3/17/89

March 14, 1989

Ms. Katherine Chesick
Alameda County Health Department
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

RE: Modifications to the Site Characterization of the Excavated Fuel Tanks Area Work Plan for the Carnation Dairy Facility located at 1310 14th Street in Oakland, California

AGE Project No. 004-88-059

Dear Ms. Chesick:

AGE has received the letter dated March 6, 1989 approving the Site Characterization Work Plan for the Excavated Fuel Tank Area at the Carnation Dairy Facility in Oakland. At the time the Work Plan was prepared, not all of the information now known concerning the site was available. This letter addresses the revisions to the Work Plan based on findings to date.

Based on drilling the 37 product recovery points, the soil in the area is a silty sand. The clay layer originally anticipated at approximately 15 feet below ground surface was not encountered. The clay in the tank excavation does not appear to be laterally continuous and may have been placed at the time the tanks were originally put into service. The absence of the clay and the presence of the sand requires deepening the monitoring wells.

Three stratigraphic borings (MW-1, MW-2, and MW-4) will be continuously cored to a maximum depth of 50 feet or no more than three feet into any competent clay layer. Figure 1 is a revised site plan with the tentative monitoring well locations. Two more borings are planned in the area with floating product (MW-3 and MW-8) and will be continuously cored. Total depth for these borings will not exceed 25 feet below ground surface in order to prevent creating a conduit for the downward migration of the contamination. MW-8 is located inside the building and depending on conditions encountered in the field this boring may be continuously cored.

The monitoring well construction has been revised to reflect the sandy soil and the constraints caused by drilling inside the building. The ten monitoring wells located outside the building will be four-inch diameter wells. The remaining five wells to be installed inside the building will be two-inch diameter wells. The well diameter was reduced because the maximum auger size of the drill rig which can operate inside the building is 3.75 inches (inside diameter).

The well screen and filter pack size have been designed as a result of the silty sands encountered at the site. A washed sieve analysis was performed on a representative soil sample from the product recovery points. The engineered well design requires a #30 slot screen and #3 Monterey sand. This well design will be used for all of the monitoring wells. The screen and sand size will allow free product to enter the well. Figure 2 shows the revised monitoring well construction design.

As agreed in our telephone of March 13, 1989, the monitoring wells will be developed by swabbing and pumping at least five well volumes. The wells will be allowed to equilibrate for 24 to 48 hours prior to measuring the water level and any product thickness. In this initial sampling round, the wells will be sampled as they are completed. In future sampling events, the water levels and product thicknesses will be measured prior to obtaining any groundwater samples.

AGE will submit selected samples in the vicinity of the waste oil tank for analyses for oil and grease, volatile organics, and semi-volatile organics by methods 503D and E, 8240, and 8270. The 8240 and 8270 analyses will be submitted through Precision Analytical Laboratory to a laboratory certified to perform these analyses. In addition, the total petroleum hydrocarbons analyses will be performed using both diesel and gasoline standards.

The site safety plan will be revised. A map to the nearest hospital and written directions are included in the document. A copy has been been enclosed for your information and files. Full face respirators will be available onsite in a convenient location. During drilling operations, continuous air monitoring will be conducted using a Bacharach TLV Sniffer.

As discussed, drilling will begin on the monitoring wells located outside the building on Wednesday, March 15, 1989. Drilling inside the building is tentatively scheduled to begin on Friday, March 17, 1989. Two different drill rigs will be used to install the 15 monitoring wells. A smaller rig is required for the five wells located in the building due to limited access inside the building.

AGE appreciates your prompt response and cooperation in reviewing and approving this Work Plan. In addition, your advice, comments

and observations concerning this project have been very helpful. If you have any questions please contact Mary Scruggs at (916) 631-0154.

Prepared By:

Mary L. Scruggs
Project Manager

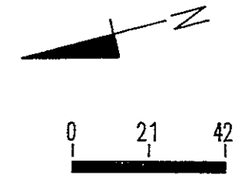
Reviewed By:

Karl J. Anania
California Registered Geologist No. 4306

cc: Howard Shmuckler, Carnation
Jim Person, Carnation
Don Dalke, RWQCB
Lisa McCann, RWQCB

MLS/KJA/jc

FIGURE 1



LEGEND

RECOVERY WELL	⊠ RW-1
PRODUCT RECOVERY POINT	⬡ PR-1
PROPOSED MONITORING WELL	⊕ MW-1

AGE

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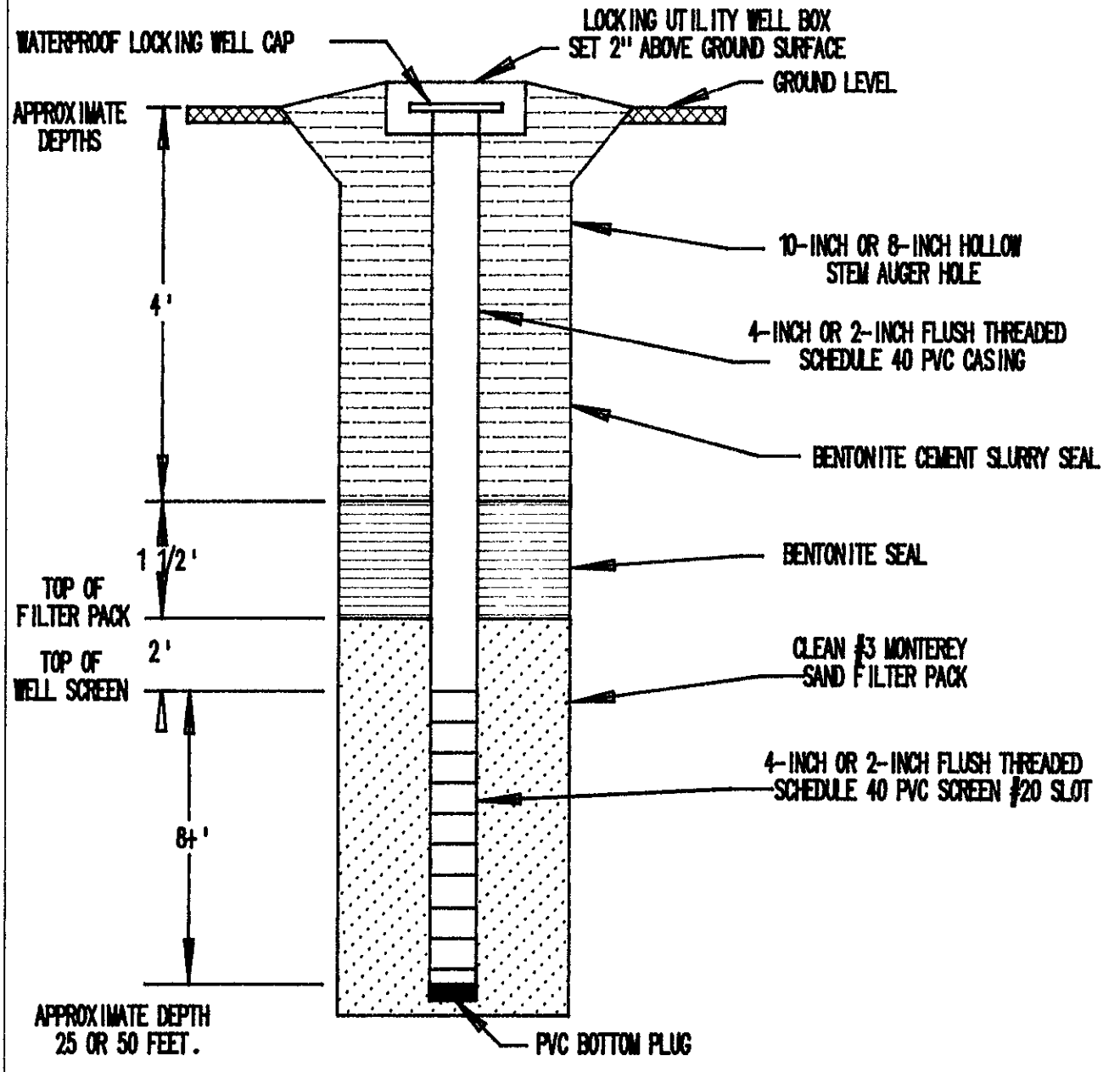
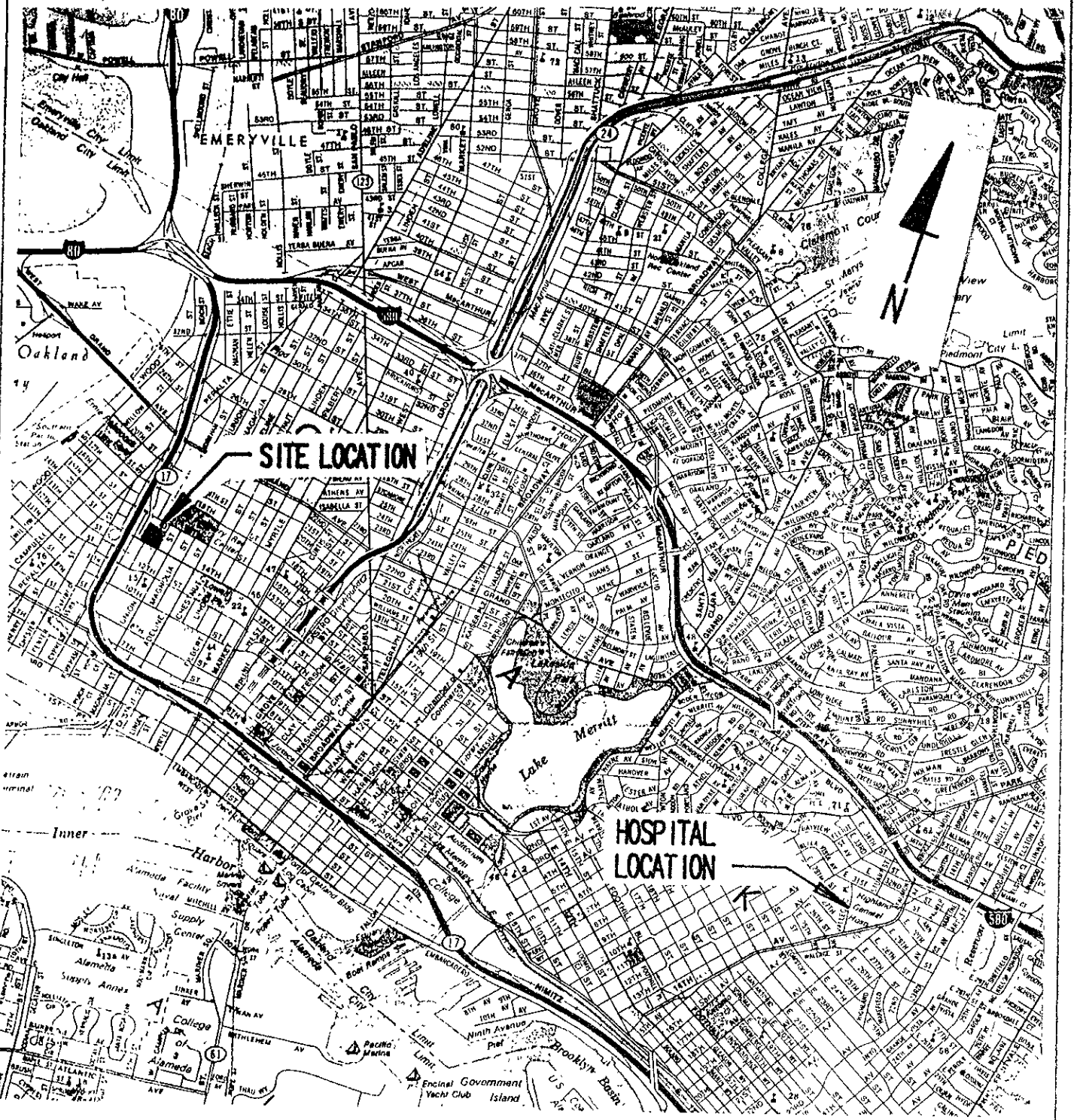
FIGURE 2



AGE
ANANIA GEOLOGIC ENGINEERING

TITLE: MONITORING WELL CONSTRUCTION DETAIL					
PROJECT NAME: CARNATION/OAKLAND				PROJECT NO: 004-88-059	
SITE LOCATION: 1310 14th ST. AT POPLAR ST. OAKLAND					
REV. NO.	DATE	DRAWING BY	CHECKED BY	APPROVED BY	SCALE
	3-14-89	CHRIS DIDIO			NONE



AGE
ANANIA GEOLOGIC ENGINEERING

TITLE: SITE LOCATION MAP					
PROJECT NAME: CARNATION/OAKLAND				PROJECT NO: 004-88-059	
SITE LOCATION: 1310 14th ST. AT POPLAR ST. OAKLAND					
FIG. NO.	DATE	DRAWING BY	CHECKED BY	APPROVED BY	SCALE
4	2-13-89	CHRIS DIDIO			NONE

Directions from Carnation Site to Highland Hospital

1. Turn right out of the gate from the site.
2. Turn right on Poplar.
3. Turn left on 14th Street.
4. Turn right on Brush, go a few blocks.
5. Take I-980 West. I-980 turns into 880 South to San Jose. Go 3 or 4 exits.
6. Take 16th Avenue exit - go about 1 block.
7. Turn left on Embarcadero.
8. Turn left on 16th Avenue overpass.
9. Turn left on East 12th Avenue.
10. Turn right on 14th Avenue; go approximately 1-1/2 miles.
11. Turn left on East 31st Avenue.

The Emergency room is down East 31st at Stuart Street.

2/22/89
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