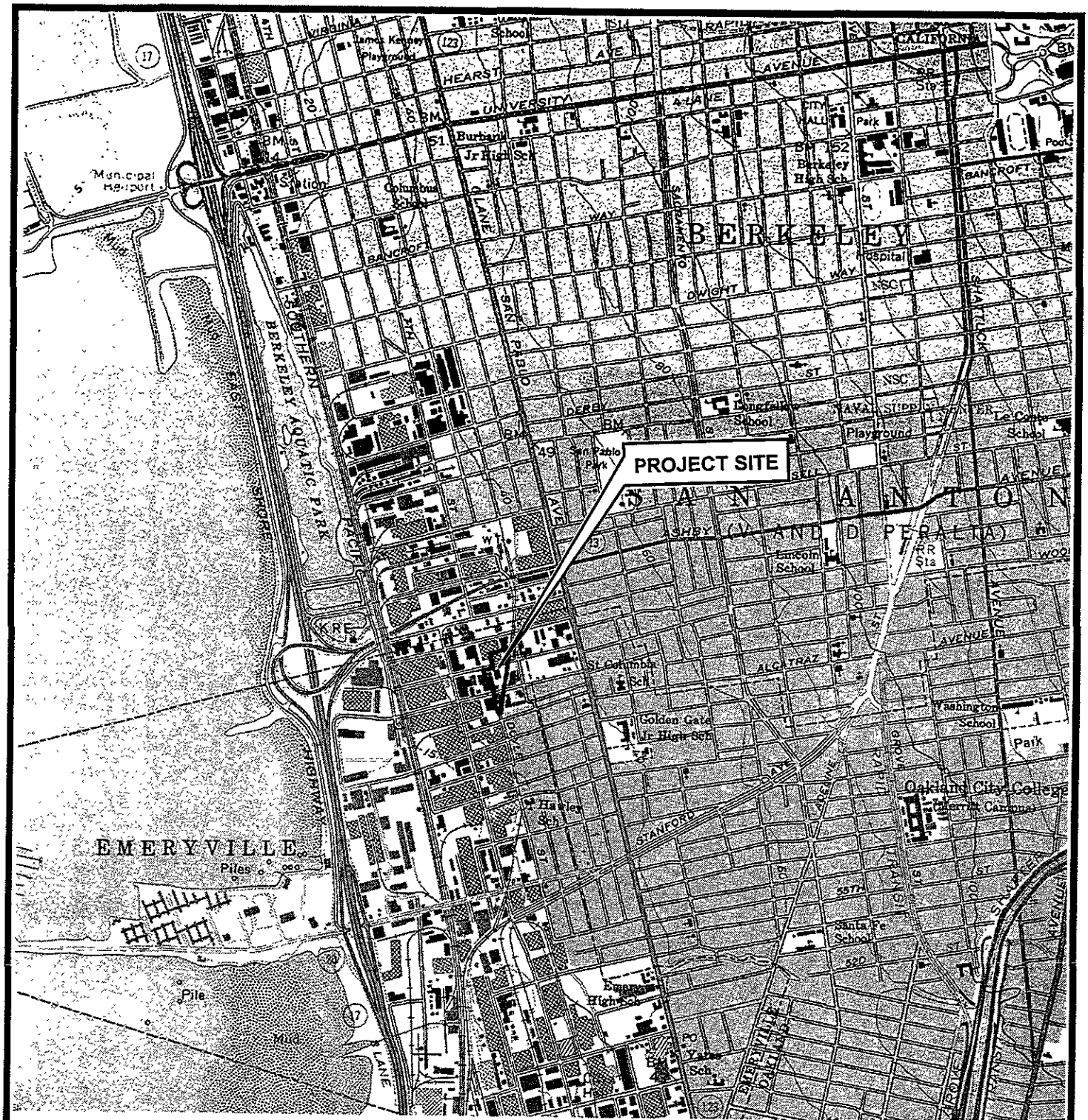


JEG:ct
Enclosure

c Ron Mooney, Liquid Sugars, Inc.

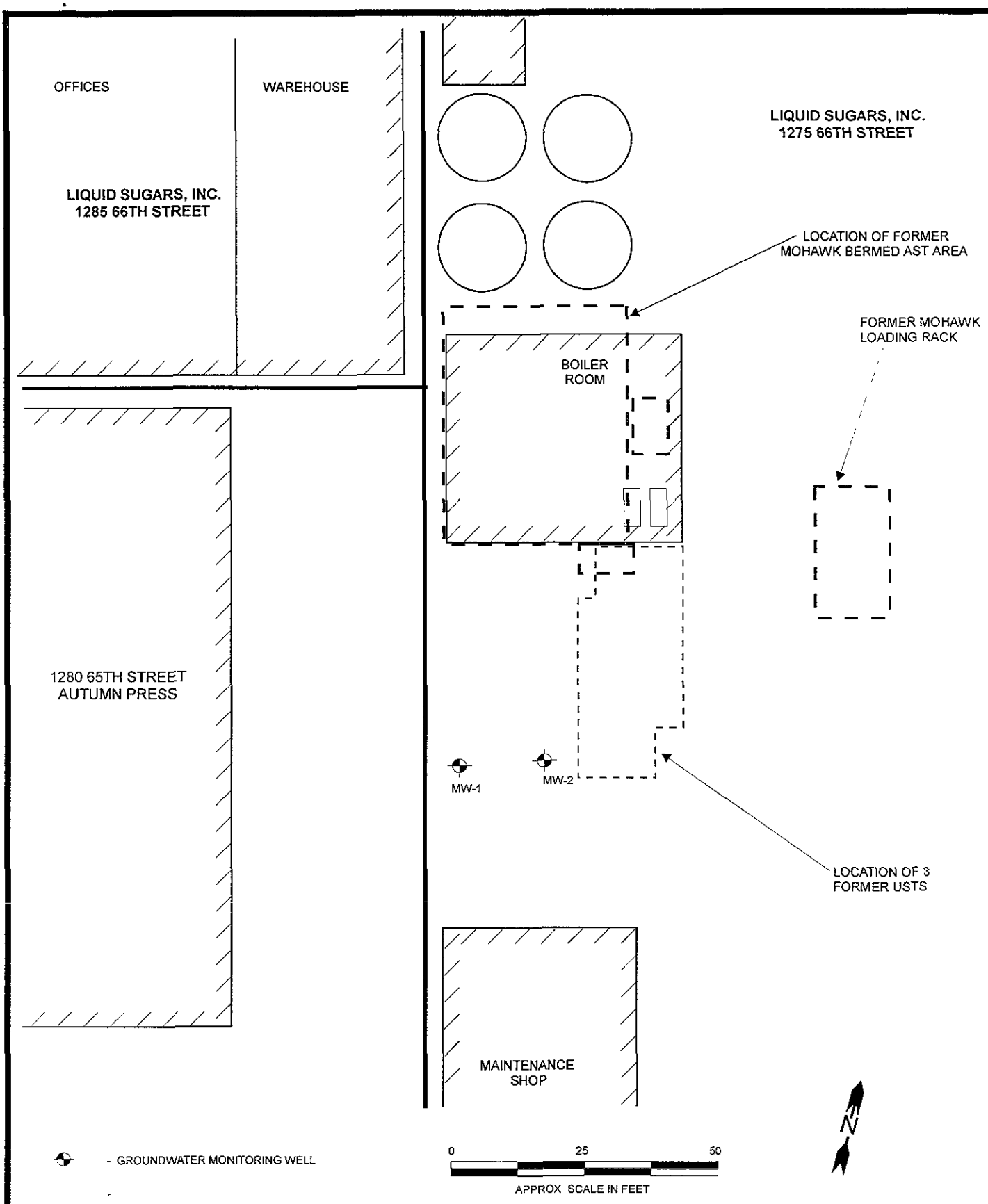
File GA-31/lsi-ust.wpl

FIGURES

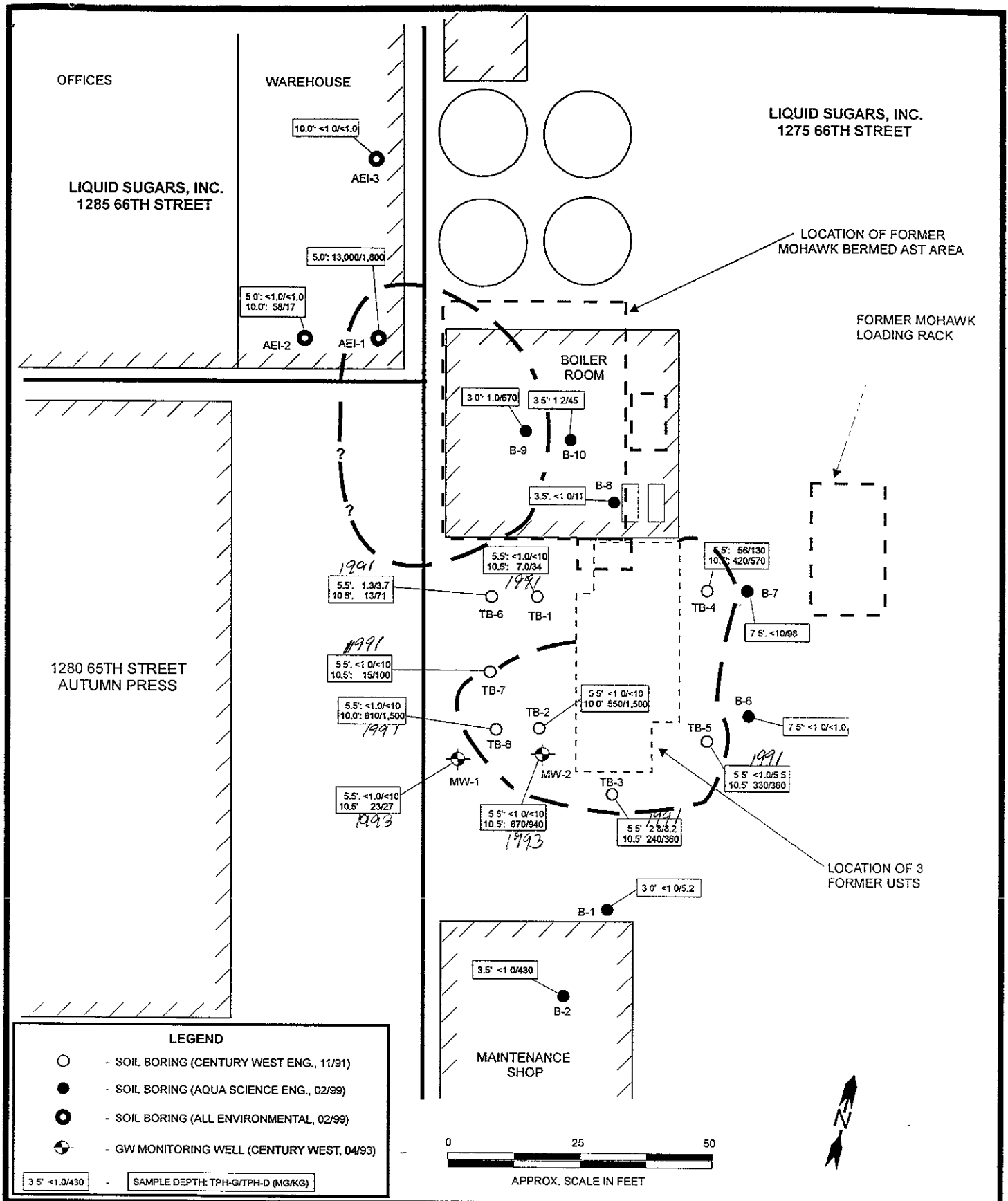


TOPOGRAPHY FROM USGS OAKLAND, WEST, CALIFORNIA
7.5-MINUTE QUADRANGLE MAPS, (TOPO! 1997).

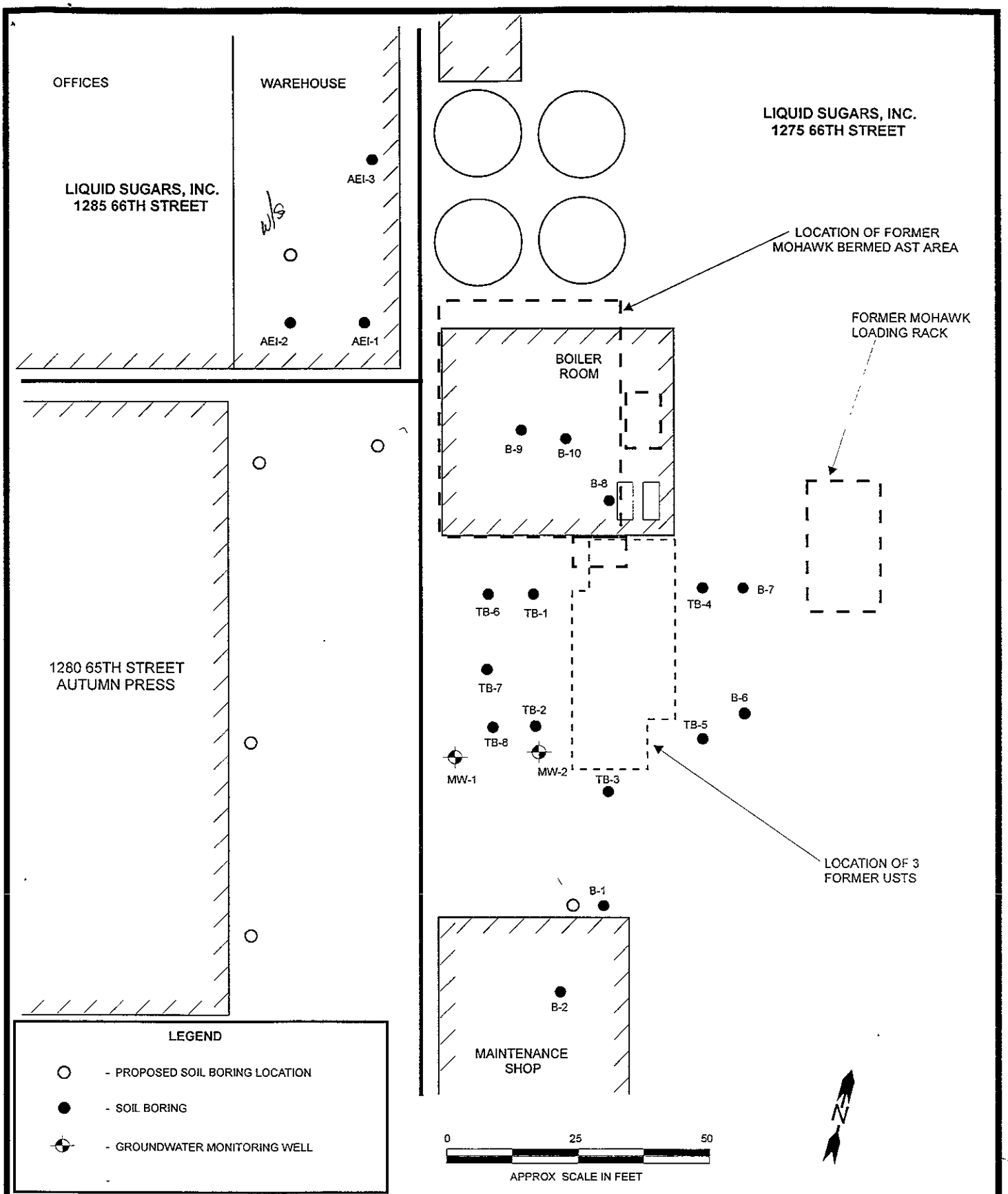
DESIGNED BY:	CHECKED BY:	**SITE VICINITY MAP**	DATE: 11/09/98	FIGURE: 1
DRAWN BY: JG	SCALE: 1:24,000	LIQUID SUGARS, INC. EMERYVILLE, CALIFORNIA	**GRIBI Associates**	
PROJECT NO: 149-01-01				



DESIGNED BY:	CHECKED BY:	**SITE PLAN**	DATE: 04/12/99	FIGURE 2
DRAWN BY: JG	SCALE:	LIQUID SUGARS, INC. SITE 1275 & 1285 66TH STREET EMERYVILLE, CALIFORNIA	**GRIBI Associates**	
PROJECT NO: 149-01-03				



DESIGNED BY:	CHECKED BY:	SOIL TPH-G AND TPH-D RESULTS	DATE: 03/15/99	FIGURE: 3
DRAWN BY. JG	SCALE:	LIQUID SUGARS, INC. SITE 1275 & 1285 66TH STREET EMERYVILLE, CALIFORNIA	GRIBI Associates	
PROJECT NO: 149-01-03				



DESIGNED BY:	CHECKED BY:	PROPOSED BORING LOCATIONS	DATE. 04/12/99	FIGURE: 4
DRAWN BY: JG	SCALE:	LIQUID SUGARS, INC. SITE 1275 & 1285 66TH STREET EMERYVILLE, CALIFORNIA	GRIBI Associates	
PROJECT NO: 149-01-03				