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June 24, 2006

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

Attention: Barney Chan

Subject: Workplan to Conduct Site Characterization Activities  
Former St. Francis Pie Shop UST Site  
1125 67<sup>th</sup> Street, Oakland, California  
ACDEH Case No: RO0002602

Ladies and Gentlemen:

Gribi Associates is pleased to submit this workplan on behalf of Mr. John Buschini to conduct a Remedial Investigation (RI) for the former St. Francis Pie Shop underground storage tank (UST) site at 1125 67<sup>th</sup> Street in Oakland, California. Based on our understanding of the site and on Alameda County requirements, the proposed RI will include: (1) The drilling and sampling of approximately 12 investigative soil borings; (2) The installation and sampling of approximately five groundwater monitoring wells; and (3) The preparation of a Remedial Investigation report and a Corrective Action Plan (CAP) for the site. The goal of these activities will be to move this site towards regulatory closure as quickly as possible.

## **Site Description and Background**

### *General Site Description*

The project site is located on the south side of 67<sup>th</sup> Street, just west of San Pablo Avenue, in Oakland, California (see Figure 1 and Figure 2). The site is occupied by a rectangular concrete block warehouse building that measures approximately 150 feet by 90 feet and covers almost the entire site. A small yard area and detached building are present on the northeast side of the site. The project site is bounded on the east by a McDonald's Restaurant and parking lot, on the south by Fratallanza Club parking lot, on the west by single family residences, and on the north by 67<sup>th</sup> Street, followed by a large storage warehouse. Groundwater is present beneath the site at approximately seven feet below surface grade and would be expected to flow in a west-southwesterly direction towards San Francisco Bay.

### *Site History*

Sanborn Fire Insurance Maps for the site area, which are included in Attachment A, show the project site parcel as vacant on the 1903 and 1911 maps. The 1950 and 1952 maps show the

project site parcel, as well as the adjacent east parcel, to include a large building labeled as “Sealy Mattress Factory”. The 1967 map shows the project site building, labeled as “Industrial Gas Vaporizer Factory”. On the 1967 map, the east adjacent parcel, at 6645 San Pablo Avenue, is labeled as “Gas & Oil”, signifying a gas station, and contains a shop building adjacent to the project site yard area and a canopy further east adjacent to San Pablo Avenue.

Based on information on the Sanborn Maps, it appears that the project site parcel and the east adjacent parcel (6699 San Pablo Avenue) were occupied by a mattress factory in the early 1950s. Historical city directories list the 6699 San Pablo Avenue address as Charles Braun Mattress Company in 1933 and as Sealy Mattress Company in directories from 1938 to 1950. These results indicate that the project site building was occupied by a mattress company from at least 1933 to 1952.

The 1125 67<sup>th</sup> Street project site address is listed in city directories as Ransome Torch & Burner Company from at least 1962 to 1970, and as St. Francis Pie Shop from at least 1980 to 2000.

In the 1967 city directory only, Enco Service Station is listed at 6645 San Pablo Avenue, immediately east from the project site. In the 1970 and subsequent directories, McDonald’s Hamburgers is listed at 6625 San Pablo Avenue, immediately southeast from the project site.

#### *Project Site Environment Conditions*

In December 2003, TEC Accutite removed one 10,000-gallon gasoline underground storage tank (UST) and associated piping from the northeast site yard area. The UST was constructed of fiberglass. Soil samples collected following removal activities showed no significant levels of Total Petroleum Hydrocarbons as Gasoline (TPH-G) or Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) constituents, but did show detectable concentrations of Methyl-tert-butyl Ether (MTBE).

Based on the UST removal results, the UST excavation cavity was overexcavated and groundwater was removed from the excavation cavity between February and May 2004. Approximately 5,000 gallons of hydrocarbon-impacted groundwater was removed from the excavation cavity, and approximately 417 tons of soil from the UST excavation and 86 tons of soil from the former fuel dispenser island and piping trench were removed for offsite disposal. Confirmatory soil samples collected following soil and groundwater removal activities showed MTBE concentrations ranging from approximately 2 milligrams per kilogram (mg/kg) to 10 mg/kg in the former UST overexcavation cavity sidewalls, as well as below the former piping trench and the former fuel dispenser area.

In October 2005, TEC Accutite drilled and sampled seven direct-push soil borings, B1 through B-7 at the site (see Figure 3). Results of this investigation were reported in *Preliminary Site Assessment Report* (November 14, 2005). Soil borings were drilled to approximately 30 feet in depth, and selected soil and grab groundwater samples were analyzed for TPH-G, BTEX, and Fuel Additives (MTBE, ETBE, TAME, DIPE, TBA, 1,2-DCA, 1,2-EDB, and Ethanol). Soils in

the seven borings generally consisted of clays and silty clays, with relatively thin and discontinuous silts and silty sands below 20 feet in depth (see Figure 3). According to the TEC Accutite boring logs, groundwater was generally first encountered in the borings in the deeper sand layers, and then rose in the borings to approximately seven feet in depth. Results from this investigation seem to show a relatively small, concentrated MTBE groundwater plume extending west, and possibly southeast, from the former site UST system.

#### *McDonald's Restaurant Environmental Conditions*

The adjacent east property is occupied by a McDonald's Restaurant, with parking immediately east from the site and the restaurant building southeast from the project site. A gas station occupied the current parking lot area, directly east from the project site, in the mid to late 1960s.

According to information contained in ACDEH files, a geotechnical investigation was conducted on the east adjacent McDonald's parking lot parcel in September 1996 by Kleinfelder. This investigation included the drilling and sampling of four soil borings. In February 1997, five additional borings were drilled and sampled on the McDonald's parcel by Kleinfelder. Soil and grab groundwater samples from these borings showed gasoline and diesel range hydrocarbon impacts in soil and groundwater over the entire site, with the highest concentrations in borings on the west side of the McDonald's parcel, immediately adjacent to the project site.

In July 1998, Baseline Environmental Consulting conducted a passive soil gas survey of the adjacent McDonald's parking lot parcel. The investigation included the installation of 31 shallow samplers in a grid pattern over the site. Results from this investigation showed elevated gasoline-range soil gas concentrations on the center of the adjacent McDonald's parking lot parcel

In January 1999, Baseline Environmental Consulting installed three shallow groundwater monitoring wells, MW-1A, MW-2A, and MW-3A, and two deeper well, MW-1B and MW-3B. Groundwater samples from the shallow wells MW-1A and MW-2A showed relatively high levels of gasoline range hydrocarbons east and southeast, respectively, from the project site. Groundwater gradient beneath the adjacent McDonald's parcel seems to be to the southwest.

#### **Evaluation of Previous Site Data**

Soil and groundwater MTBE results and soil lithologies for the seven TEC Accutite borings, as well as the most recent (April 2001) groundwater MTBE results from the five east adjacent McDonald's groundwater monitoring wells, are shown on Figure 3. These results seem to define fairly limited soil and groundwater MTBE impacts, with the highest concentrations immediately adjacent to the former UST system components and fairly limited impacts in a downgradient (west-southwest) and crossgradient (southeast) groundwater flow direction from the UST system. The southeast crossgradient migration of MTBE in groundwater may be due to apparent northwest-southeast trending thin sand layers below 20 feet in depth, which may have provided preferential migratory pathways in the past. Alternatively, the low permeability clays and silts at

shallower depths may have impeded downgradient groundwater flow, resulting in some lateral migration of contaminants.

The TEC Accutite investigation, while effective in providing an initial assessment of hydrocarbon impacts, leaves some data gaps unfilled. These data gaps include: (1) The lateral distribution of groundwater MTBE impacts east, south and west of the former UST system; (2) The vertical and lateral distribution of thin sand layers encountered in TEC Accutite borings; (3) The nature of groundwater aquifers beneath the site (i.e. whether or not confined aquifer conditions exist, and whether a single groundwater zone or two zones (as postulated by Baseline) are present in shallow soils beneath the site.

### **Project Approach**

In order to move this site towards regulatory closure as quickly as possible, we recommend conducting a single Remedial Investigation (RI) to provide enough site investigation data to develop a remediation plan (Corrective Action Plan, or CAP) for the site. Although the TEC Accutite report provides some encouraging site data, this investigation did not fully define MTBE impacts at the site. Thus, we recommend conducting a supplemental soil and groundwater investigation to attempt to fully characterize MTBE impacts and to evaluate remedial options for the site. If this RI is successful, then the RI report will include the evaluation of remedial alternatives and preparation of a Corrective Action Plan.

The proposed RI will include the drilling and sampling of approximately 12 soil borings using direct-push coring equipment. Three of the proposed borings are to be sited on the adjacent east McDonald's parking lot parcel. The TEC Accutite report states that the adjacent McDonald's parcel property owner, a Mr. Ed Smith, did not allow drilling on the McDonald's parcel. In the event that the McDonald's property owner denies site access for the proposed borings, we request that ACDEH name the McDonald's property owner as responsibility for MTBE impacts on their site.

Based on our review of site data and on our experience on sites in the vicinity, we do not believe that there are two distinct groundwater zones ("shallow" and "deeper"), as postulated by the McDonald's consultant and by TEC Accutite. Rather, we expect that shallow groundwater (above 20 feet in depth) will enter borings and wells, albeit slowly. While conducting the proposed soil boring investigation, we will test this hypothesis by limiting drilling depths to 20 feet in several of the borings, and waiting at least 12 hours to allow groundwater to enter the borings. If successful, this approach will, we believe, limit the scope of future site investigation and remediation activities.

After conducting the soil boring investigation, we will install and sample approximately five groundwater monitoring wells using direct-push coring equipment. Prior to conducting field activities, tabulated laboratory results from the soil boring investigation and a map showing proposed well locations will be submitted to ACDEH for approval.

## Scope of Work

Based on the project approach summarized above, Gribi Associates proposes to conduct the following tasks. All activities will be conducted in accordance with applicable local, State, and Federal guidelines and statutes.

**Task 1 Conduct prefield activities.** Gribi Associates will: (1) Submit a workplan to Alameda County Department of Environmental Health; (2) Obtain drilling permits from the Alameda County Public Works Agency; (3) Obtain an encroachment permit from the City of Oakland; (4) Notify Underground Services Alert; (5) Conduct an underground utilities survey using a private locator to attempt to verify utility locations; (6) Contract a California-licensed drilling contractor; and (7) Prepare a site safety plan for all site workers.

**Task 2 Drill and sample 12 soil borings.** Gribi Associates will: (1) Drill approximately 12 soil borings to a depth of about 20 feet using direct-push coring equipment; (2) Collect at least two soil samples and one grab groundwater sample from each boring; and (3) Grout each boring to match existing surface grade using a cement slurry. Note that, in order to obtain grab groundwater samples from the borings, it may be necessary to leave the borings open for up to 12 hours prior to sampling. Soils will be logged by a qualified scientist, and soil and grab groundwater samples will be collected in accordance with standard sampling protocols, as described in Attachment B.

Proposed soil boring locations are shown on Figure 4. Two three-boring transects (borings B8, B9, and B10, and borings B11, B12, and B13) will be located downgradient (west-southwest) from the UST system to better define MTBE impacts in untested areas between the UST system and TEC Accutite boring B5. One three-boring transect (borings B17, B18, and B19) will be located upgradient from the former UST system, on the McDonald's property. Borings B14, B15, and B16 will be sited adjacent to respective TEC Accutite borings B7, B1, and B3 to assess hydrocarbon impacts in the UST source area.

**Task 3 Drill, install, and sample five groundwater monitoring wells.** Gribi Associates will: (1) Drill and install five groundwater monitoring wells to approximately 20 feet in depth using direct-push coring equipment; (2) Collect at least one soil sample from each boring; (3) Survey wellhead mean sea level elevations; and (4) Purge and sample the five groundwater monitoring wells. Well installation and sampling activities will be collected in accordance with standard protocols.

**Task 4 Conduct laboratory analyses.** Gribi Associates will analyze approximately 22 soil samples and 17 groundwater samples for the following parameters:

USEPA 8015M Total Petroleum Hydrocarbons as Gasoline (TPH-G)  
USEPA 8020/602 Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)

USEPA 8260B Oxygenates (TBA, TAME, DIPE, ETBE, MTBE)

All analyses will be conducted by a California-certified environmental laboratory with standard turn around on lab results.

**Task 4 Prepare RI report and Corrective Action Plan (CAP).** Gribi Associates will prepare a report summarizing RI activities and results. If appropriate based on investigative results and discussions with ACDEH staff, this report will also include a Corrective Action Plan (CAP), which will provide a workplan for site remediation and closure activities.

**Project Schedule**

Subject to your approval, Gribi Associates is prepared to begin project activities immediately, with completion of the initial soil boring investigation within approximately six to eight weeks.

We appreciate the opportunity to present this proposal for your review. Please call if you have questions or require additional information. We look forward to working with you on this important project.

Very truly yours,



James E. Gribi  
Registered Geologist  
California No. 5843

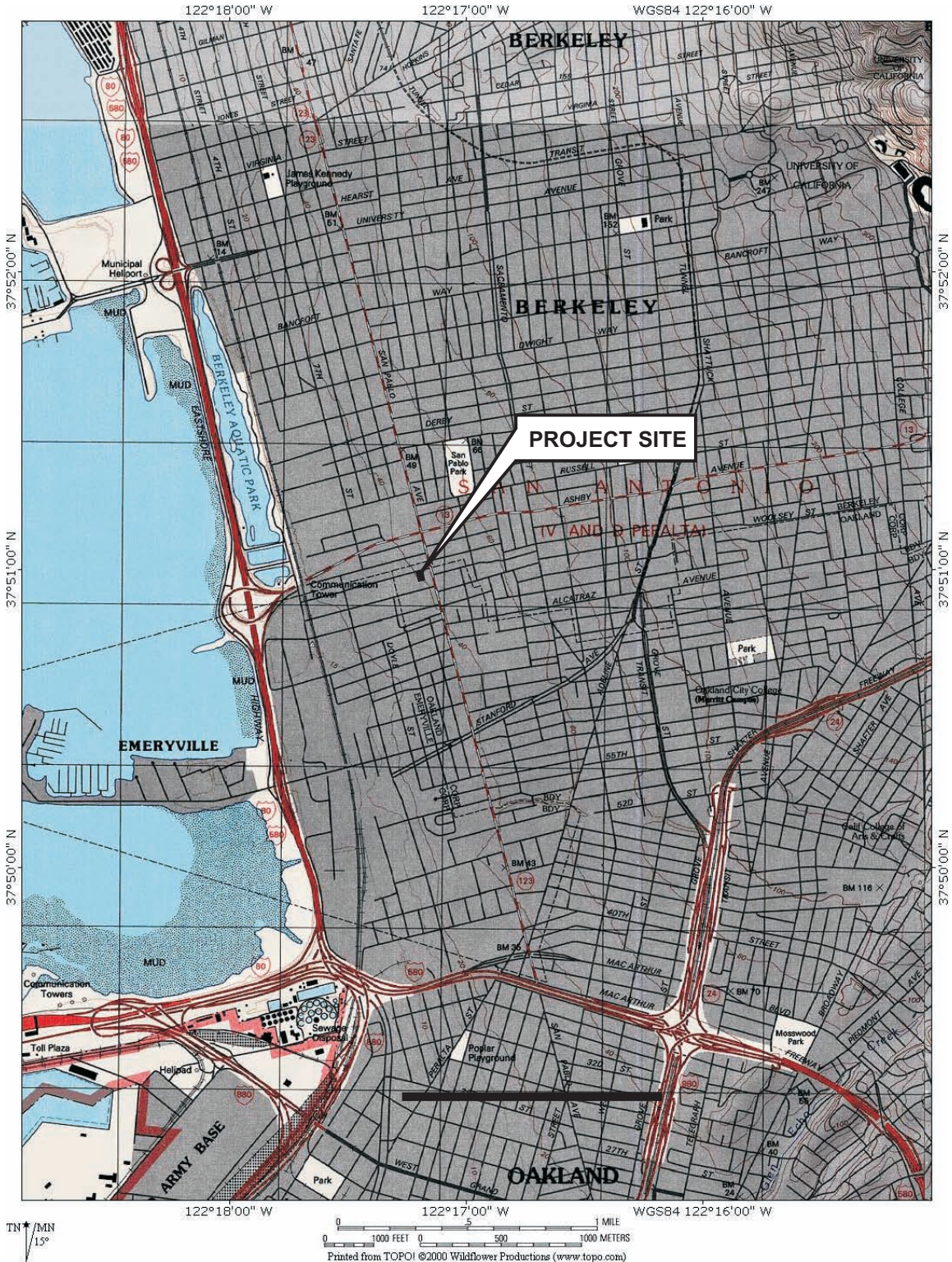


JEG/ct  
Enclosure

M:\Projects\Active Projects\St Francis Pie Shop\RI Workplan\St Francis Pie Shop RI workplan v1.wpd

c Mr. John Buschini

## **FIGURES**



|                       |             |
|-----------------------|-------------|
| DESIGNED BY:          | CHECKED BY: |
| DRAWN BY: JG          | SCALE:      |
| PROJECT NO: 320-01-01 |             |

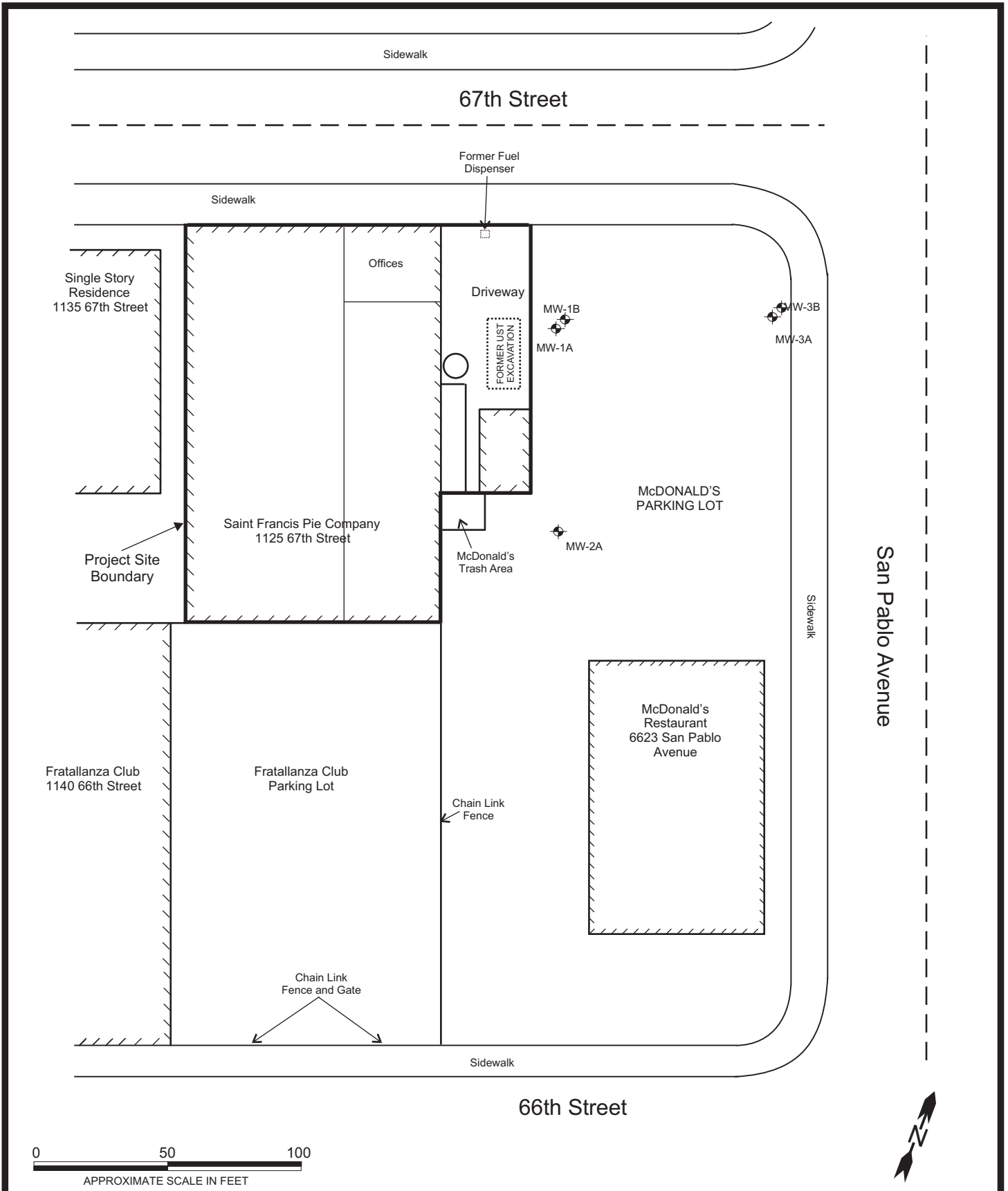
### SITE VICINITY MAP

ST. FRANCIS PIE SHOP  
 1125 67th STREET  
 OAKLAND, CALIFORNIA

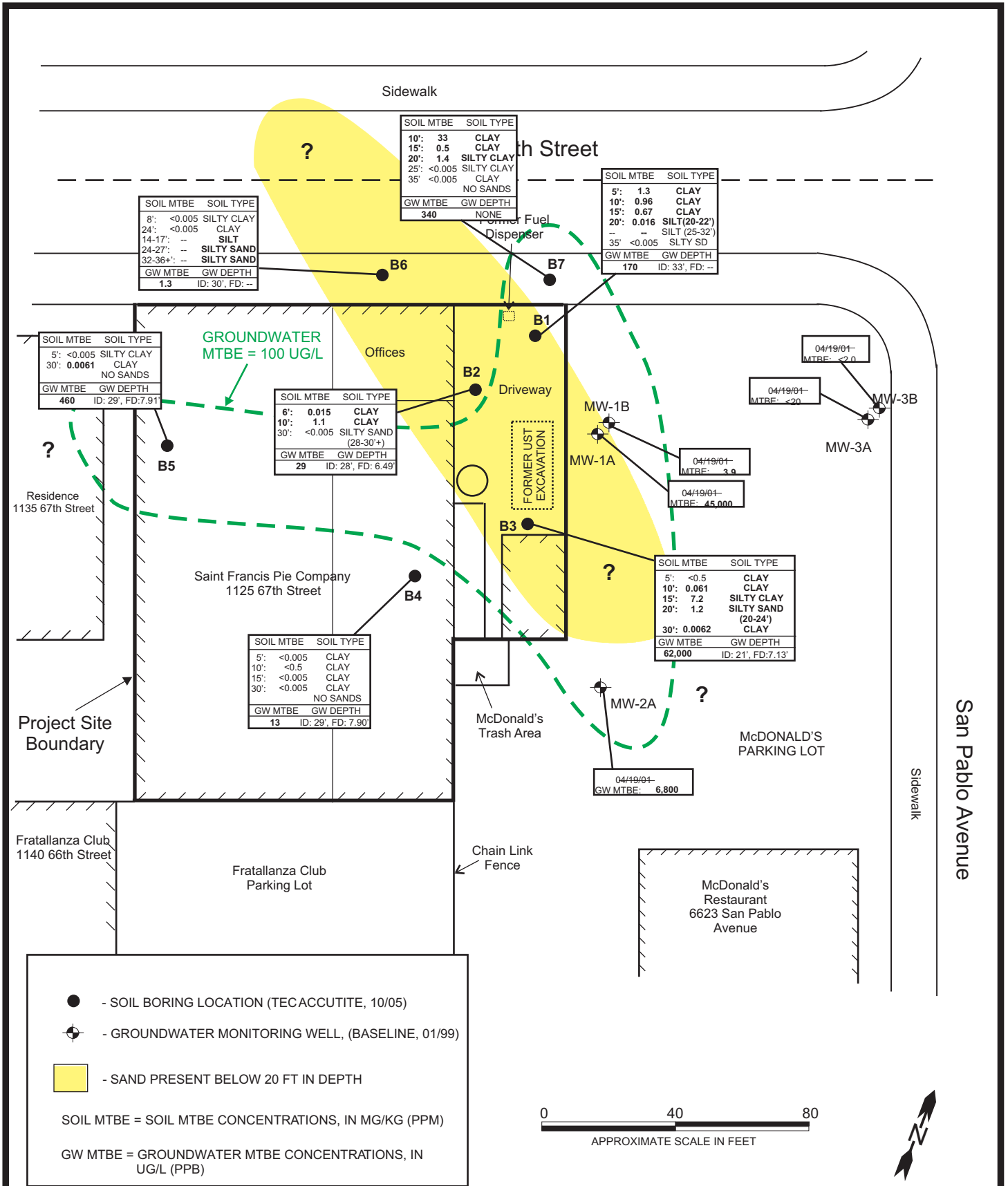
|                |           |
|----------------|-----------|
| DATE: 07/24/06 | FIGURE: 1 |
|----------------|-----------|



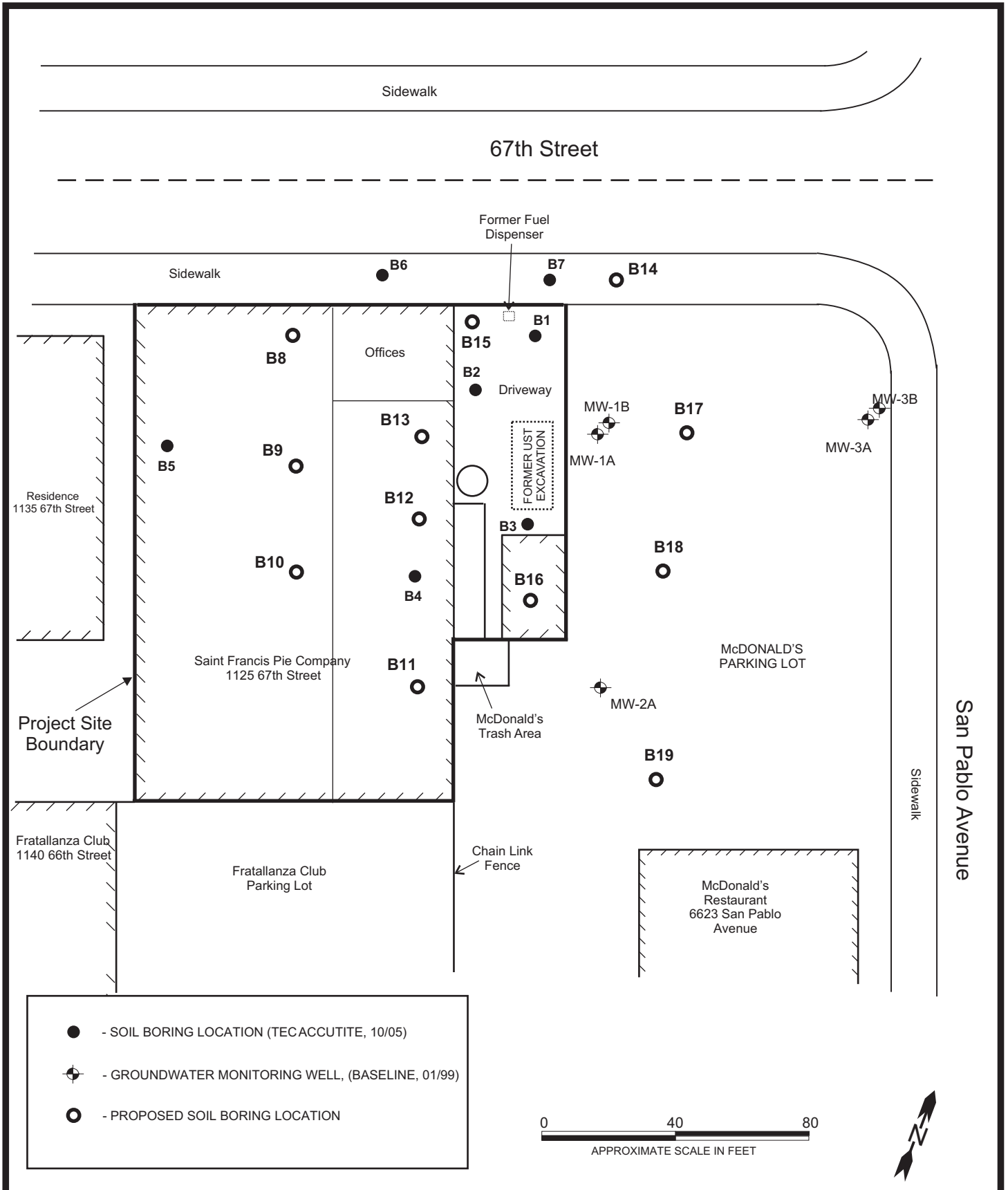




|                       |                 |   |                |           |
|-----------------------|-----------------|---|----------------|-----------|
| DESIGNED BY:          | CHECKED BY: JEG | <b>SITE PLAN</b>  | DATE: 07/24/06 | FIGURE: 2 |
| DRAWN BY: JEG         | SCALE:          |   |                |           |
| PROJECT NO: 320-01-01 |                 | ST. FRANCIS PIE SHOPUST SITE<br>1125 67TH STREET<br>OAKLAND, CALIFORNIA |                |           |



|                       |                 |  |                |           |
|-----------------------|-----------------|--|----------------|-----------|
| DESIGNED BY:          | CHECKED BY: JEG | <b>SOIL &amp; GROUNDWATER<br/>MTBE RESULTS</b>                           | DATE: 07/24/06 | FIGURE: 3 |
| DRAWN BY: JEG         | SCALE:          |  |                |           |
| PROJECT NO: 320-01-01 |                 | ST. FRANCIS PIE SHOP UST SITE<br>1125 67TH STREET<br>OAKLAND, CALIFORNIA |                |           |



|                       |                 |   |                |           |
|-----------------------|-----------------|---|----------------|-----------|
| DESIGNED BY:          | CHECKED BY: JEG | <b>PROPOSED SOIL BORING LOCATIONS</b><br>ST. FRANCIS PIE SHOP UST SITE<br>1125 67TH STREET<br>OAKLAND, CALIFORNIA | DATE: 07/24/06 | FIGURE: 4 |
| DRAWN BY: JEG         | SCALE:          |   |                |           |
| PROJECT NO: 320-01-01 |                 |   |                |           |

**ATTACHMENT A**  
**SANBORN FIRE INSURANCE MAPS**



"Linking Technology with Tradition"

## Sanborn® Map Report

**Ship to:** Jim Gribi  
Gribi Associates  
1350 Hayes Street  
Benicia, CA 94510

**Order Date:** 11/26/2003    **Completion Date:** 11/26/2003 2:40

**Inquiry #:** 1089392.5s

**P.O. #:** 244-01-01

**Site Name:** St. Francis Bakery Co.

**Address:** 1125 67th Street

**City/State:** Oakland, CA 94608

**Customer Project:** 244-01-01

1016861SHA

707-748-7743

**Cross Streets:**

Based on client-supplied information, fire insurance maps for the following years were identified

1903 - 1 Map

1911 - 1 Map

1950 - 1 Map

1952 - 1 Map

1967 - 1 Map

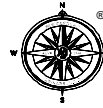
Total Maps: 5

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303

2836

2835 0

2829

OAKLAND AND BERKELEY

MABEL

2806

2837

2834

2830 BRADLEY  
UNION

FREDA LANE

2831

GARRISON ST.

HASKELL

OR ELIZABETH ST.

BLACKSTONE

2838

2833

HELEN CT

2805

2832

SAN PABLO AV.

FOLLER AV.

67<sup>TH</sup> ST.

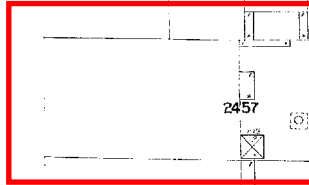
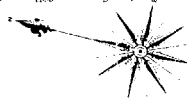
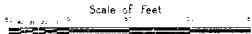
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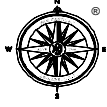
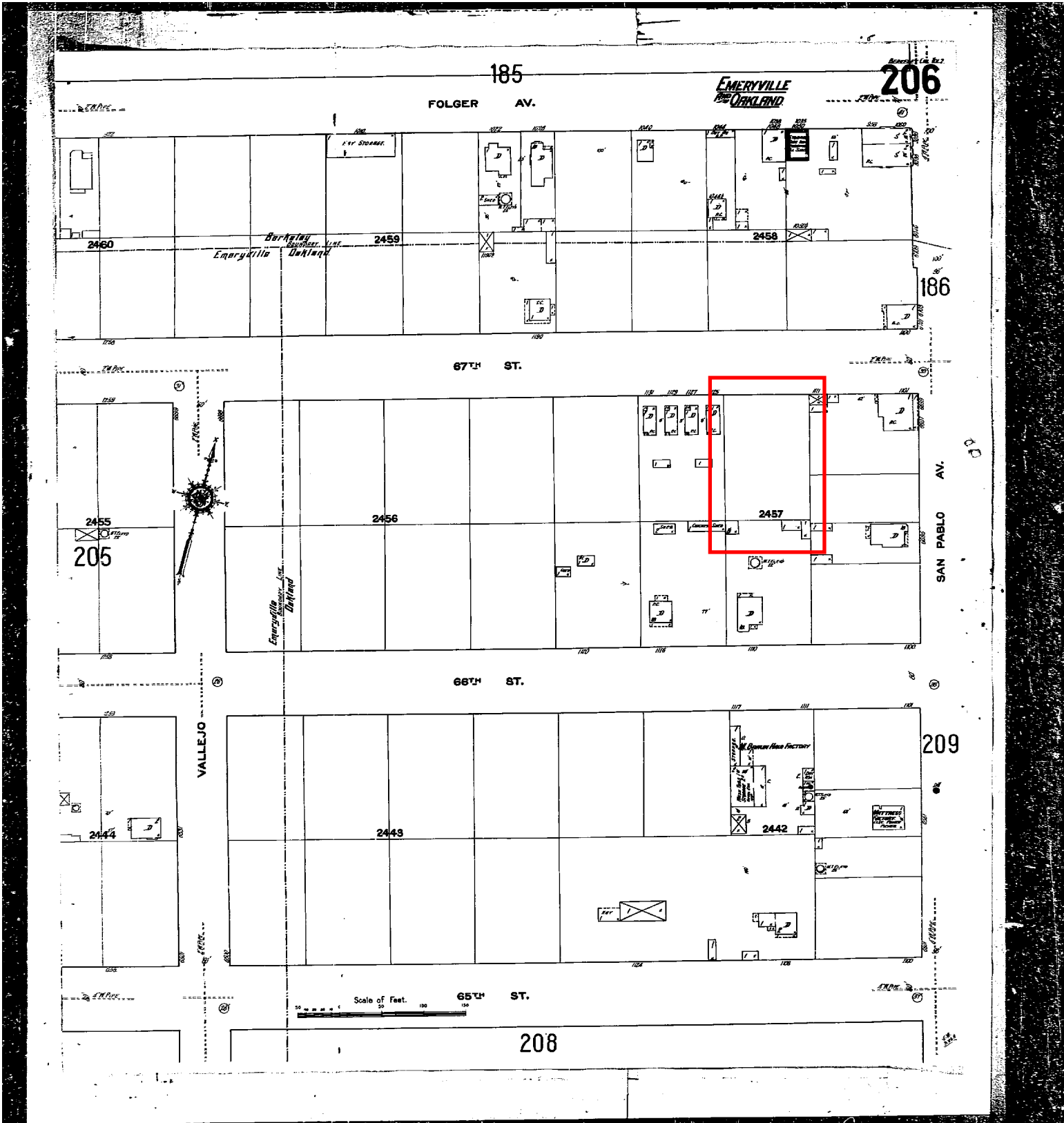
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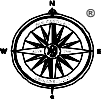
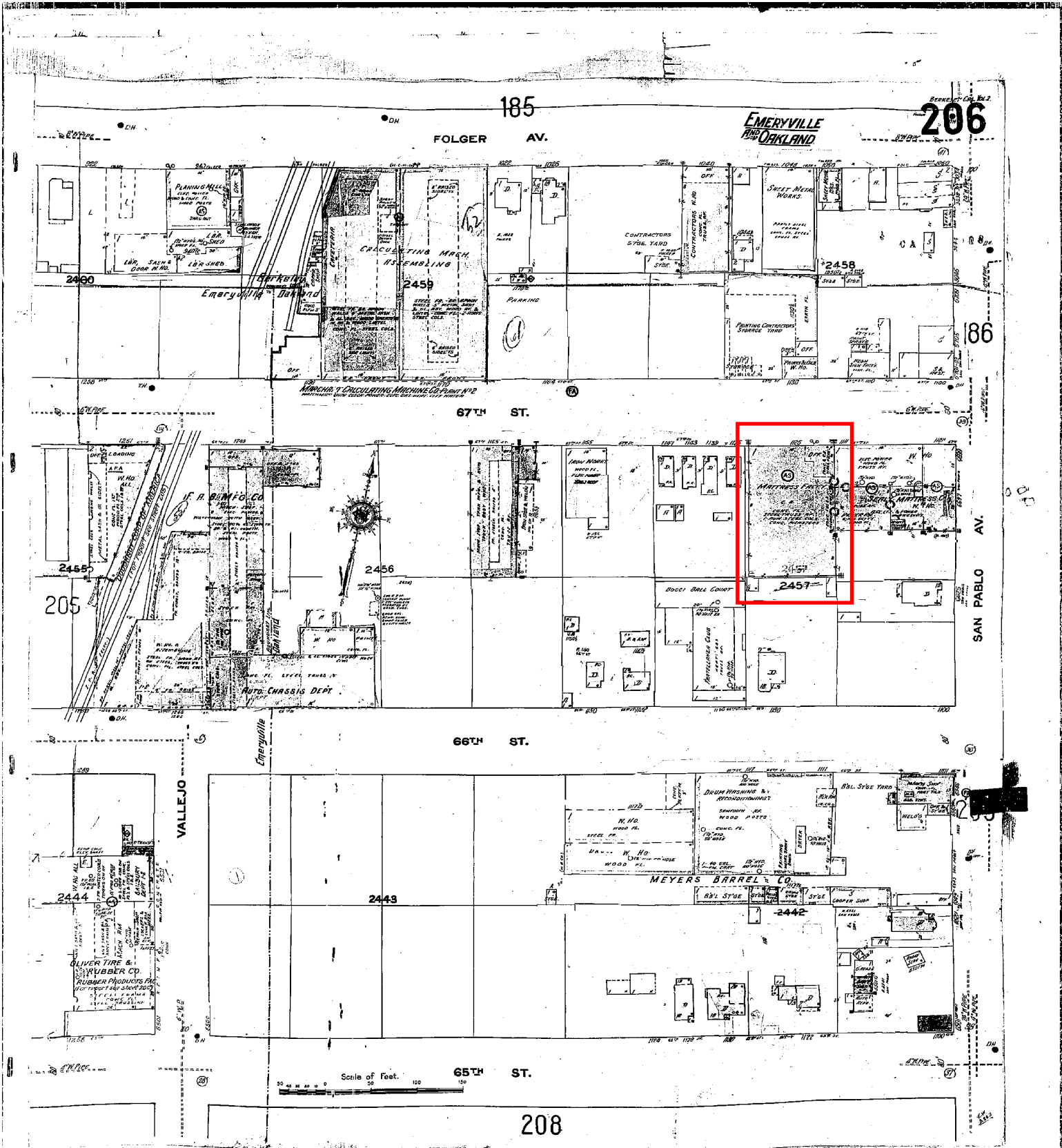


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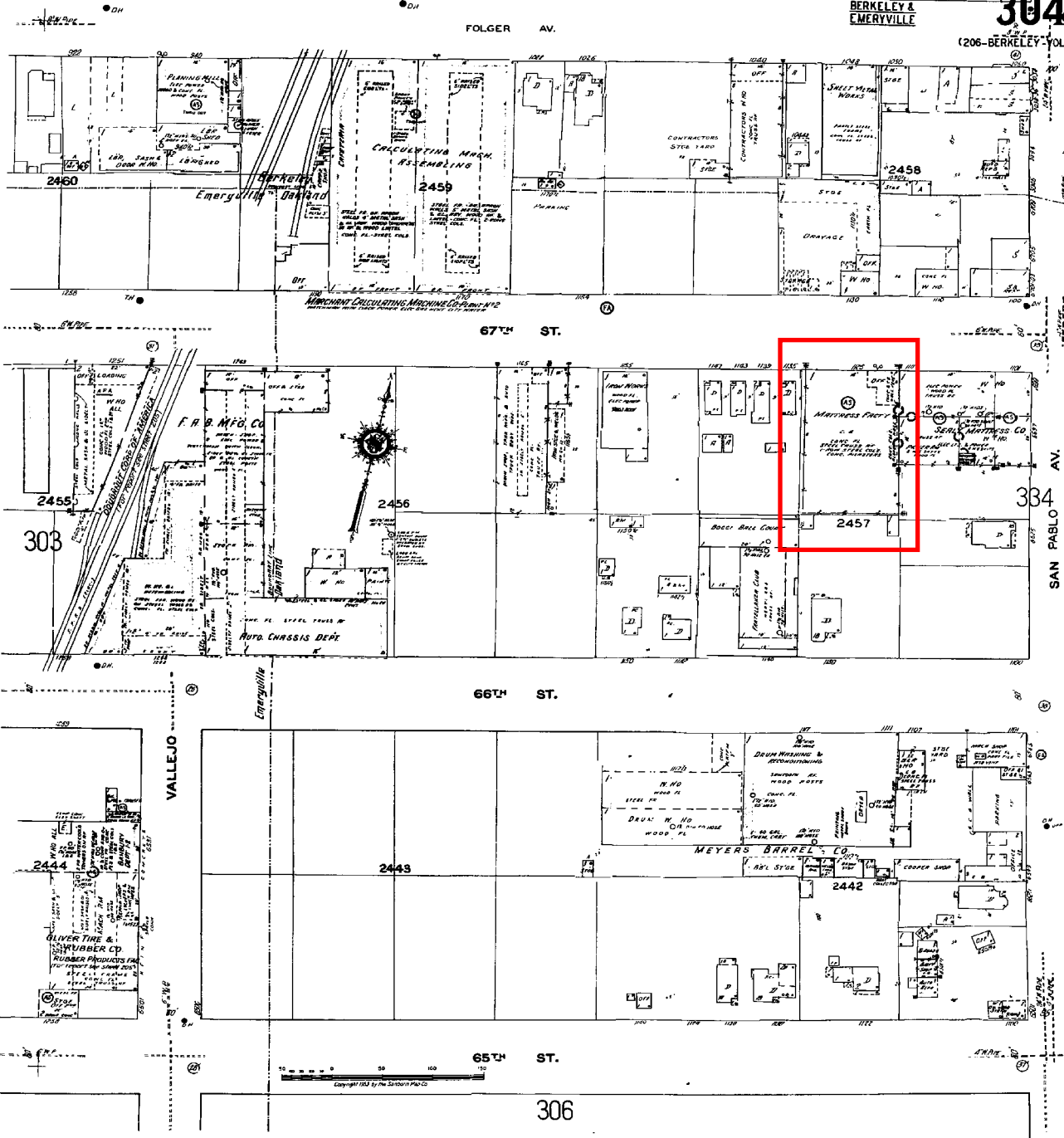
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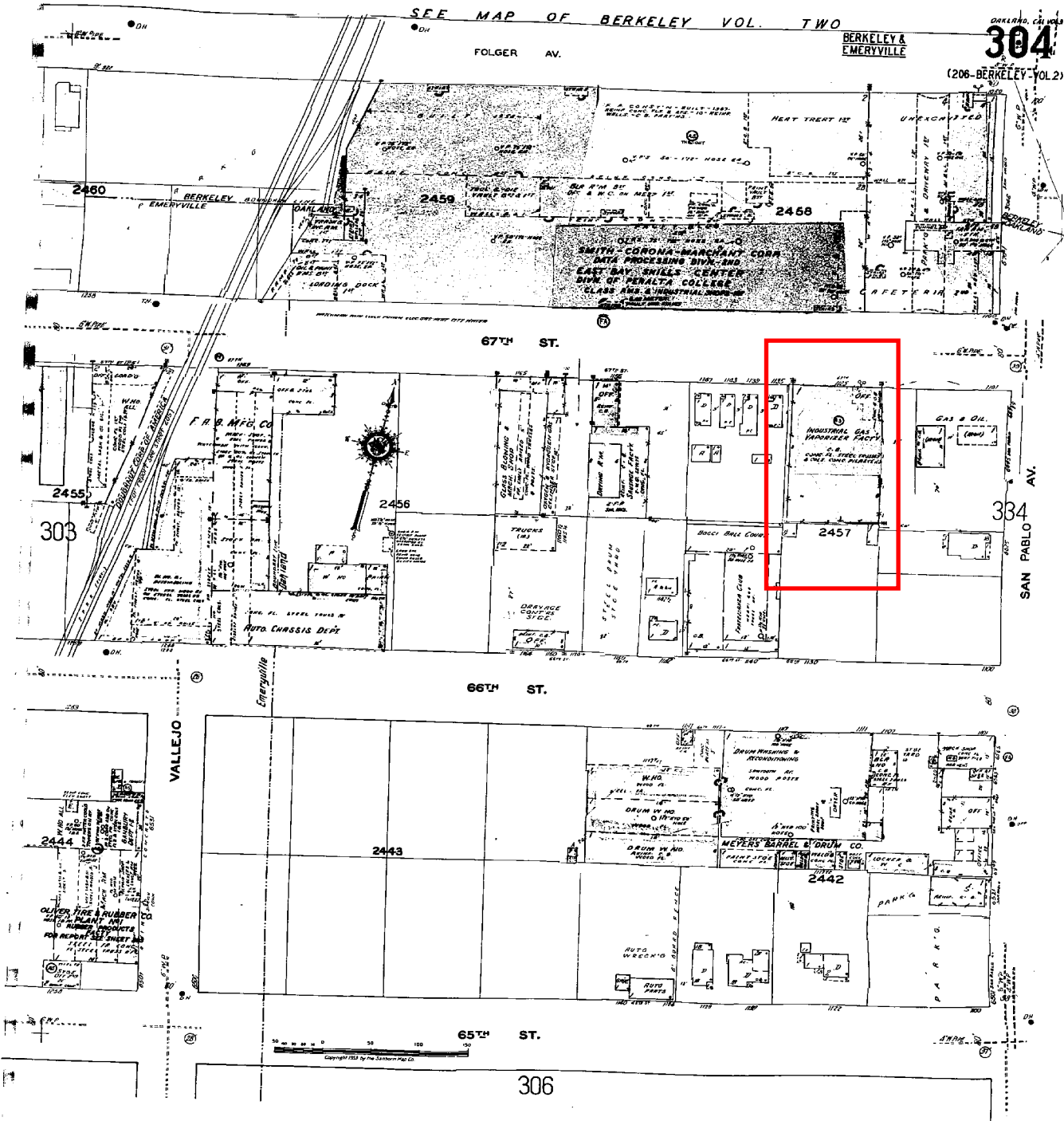


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**ATTACHMENT B**  
**FIELD SAMPLING METHODS**

## **Sampling Procedures**

Soil and groundwater sampling will be conducted to provide data to evaluate the extent of chemicals in the subsurface at the Site. The samples will be used for chemical analysis. The methodology used for this sampling purpose is discussed in the following section.

Soils may be collected for chemical analysis by directly driving precleaned brass or stainless steel tubes into the soil to assess surface/subsurface level conditions. The samples must completely fill the tubes to minimize headspace and consequent loss of volatile contaminants, if present. These tubes shall be lined with aluminum foil or Teflon, capped with air-tight plastic lids, and taped around the caps to prevent possible moisture and chemical loss. Inert tape will be used to seal the caps of brass tubes containing the soil samples. Disturbed soil samples will be collected in 250-ml jars with taped, airtight lids. Each jar will be completely filled with soil to minimize headspace and consequent loss of volatile contaminants, if present. After being sealed and labeled, soil samples will be maintained placed in an ice chest containing dry ice at a temperature of 4°C or lower.

Groundwater sample collection entails the extraction of the appropriate amount of groundwater from an open borehole or a temporary piezometer using a low production pre-cleaned pump or a hand bailer. The extracted groundwater will then be decanted into appropriate sampling containers depending on the type of analysis to be carried out. The groundwater must completely fill the containers to minimize headspace and consequent loss of volatile contaminants, if present

Both soil and water samples will be placed in an ice chest containing ice and maintained at a temperature of 4°C during delivery to the laboratory and prior to analysis by the laboratory.

## **Sample Preservation Methods and Containers**

Samples will be collected in pre-cleaned brass tubes or groundwater containers. Both tube ends will be lined with aluminum foil or Teflon, capped with air-tight plastic lids, and taped around the caps to prevent possible moisture and chemical loss. Groundwater containers will be sealed so as not to allow escape of any potential VOCs or cross migration. Samples will be placed in a chilled cooler and transported to the laboratory via hand or overnight delivery. The temperature of the samples will be noted on the chain-of-custody form upon receipt at the laboratory. Samples will be analyzed at the laboratory within 14 days.

## **Documentation**

The following information will be entered on the sample collection data form at the time of sampling:

- project name and number
- site location
- sampler's name
- time and date of sampling
- sampling location
- sampling method
- sample number
- sample depth
- sample condition (disturbed/undisturbed)
- laboratory analyses requested

Each sample will be packaged and transported appropriately, as described in the following protocol.

- Collect samples in appropriately-sized and prepared containers
- Properly seal and package sample containers.
- Fill out field sample log and chain-of-custody and analyses request forms.
- Separate and place samples into coolers according to laboratory destination. Samples will be packaged so that the potential for shipping damage is minimized.

- Chill samples to approximately 4° C or less. Regular dry ice used in the coolers will be sealed in a plastic bag other than the one in which it was purchased.
- Seal the top two copies of the chain-of-custody form inside a zip-lock bag. Use strapping tape to hold the packet on the inside of the cooler.
- Seal cooler with several strips of strapping tape.

### **Equipment Decontamination**

All equipment used for collecting samples during this investigation which might come into contact with contaminated materials will be properly decontaminated before and after each use, and before initial use at the Site. This will be accomplished through steam-cleaning and/or washing with Alconox (a laboratory-grade detergent) and rinsing with deionized, distilled, or fresh water. Decontamination procedures will allow for disposal of cleaning fluids in the manner described below.

### **Disposal Procedures**

The cleaning fluids will be collected and placed into appropriate containers to be analyzed and disposed by an appropriate and licensed firm. The non-hazardous waste, such as cardboard boxes, scrap paper, etc., will be disposed at a Class III landfill.

### **Sample Custody**

In order to check and link each reported datum with its associated sample, sample custody and documentation procedures were established. Three separate, interlinking documentation and custody procedures--for field, office, and laboratory--can be described. The chain-of-custody (COC) forms, which are central to these procedures, are attached to all samples and their associated data throughout the tracking process.

### **Field Custody Procedures**

Field documentation will include sample labels, daily field activities logbook, and chain-of-custody and analyses request forms. These documents will be filled out in indelible ink. Any corrections to the document will be made by drawing a line through the error and entering the correct value without obliterating the original entry. Persons correcting the original document will be expected to initial any changes made. The documents are as follows.

### **Sample Labels**

Labels will be used to identify samples. The label is made of a waterproof material with a water-resistant adhesive. The sample label, to be filled out using waterproof ink, will contain at least the following information: sampler's name; sample number, date, time, location, depth; boring number; and preservative used.

### **Field Log of Daily Activities**

A field log will be used to record daily field activities. The field geologist is responsible for making sure that a copy of the field log is sent to the project file as soon as each sampling round is completed. Field log entries will include the following:

- field worker's name;
- field log number;
- date and time data are entered;
- location of activity;
- personnel present on-site;
- sampling and measurement methods;
- total number of samples collected;
- sample numbers;

- sample distribution (laboratory);
- field observations, comments;
- sample preservation methods used, if any.

**Chain-of-Custody (and Analysis Request) Form**

The chain-of-custody (COC) form is filled out for groups of samples collected at a given location on a given day. The COC will be filled out in quadruplicate for, and will accompany, every shipment of samples to the respective analytical laboratories.

Two copies (white and green copies) accompany the samples to the analytical laboratory. The yellow copy is kept in the Applied Remedial Service's QA/QC file, while the pink copy is retained for the sampler's record. The COC makes provision for documenting sample integrity and the identity of any persons involved in sample transfer. Other information entered on the COC includes:

- project name and number;
- field logbook number;
- COC serial number;
- project location;
- sample number;
- sampler's/recorder's signature;
- date and time of collection;
- collection location;
- sample type;
- number of sample containers for each sample;
- analyses requested;
- results of laboratory's inspection of the condition of each sample and the presence of headspace, upon receipt by the laboratory;
- inclusive dates of possession;
- name of person receiving the sample;
- laboratory sample number;
- date of sample receipt;
- address of analytical laboratory; and
- temperature of sample upon receipt at laboratory.