**Greensfelder & Associates** consulting geoscience
1548 Jacob Avenue • San Jose, CA 95118 • (408) 267-6427 • FAX (408) 267-9729

CS 5510 2785



August 17, 1999

Alameda County Department of Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway
Alameda, CA 94502

Site Location:
Alameda Gateway
2900 Main Street
Alameda, CA 94501

To whomever it may concern:

Enclosed it a work plan describing the methodologies to be used for soil boring advancement, sample collection, and analysis at the site listed above.

A permit has been submitted for this proposed work, as well as a copy of this report has been forwarded to the appropriate agencies.

Thank you for your time,

Greensfelder and Associates

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# A WORK PLAN FOR LIMITED SITE ASSESSMENT

# IN THE AREA OF THREE FORMERLY REMOVED UNDERGROUND STORAGE TANKS (USTs)

*Beneath the site at:*

**ALAMEDA GATEWAY**
**2900 MAIN STREET**
**ALAMEDA, CA 94501**

left off Bldg & former UST 133

*prepared by:*

Helen Mawhinney 8-4-99
Helen Mawhinney Date
*Environmental Specialist*

Roger Greensfelder 8/4/99
*Roger Greensfelder, PhD* Date
*CA Registered Geologist #3011*

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# A Work Plan For Limited Site Assessment

# In the Area Of Three Formerly Removed Underground Storage Tanks (USTs)

*Beneath the site at:*

**Alameda Gateway**
**2900 Main Street**
**Alameda, Ca 94501**

August 1999

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## 1.0 INTRODUCTION

The following work plan describes the proposed soil boring advancement, sample collection and analysis in the area of three underground storage tanks (USTs) which occupied two separate locations. The site location is 2900 Main Street, Alameda, CA and is the property of the Beery Association. The site location is shown in the map of Figure 1 (Appendix A).

## 2.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

### 2.1 Underground Storage Tank Removal

On April 11, 1990 three underground storage tanks were removed from the area of the above referenced site that Greensfelder & Associates has been retained to investigate. These were one 600-gallon diesel, and one 7,000-gallon gasoline UST (Tanks #85A and 85B respectively) located west of the concrete foundation of Building 85 and sharing a common tank pit, and a 1,100-gallon fuel oil tank (Tank #137) was removed from north of Building 137. Groundwater was encountered in each of these tank pits at a depth of approximately 4' below grade. For analytical results, refer to Tables 1a and 1b.

Soil samples were not collected beneath the 20' product lines associated with the 600-gallon and 7,000-gallon USTs.

**TABLE 1a**
Soil Analytical Results
Following The Removal of Underground Storage Tanks
Soil Samples were Collected Approximately 6" Above Groundwater
All results are reported in ppm.

| Tank | Sample# | TPHd | TPHg | B | T | E | X |
|---|---|---|---|---|---|---|---|
| 1,100-GAL. | AG-137-01 | 6.7 | ND | ND | ND | ND | ND |
| 1,100-GAL. | AG-137-02 | 38,000.00 | 850 | 2.2 | 4.3 | 4.3 | 29.0 |
| 1,100-GAL. | *AG-137-03 | ND | 2.8 | 0.1 | ND | ND | ND |
| 600-GAL | NONE COLLECTED | | | | | | |
| 7,000-GAL. | AG-85-01 | NA | 4.8 | ND | ND | ND | ND |
| 7,000-GAL. | AG-85-02 | NA | 1.1 | ND | ND | ND | ND |
| 7,000-GAL. | AG-85-03 | ND | 4.8 | ND | ND | ND | ND |
| DETECTION LIMIT | | 5.0 | 1.0 | 0.1 | 0.1 | 0.1 | 0.1 |

* Soil sample AG-137-03 was collected at the same depth as sample AG-137-02 (2.5 feet) but two feet east of the pit sidewall and outside of the tank pit cavity.

**TABLE 1b**
Groundwater Analytical Results
Following The Removal of Underground Storage Tanks

All groundwater results are reported in ppb.

| Tank | Sample# | TPHd | TPHg | B | T | E | X |
|---|---|---|---|---|---|---|---|
| 7,000-GAL. | AG-85-03 | NA | 43,300.0 | 37.0 | ND | ND | 300.0 |
| DETECTION LIMIT | | NA | 50.0 | 0.5 | 0.5 | 0.5 | 0.5 |

### 2.2 Excavation of Contaminated Soil

According to the Mittelhauser Underground Storage Tank Removal Report dated June 1990, "Soil along the southeast portion of the excavation, where the diesel tank (Tank #85) had been located, was over-excavated laterally ten feet to the north and east of the tank location, and approximately two feet to the south. The southern excavation was limited by the close proximity of a railroad spur". The limit of the contamination was not found and the excavation was discontinued until a later time. Soil samples were not collected subsequent to excavation.

Underground utilities in the area of Tank #137 prevented excavation in this area.

### 2.3 Groundwater Monitoring Wells

On August 26, 1992 two monitoring wells were installed in the area of investigation addressed within this work plan. These was monitoring well MW-1 located north of and adjacent to Tank #137, and MW-3 located north of and adjacent to Tank #85. Analytical results are presented in Table 2a and 2b.

**TABLE 2a**
Soil Analytical Results
Installation of Two Groundwater Monitoring Wells
On August 26, 1992

All groundwater results are reported in ppm.

| Tank Area | Sample #/Depth | TOG | TEH | TVH | B | T | E | X | Lead |
|---|---|---|---|---|---|---|---|---|---|
| 137 | 1 @ 7.0' | 140 | 4,900 | NA | ND | ND | ND | ND | 13.0 |
| 85A & B | 3 @ 4.5' | 1,600 | 12,000 | ND | ND | ND | ND | ND | 9 |

**TABLE 2b**
Monitoring Wells
Groundwater Analytical Results

| Date | TOG | TPHd | TPHg | B | T | E | X | Lead | PNA | TDS |
|---|---|---|---|---|---|---|---|---|---|---|
| | ppm | ppm | ppm | ppb | ppb | ppb | ppb | ppb | ppb | ppm |
| **MW-1** | | | | | | | | | | |
| 8/17/92 | < 5 | 4.8 | NA | < 0.5 | < 0.5 | 0.6 | < 0.5 | 9 | NA | NA |
| 11/25/92 | < 5 | 3.9 | NA | ND | ND | ND | ND | < 3 | NA | NA |
| 2/19/93 | < 5 | 1.9 | NA | ND | ND | ND | ND | 3 | NA | NA |
| 12/28/95 | 1 | 3.7 | 0.09 | ND | ND | ND | < 2 | NA | < 10 | < NA |
| 3/29/96 | 0.7 | 1.5 | < 0.05 | ND | ND | ND | < 2 | NA | < 10 | < NA |
| **MW-3** | | | | | | | | | | |
| 8/17/92 | < 5 | 4.0 | 0.073 | < 1 | < 1 | < 1 | < 1 | 360 | NA | NA |
| 11/25/92 | < 5 | 14 | < 0.05 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | < 3 | NA | NA |
| 2/19/93 | < 5 | < 0.05 | < 0.05 | < 0.5 | < 0.5 | < 0.5 | < 0.5 | 10 | NA | NA |
| 12/28/95 | 2 | 3.8 | < 0.05 | < 0.5 | < 0.5 | < 0.5 | < 2 | NA | < 10 | 5,000 |
| 3/29/96 | < 0.5 | 0.39 | < 0.05 | < 0.5 | < 0.5 | < 0.5 | < 2 | NA | < 10 | NA |

## 3.0 SCOPE OF SERVICES

The following describes the methodologies to be used for soil boring advancement, sample collection, and analysis. The site assessment will be performed by advancing ten (10) borings to a total depth of eight feet (8') below ground surface (bgs) to determine the contaminant present and concentration, if any.

### 3.1 Soil Boring Installation

A drill rig will be used to advance ten (10) soil borings to a total depth of eight feet (8') below ground surface (bgs).

### 3.2 Soil Sample Collection

Soil samples will be collected at six feet (6') below ground surface (bgs) or within the vadose capillary zone. Should any contamination encountered at a shallower depth appear to be more significant than the eight-foot (8') sample or capillary zone, the shallower sample will be analyzed. Ten soil samples will be subjected to laboratory analyses: it is anticipated that approximately five select soil samples will be analyzed for Total Petroleum Hydrocarbon as diesel (TPHd), and five soil samples will be analyzed for Total Oil and Grease (TOG). In addition, five more soil samples will be analyzed for TPHd and TOG using Thin Layer of Chromatography. The soil samples will be screened within the field using a GasTech Model 1314. Selection of soil samples for analysis will depend to a large extent on water sample analytical results. Refer to Figures 4a and 4b (Appendix A), for Proposed Soil Boring Locations.

Soil samples will be collected using a California Modified Split Spoon Sampler driven 18-inches into the soil using a 140-pound hammer dropped a standard 30-inch fall into relatively undisturbed soils. Three clean stainless steel sleeves (2-inch diameter, 6-inch length) will be placed in the sampler.

### 3.3 Soil Sample QA/QC

Immediately upon retrieval, the sampler will be opened, the bottom sleeve removed, each end covered with a Teflon sheet, fitted with plastic caps, sealed with Teflon tape, labeled with a project number, name of the sampler, and time of sampling, then placed on ice, for transport to a certified hazardous waste analytical laboratory, under chain of custody, for analysis. The remaining sleeves will be used in classifying soil.

### 3.4 Groundwater Sample Collection

Groundwater is anticipated at a depth of six to eight feet below grade. One groundwater sample will be collected within each boring. Water samples will be collected by lowering a clean stainless steel bailer into the boring. After allowing the bailer to fill, the water will then be poured into two 40-ml volatile organics analysis vials (VOAs) and two one-liter amber bottles to a positive meniscus eliminating. The bottles will be labeled with a project number, name of the sampler, and time of sampling, then placed on ice for transport to a certified hazardous waste analytical laboratory, under chain of custody, for analysis.

### 3.5 Soil and Groundwater Analyses

Soil samples will be analyzed for Total Petroleum Hydrocarbon as diesel (TPHd) using EPA Method 3550, or for Total Oil and Grease (TOG) using EPA Method 5520 e& f. In addition, five soil samples will be analyzed for TPHd and TOG using Thin Layer Chromatography.

All groundwater samples will be analyzed for Total Petroleum Hydrocarbons as diesel (TPHd) using EPA method 3550, Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene and total xylenes and MTBE using EPA Method 5030/8020/602 and Total Oil & Grease (TOG) using EPA Method 5520 e & f.

### 3.6 Grouting of Soil Borings

Soil Borings will be grouted to grade using a concrete and 3% bentonite mix.

### 3.7 Drill Cuttings

Drill cuttings will be stockpiled in and covered with plastic pending analysis for disposal.

### 3.8 Rinsate

Rinsate generated during the decontamination process will be placed in 55-gallon, Dot 17 drums pending analysis.

### 3.9 Decontamination

Prior to arriving on site the drill rig and all parts that may approach the borings will be decontaminated using a hot pressure wash. Sampling equipment will be decontaminated between samples using an Alconox wash, tap water rinse, followed by a de-ionized water rinse.

## 4.0 RELEASE REPORTING

A copy of this report must be forwarded to the Alameda County Department of Environmental Health and the San Francisco Regional Water Quality C. Board.

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

San Francisco Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite # 1400
Oakland, CA 94621

## APPENDIX A

## FIGURES

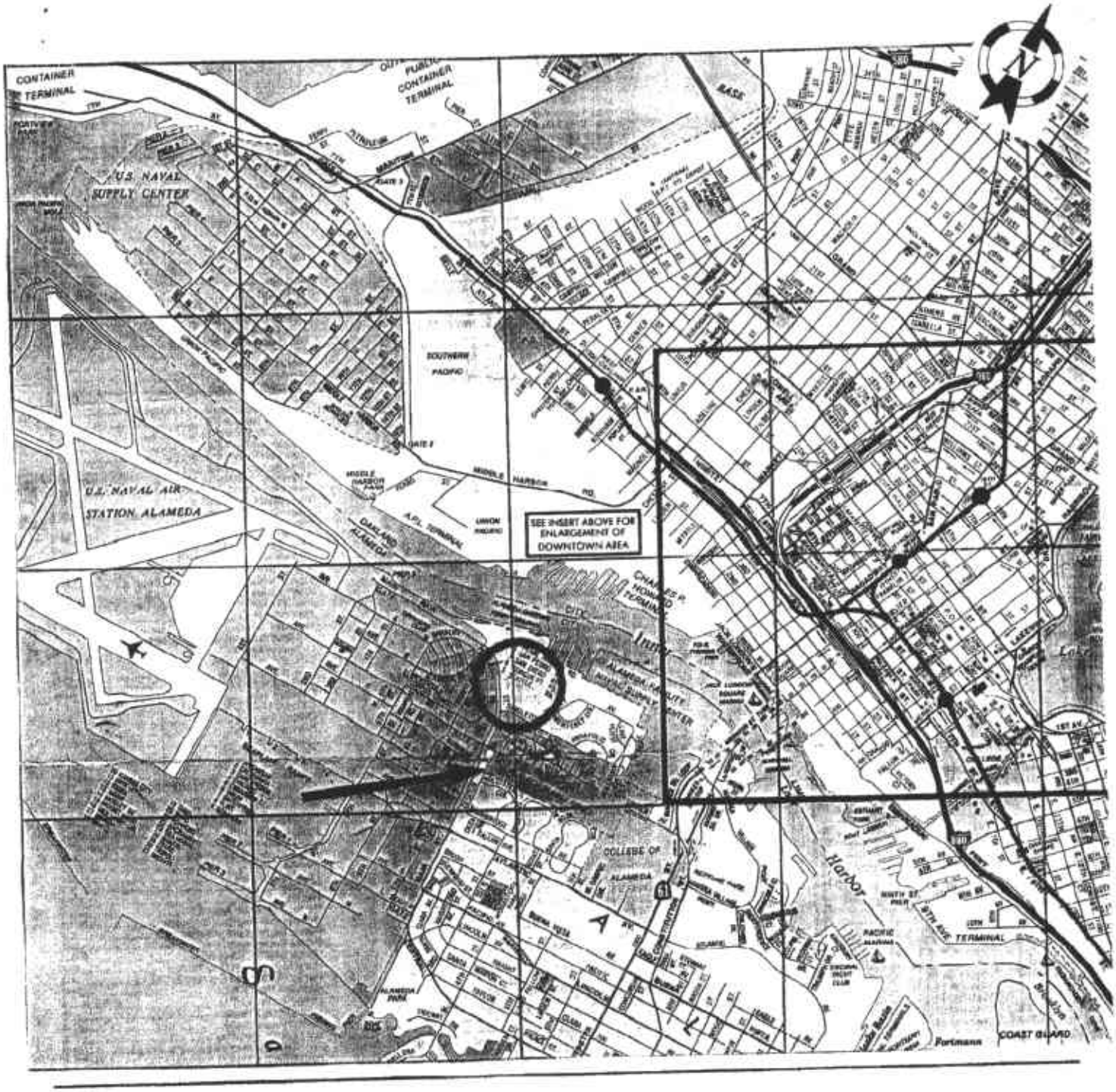
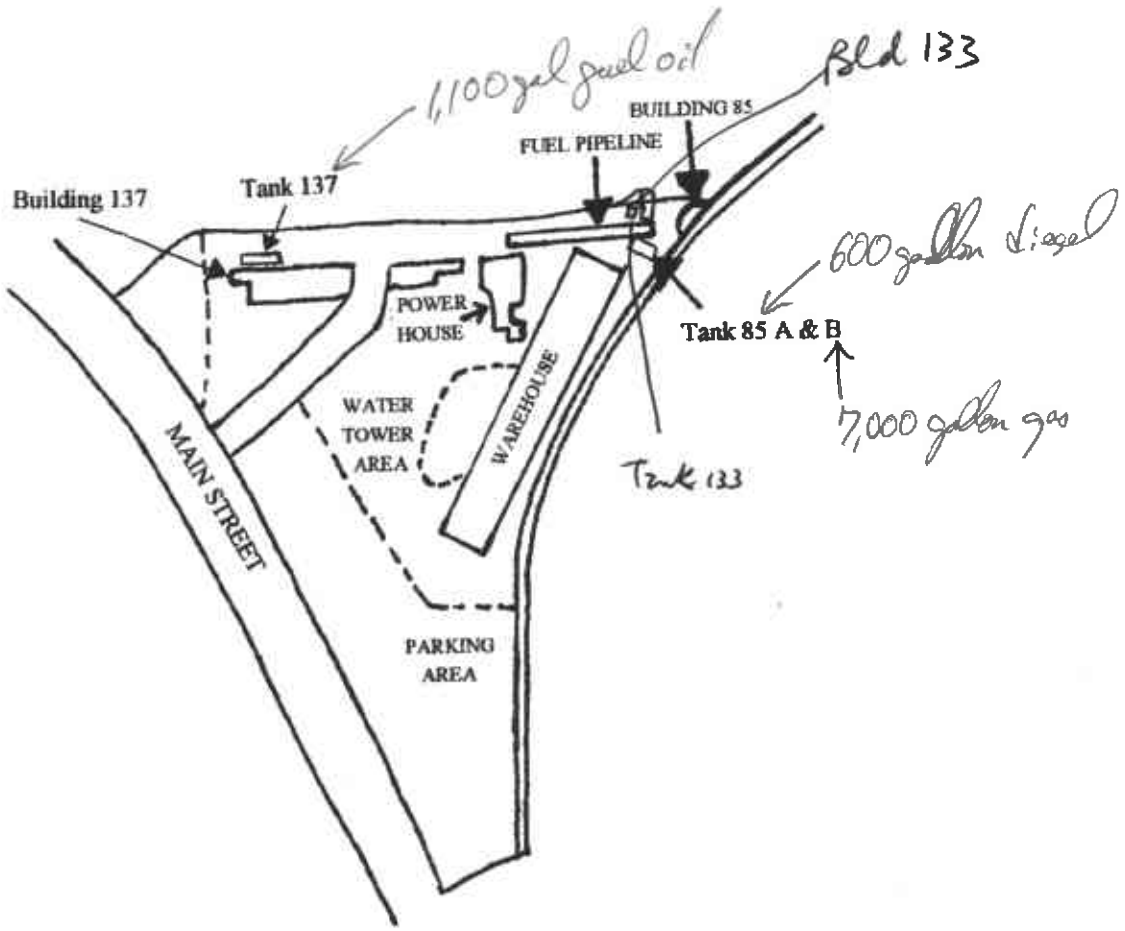


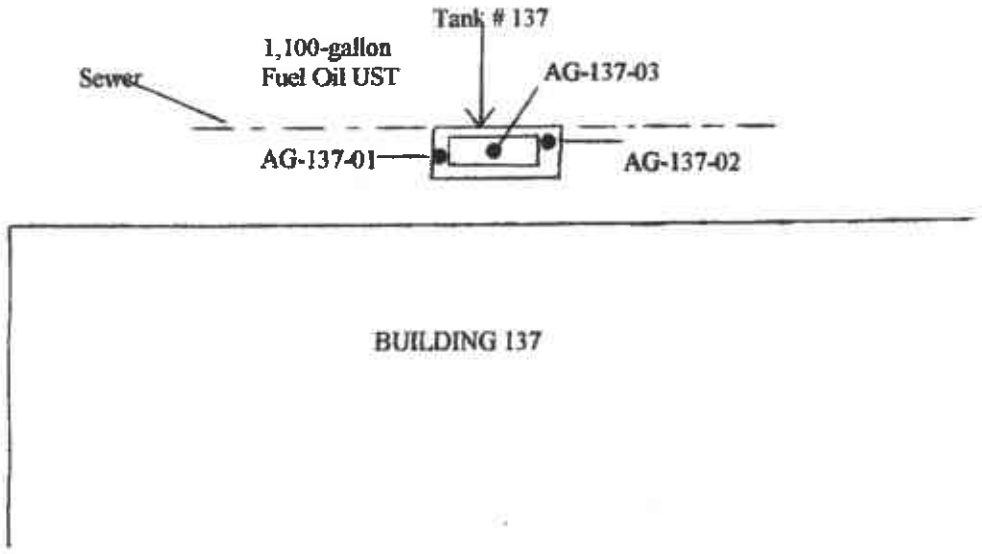

**Figure 1 - Site Location Map**

Site:
Alameda Gateway
2900 Main Street
Alameda, CA




## Figure 2 - Map of Entire Site

Site:
Alameda Gateway
2900 Main Street
Alameda, CA




# Figure 3 - Previous Tank Removal and Sampling Location - Tank #137

Site:
Alameda Gateway
2900 Main Street
Alameda, CA

0' 20'

Scale: feet

LEGEND:

• SOIL BORING

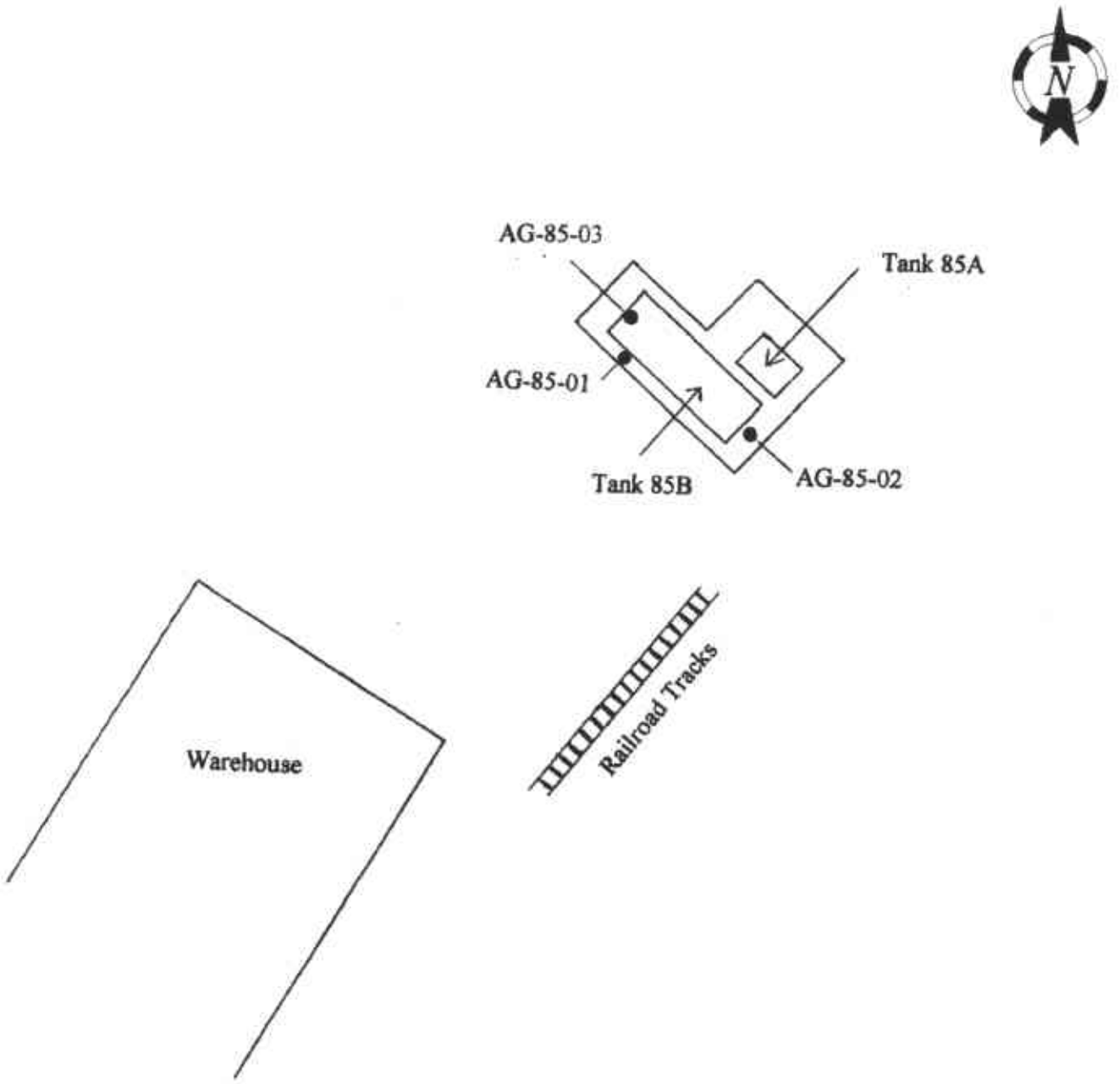



**Figure 4 - Previous Tank Removal and Sampling Location - Tank # 85**

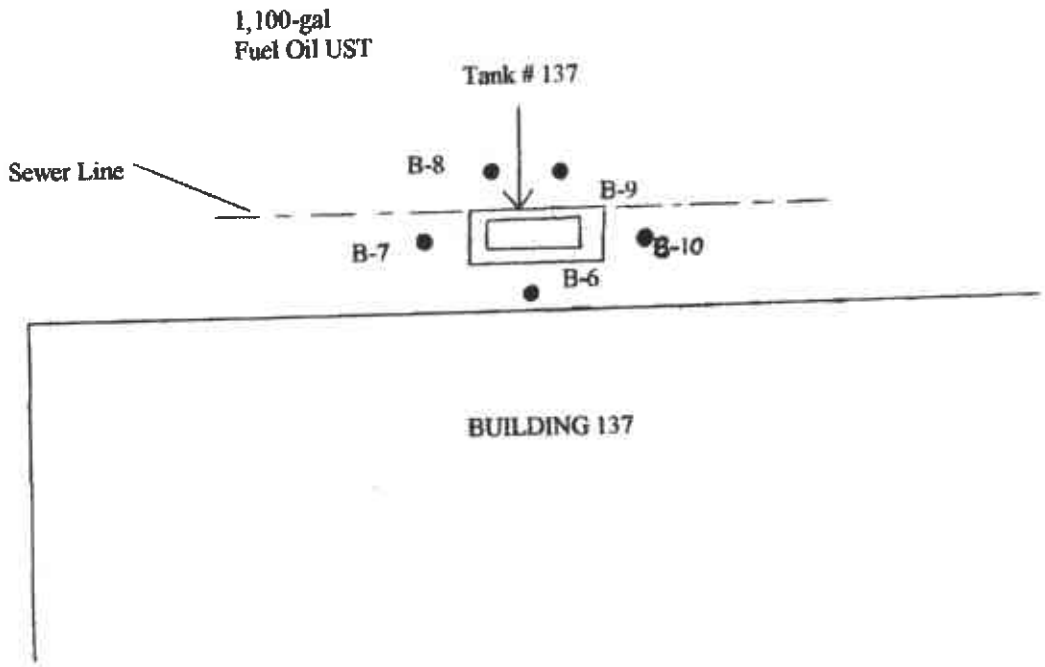
Site:
Alameda Gateway
2900 Main Street
Alameda, CA

0' 20'

Scale: feet

LEGEND:

• Soil Boring




## Figure 5 - Proposed Soil Boring Locations - Building # 137

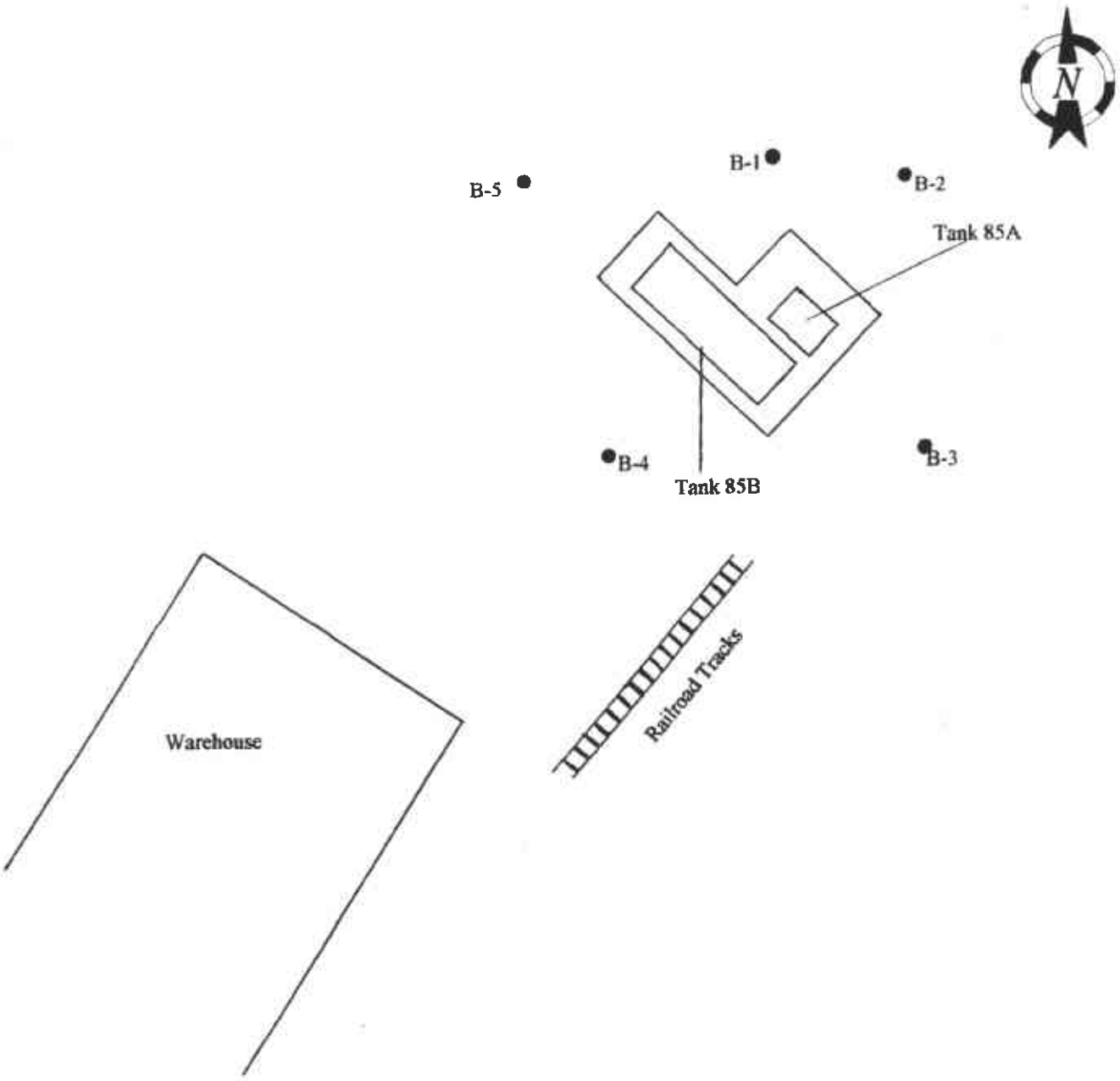
0' 20'

Scale: feet

Site:
Alameda Gateway
2900 Main Street
Alameda, CA

LEGEND:

• Soil Boring




# Figure 6 - Proposed Soil Boring Locations - Building # 85

0' 20'

Scale: feet

Site:
Alameda Gateway
2900 Main Street
Alameda, CA

LEGEND:

• Soil Boring