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ALCO
HAZMAT



19 September 1994
Project 2530.01

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Ms. Juliet Shin
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, California 94621

Subject: Work Plan for Soil and Groundwater Characterization
Former Petroleum Hydrocarbon Tank Locations "A" and "B"
Encinal Terminals
1521 Buena Vista Avenue
Alameda, California

Dear Ms. Shin:

This work plan has been prepared by Geomatrix Consultants, Inc., (Geomatrix) at the request of Encinal Terminals (Encinal) and in response to your 7 July 1994 letter to Mr. Peter Wang of Encinal regarding the subject site. The work plan describes a program to characterize the soil and groundwater quality and the groundwater gradient near two former diesel tanks at 1521 Buena Vista Avenue in Alameda, California (Figures 1 and 2). The purposes of conducting the site characterization described in this work plan are to evaluate the extent of petroleum hydrocarbons in soil and groundwater near the former tank locations, and to evaluate the groundwater gradient. This information will be used to develop a long-term site management plan.

PREVIOUS WORK

Three borings were drilled near each of the two tank locations in November 1993 by Fugro-McClellan (Fugro). Fugro documented their work in a report titled "Phase II Environmental Site Assessment for Capital Holding Company", 5 January 1994. One soil sample from each boring at a depth of 5.0 or 5.5 feet was analyzed for diesel, gasoline, benzene, toluene, xylenes, and ethylbenzene. One sample from a depth of 10.0 feet in each boring from Tank "B" location, and one grab groundwater sample from a boring in each tank location were also analyzed for the same constituents. Diesel in soil was reported at concentrations up to 1700 ppm near Tank "B", and up to 1000 ppm near Tank "A". Diesel was also reported in the groundwater grab samples at concentrations of 0.45 ppm near Tank "B", and 15 ppm near Tank "A". Traces of gasoline, toluene, ethylbenzene, and xylenes were reported in one soil sample from each location and in the groundwater grab sample

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from the Tank "A" area. Benzene was not detected in soil or groundwater from either tank area.

The tanks were removed in April 1994 by Semco environmental contractors, and removal was documented in their 11 May 1994 Tank Removal Report. Soil samples were acquired from the tank excavations near the ends of the tanks at the soil/water interface, and diesel was reported in all the samples. Concentrations of diesel at the Tank A site were 160 ppm and 38 ppm, at the north and south ends, respectively. Concentrations of diesel at the Tank B site were 380 ppm and 4 ppm, at the north and south ends, respectively.

PROPOSED SOIL AND GROUNDWATER CHARACTERIZATION

Three borings will be drilled around each former tank location, in the east, north, and west directions, as approximately shown on Figures 3 and 4. The actual boring locations will be chosen based on field observations of the extent of tank excavation. We will attempt to place the borings within ten feet of the former tank excavation. The borings will be advanced by continuous sampling, and will be logged under the supervision of a registered geologist according to Geomatrix protocols. A visual observation for petroleum hydrocarbons will be made, and if any is noted drilling will be stopped and the boring relocated 10 feet farther from the former tank location. A soil sample will be collected from each of the final borings just above the observed depth to groundwater. The sample will be collected in a clean brass liner, capped with aluminum foil and plastic end-caps, sealed with tape, labeled, and placed on ice. Each sample will be analyzed for diesel, gasoline, and benzene, toluene, ethylbenzene, and xylenes (BTEX) at an analytical laboratory certified for California LUFT methods.

The three final borings near each former tank location will be completed as piezometers. The piezometers will be constructed using a two-inch diameter PVC screen with a 0.02-inch slot size below solid casing, and will be screened across the water table. The expected depth to groundwater is 5.5 to 8 feet, and the expected screen interval is approximately 5 to 10 feet. Sandpack will be placed to six inches above the screened interval, followed by a 6- to 12-inch bentonite seal and cement grout to the surface. One "grab" groundwater sample will be collected from each of the piezometer borings to evaluate the extent of migration of petroleum hydrocarbons in groundwater from the tank areas. The groundwater samples will be analyzed for diesel, gasoline and BTEX according to California LUFT methods.

Measuring-point elevations will be surveyed by a state-certified surveyor, and due to potential tidal fluctuations, groundwater levels will be measured in the piezometers three

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times over the course of a tidal period by Geomatrix personnel. Three potentiometric maps for each former tank area will be prepared showing the groundwater elevation and flow direction at various times during the tidal cycle.

Additionally, a soil boring will be completed near the highest reported concentration of diesel in soil to obtain a soil sample for leachability testing. The leachability testing will be carried out to determine the nature of soluble hydrocarbons in the soil leachate under simulated site conditions.

It has been reported that a fueling station was removed from an adjacent Weyerhaeuser property. Therefore, Geomatrix will review agency files for available information on this removal to assess the potential that releases from the Weyerhaeuser property may have impacted soil or groundwater near Tank "A" or "B". After evaluation of soil and groundwater results, Geomatrix will develop recommendations for a long-term site management plan encompassing the two former diesel tank areas.

HEALTH AND SAFETY

A health and safety plan for site characterization will be prepared. This plan will be followed by field personnel during site investigation activities.

OTHER ITEMS REQUESTED BY ACHCSA

ACHCSA has requested specific documentation regarding the oil sump and stockpiled soil in the 7 July 1994 letter. Mr. Wang of Encinal Terminals is currently attempting to obtain this information, but it is not available at the present time.

ACHCSA also requested a "wet test" for "elevated levels of lead identified in the soil". We have reviewed the Fugro report again, but find no indication that lead was tested in the samples associated with the former diesel tanks. It was tested, however, in samples associated with drum storage and paint chips at other areas at Encinal Terminals. Therefore, we do not plan to test for lead in the former diesel tank areas.

SCHEDULE AND REPORTING

The work outlined above is tentatively scheduled for late October 1994. We anticipate that the report summarizing field work, laboratory analyses and recommendations for site

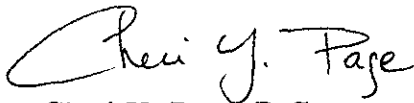
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management will be submitted to ACHCSA within four weeks after completion of the fieldwork. We will keep you apprised of project scheduling as work progresses.

Thank you for this opportunity to be of service. If you have any questions, please call either of the undersigned.

Sincerely,

GEOMATRIX CONSULTANTS, INC.



Cheri Y. Page, R.G.
Project Geologist



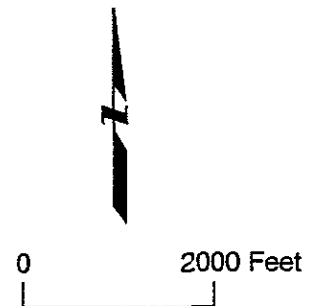
Thomas E. Graf, P.E.
Principal Engineer

CYP/slr
CONTR\25301-WP.LTR

cc: Mr. Peter Wang - President, Encinal Real Estate, Inc.



Source: U.S.G.S., Oakland West, California
7.5-minute series topographic map, 1980.

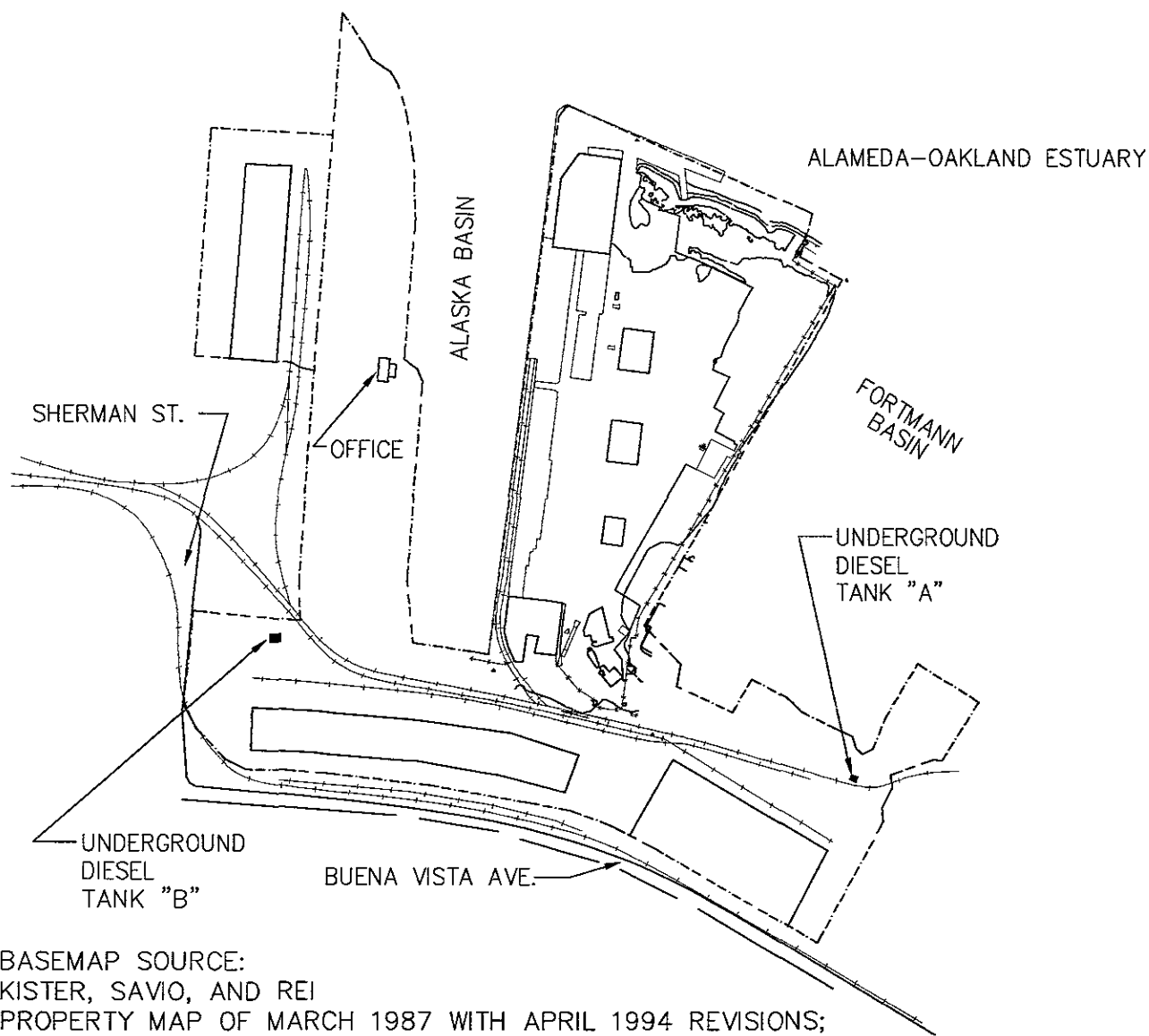


SITE LOCATION MAP
Encinal Terminal
1521 Buena Vista Avenue
Alameda, California

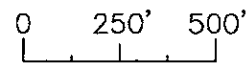
Figure
1
Project No.
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EXPLANATION

- UNDERGROUND STORAGE TANK
- *— FENCE
- +— RAILROAD
- - - - PROPERTY BOUNDARY

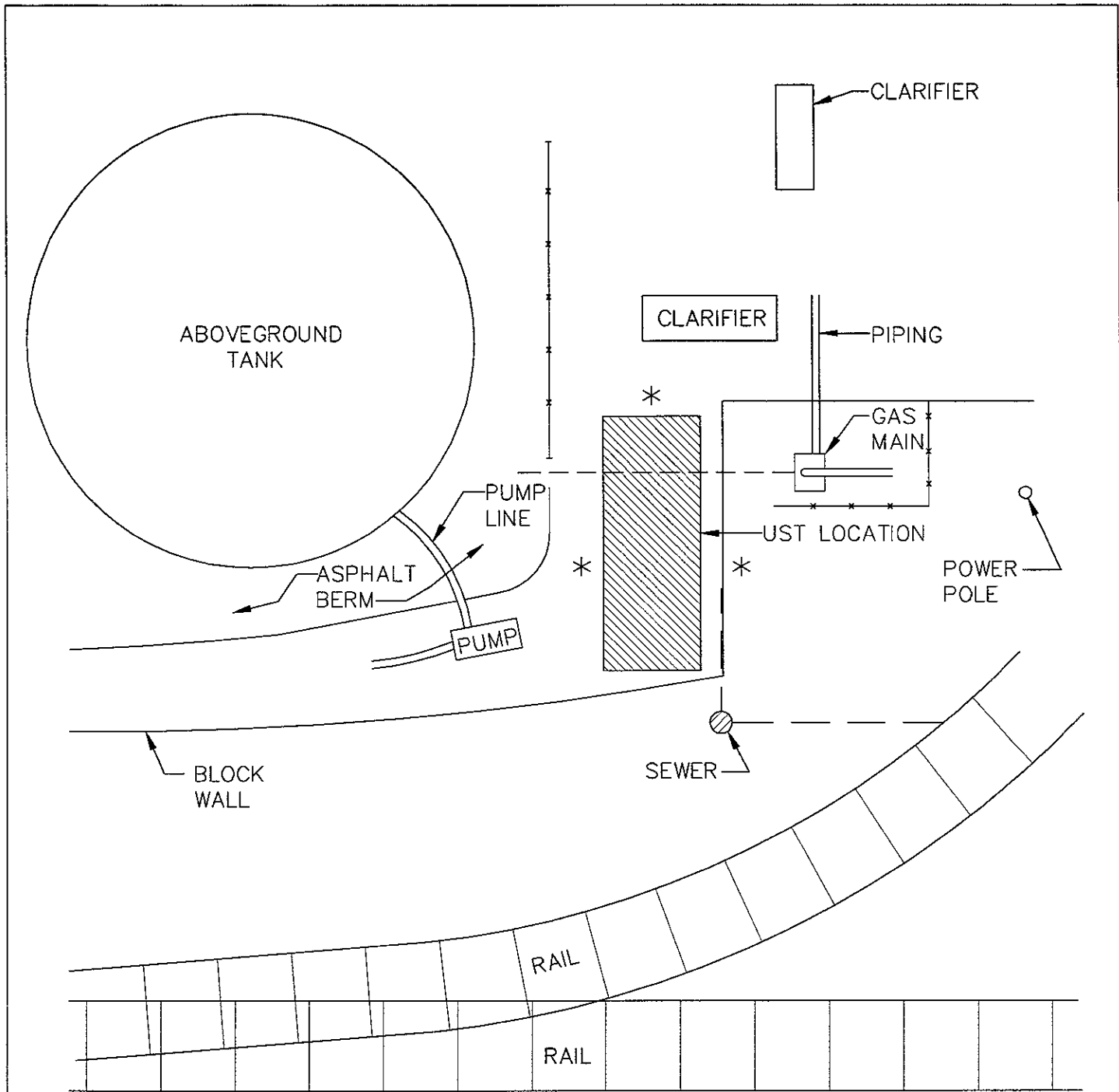


BASEMAP SOURCE:
KISTER, SAVIO, AND REI
PROPERTY MAP OF MARCH 1987 WITH APRIL 1994 REVISIONS;
AND FUGRO - McCLELLAND, PHASE I ENVIRONMENTAL SITE
ASSESSMENT FOR CAPITAL HOLDING COMPANY
5 JANUARY 1994.



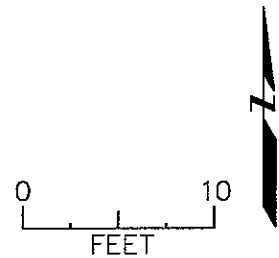
**LOCATIONS OF UNDERGROUND FUEL TANKS 'A' AND 'B'
ENCINAL TERMINALS
ALAMEDA, CALIFORNIA**

Figure
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BASEMAP SOURCE:
 FUGRO - McCLELLAND, PHASE I ENVIRONMENTAL SITE
 ASSESSMENT FOR CAPITAL HOLDING COMPANY
 5 JANUARY 1994.

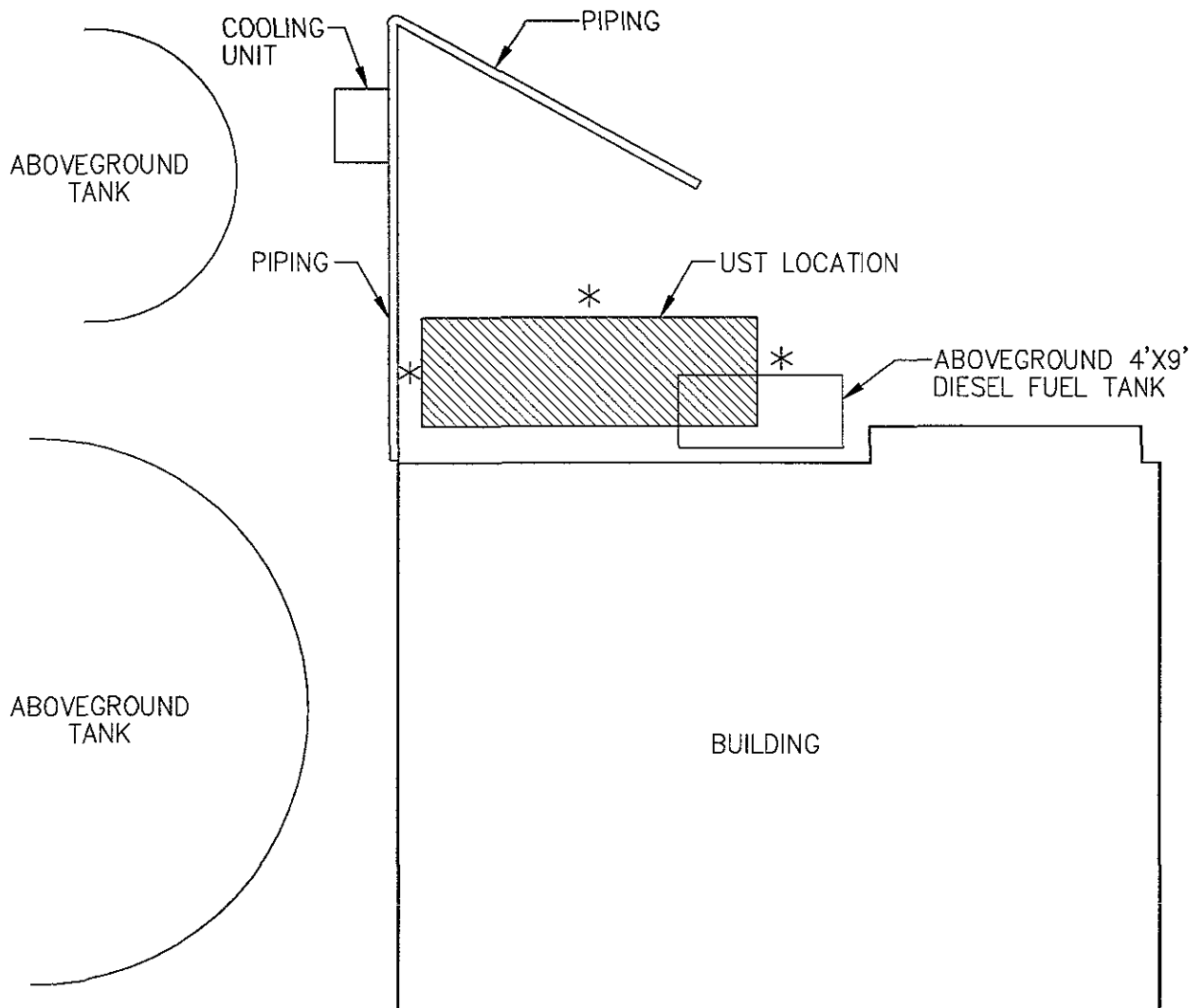
* PROPOSED APPROXIMATE PIEZOMETER LOCATION



**UNDERGROUND FUEL STORAGE TANK LOCATION 'A'
 ENCINAL TERMINALS
 ALAMEDA, CALIFORNIA**

Figure
3

Project No.
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BASEMAP SOURCE:
 FUGRO - McCLELLAND, PHASE I ENVIRONMENTAL SITE
 ASSESSMENT FOR CAPITAL HOLDING COMPANY
 5 JANUARY 1994.

* PROPOSED APPROXIMATE PIEZOMETER LOCATION



UNDERGROUND FUEL STORAGE TANK LOCATION 'B'
ENCINAL TERMINALS
ALAMEDA, CALIFORNIA

Figure
4

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