

*As scheduled
for 12/8/99*

12/6/99

REP 1754

1. 2706 ASST (waste)
*2. Sample H2O by
any bearings?*
*3. Conduct survey
from ground etc.*

December 12, 1999

Ms. Susan Hugo
Alameda County
Department of Environmental Health
1131 Harbor Parkway, 2nd Floor
Alameda, California 94502

Subject: Former Berkeley Farms Site
Located at 4550 San Pablo Avenue
Emeryville, California

Dear Susan:

Enclosed for your review is SOMA's workplan to conduct further site investigation and preparation of site closure reports at the subject site.

If you have any questions or comments, please call me at (925) 244-6600.

Sincerely,



Mansour Sepehr, Ph.D., P.E.
Principal

MS/jb

Enclosures

cc: Ms. Carol Light, P.E.
Silverman & Light

99 DEC -3 PM 3:06

ENVIRONMENTAL
PROTECTION

**WORKPLAN TO CONDUCT FURTHER SITE
INVESTIGATION AND PREPARATION
OF SITE CLOSURE REPORTS
AT FORMER BERKELEY FARMS SITE
4550 SAN PABLO AVENUE
EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION

This workplan has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of Silverman & Light, the future owner of the former Berkeley Farms site located at 4550 San Pablo Avenue, Emeryville, California (the "Site"). Figure-1 shows the site location.

This workplan has been prepared based on our site inspection and review of the environmental reports related to the subject Site and our subsequent discussion with Ms. Susan Hugo of Alameda County Department of Environmental Health (ACDEH).

The former Berkeley Farms operation consisted of an operating dairy facility, a truck shop and a yard located on the opposite side of the Site across San Pablo Avenue between 47th and 45th Streets in Emeryville, California. The property was reportedly purchased in 1946 and operated as a dairy facility since that time. The dairy facility, which is the subject of this investigation located at 4550 San Pablo Avenue, is bounded by San Pablo Avenue to the west, 47th Street to the north, and 45th Street to the south. Currently, a two-story building occupies the northwestern portion of the property. The remainder of the property is entirely paved and enclosed within a concrete block wall. The facility is accessed through secured gates on San Pablo Avenue and 47th Street.

Currently, the Site is vacant and the Berkeley Farm facility is operating from its new location in the City of Hayward. Silverman & Light is in process of purchasing the subject Site. The objective of this investigation is to obtain a closure letter from the ACDEH so that Silverman & Light can utilize the subject property for their intended use without any environmental concern.

1.1 Previous Site Investigations

In August 1997, Berkeley Farms retained Geo-Logic to conduct a phase I environmental site assessment study at the Site. Based on the Geo-Logic report dated August 14, 1999, the scope of work included:

- 1) field reconnaissance to inspect evidence of adverse environmental impacts from hazardous material;
- 2) search of federal, state and county environmental databases, and;
- 3) review of Berkeley Farm's hazardous material management files, as well as the City of Emeryville Fire Department's files regarding the subject property.

The result of phase I site assessment by Geo-Logic did not raise any major environmental concern. However, the report listed a number of chemicals that were used at the Site. Based on Geo-Logic (August 1997) the following chemicals were used at the Site:

1. Nitrogen
2. Argon
3. Oxygen
4. Acetylene
5. Anhydrous ammonia
6. Diesel
7. Unleaded gasoline

8. Transmission Oil
9. Lubricating Grease
10. Antifreeze
11. Paint
12. Sanitizers
13. Degreasers
14. Adhesives, sealants and protectors
15. Cleaning products and cleaning solvents

In September 1998, Berkeley Farm retained Paradiso Mechanical of San Leandro to remove one 10,000-gallon diesel tank and one 10,000-gallon gasoline tank from the Site. According to Geo-Logic, the tanks were made of steel and appeared to be in good condition. Mr. Rob Weston of ACDEH was present during the tank removal. After removing the tanks, a liquid dark brown oily residue was observed beneath the tank locations. Therefore, upon removal of the tanks, Geo-Logic conducted an environmental investigation at the Site. The scope of the Geo-Logic investigation was sampling soil and groundwater beneath the tanks, removal of 150 linear feet of gasoline product piping and excavation of the fuel dispenser island to a depth of 4-feet below the grade. Geo-Logic collected additional soil samples from the bottom and sidewalls of the tank excavation pit. In addition, one groundwater sample was also collected from the bottom of the tank pit. The results of the laboratory analysis indicated elevated levels of petroleum chemicals in soil and groundwater. On September 9 and 10, 1998 prior to removing the tanks, approximately 3,800 gallons of gasoline and 900 gallons of diesel were pumped from the tanks. The fuel and rinsed water were transported under manifest by a contractor. Following the removal of tanks, on September 11, 1998 the 10,000-gallon diesel tank and the 10,000-gallon gasoline tank were transported by Trident Trucking to Erickson, Inc. of Richmond, California.

On September 25, 1998 additional excavation of tank pit sidewalls was completed. The pit was dewatered to an on-site Baker tank prior to over-excavation. A total 32,200 gallons of groundwater was removed from the tank excavation. Approximately 1,152 tons of excavated soils was stockpiled on-site and profiled prior to proper disposal at an approved landfill facility.

On October 1, 1998, approximately 200 gallons of water with oil sheen that had been removed from the tank pit was transported by Clearwater under manifest to Alviso.

On October 5, 1998, Geo-Logic collected additional soil samples from the excavated gasoline and diesel product piping trench at 0.5 feet below the trench bottom.

On February 26, 1999, Geo-Logic installed two 2-inch diameter groundwater monitoring wells MW-1 and MW-2. The wells were completed to a total depth of 22 feet below grade. Following the development of the wells in March 1999, the wells were sampled. During monitoring of well MW-1 oily droplets were noted. However, no oily droplets or free-product was noted on MW-2. Soil cuttings and groundwater samples were analyzed by Calcoast Analytical by using EPA Method 5030/modified 8015, and BTEX and MTBE by EPA Method 8020.

1.2 SCOPE OF WORK

As it was discussed earlier, the objective of this investigation is to obtain a closure letter from ACDEH so that Silverman & Light can utilize the subject property for their intended use without any environmental concern.

To obtain the Site's closure letter the following steps will be taken:

- Task-1: Supplemental Field Investigation;**
- Task-2: Data Compilation;**
- Task-3: Evaluation of Site's Cleanup Objectives;**
- Task-4: Preparation of Risk Management (RMP); and**
- Task-5: Preparation of Site Closure Report.**

The following is a brief description of each component of the proposed work plan.

Task-1: Supplemental Field Investigation

To investigate whether or not the use of various chemicals at the subject property has impacted soil and groundwater beneath the Site, SOMA proposes to drill six soil borings at designated areas. The location of the soil borings has been selected based on the type of activities, which have been reported in phase I site assessment report by Geo-Logic. Figure-2 shows the proposed location of the soil borings. The borings SB-1 through SB-3 will be drilled to a maximum depth of 8 feet and two soil samples at .5 and 5 feet depth will be collected. Soil borings SB-4 through SB-6 will be drilled to a maximum depth of 20 feet and soil samples at 5 feet intervals will be collected from each boring.

To evaluate groundwater quality two existing groundwater monitoring wells of MW-1 and MW-2 will be sampled. The groundwater samples will be analyzed for volatile and semi-volatile organic compounds using EPA Methods 8260 and 8270.

The Phase 1 investigation performed by Geo-Logic (August 1997), identified a number of industrial chemicals which were utilized during the operation of the dairy

facility. Many of these chemicals may have been spilled or released on-site during normal daily operations. Since previous investigations did not evaluate the potential for these releases or spills, SOMA has identified the following data gaps and proposed supplemental field investigation.

The Berkeley Farms Facility pasteurized, packaged and distributed milk. Chemicals used in the facility included acids, caustics, freon and anhydrous ammonia (e.g., for the cooling system). During the facility's operation since 1946, these chemicals could have easily been spilled or released to the ground and/or surface drainage system during daily activities. Therefore, SOMA proposes collecting the following additional soil samples (see Figure 2, Site Map, for actual locations). Soil borings SB-1, SB-2 and SB-3 will be drilled inside the former milk plant, and former cold storage inside east and west buildings (Figure-2). Table-1 shows the proposed type of chemical analysis using various EPA Methods. ✓

Previously, two 10,000-gallon underground storage tanks and associated piping and dispenser were located in the yard. These tanks contained both diesel and gasoline. The tanks and associated piping were removed and disposed off-site in 1998. In 1998, TPH-contaminated soil and water were removed from the excavation pits and disposed off-site. The following two sampling locations (SB-4 and SB-5) were selected as confirmatory samples to ensure that all fuel-related contamination has been adequately removed. Table-2 shows the proposed type of chemical analysis using various EPA Methods.

Finally, an above ground waste oil storage tank and drum storage facility was located in the southwestern corner of the property. Numerous waste chemical streams could have been spilled or released in this area during the operation of the facility. The SB-6 sampling location was selected to address these potential

waste streams. Table-3 shows the proposed type of chemical analysis using various EPA Methods.

Task-2: Data Compilation

SOMA will compile soil and groundwater chemical data in a database and use for evaluation of chemical source areas, in conducting a risk based corrective action evaluation for defining the site regulatory status. The existing soil and groundwater along with new data, which will be gathered during our field investigation, will be used to evaluate the Site final cleanup objectives and preparation of the risk management and site closure reports. Preliminary review of the groundwater monitoring data already has indicated that the groundwater is impacted by petroleum chemicals including diesel. Further, groundwater sampling will reveal whether or not semi-volatile chemicals such as, poly aromatic hydrocarbons are also present in the groundwater.

Besides reviewing the existing data SOMA will review the ACDEH regulatory files to investigate whether or not any indication regarding the past chemical releases has been at the Site.

Task-3: Evaluation of Site's Cleanup Objective

The State Water Control Board supplemental instructions dated December 8, 1995 entitled "Interim Guidance on Required Cleanup at Low Risk Fuel Site" will be followed to define the Site's regulatory status in connection with soil and groundwater contamination. Based on the interim guidance document, in order to define the Site's regulatory status the following items will be considered using the soil and groundwater data already generated by the previous consultants:

1. The leak has been stopped and an on-going source including free-product, have been removed or remediated to the extent practicable; ✓
2. The Site has been adequately characterized; ✓
3. Status of the dissolved hydrocarbon plumes; are they expanding plumes or shrinking ones? ✓
4. No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted; ✓
5. The site presents no significant risks to human health and finally; ✓
6. The site presents no significant risk to the environment. ✓

As explained earlier, in 1998, the source of contamination has been stopped and two 10,000-gallon underground fuel storage tanks have been removed from the Site. In addition, based on the groundwater monitoring reports no significant floating product exists beneath the Site. Therefore, the first item has already been addressed.

In order to evaluate the second item SOMA will use the result of the first task, which was mentioned earlier. SOMA will compile the existing data and address any data gap that may exist.

SOMA will utilize the Geo-Logic phase I site assessment study in which a ½-mile radius search has been conducted to locate sensitive receptors such as water wells, deeper drinking water aquifers, surface water, schools, day care center, nursing homes or other sensitive receptors, which may likely be impacted by the Site related chemicals. The results of such site-specific evaluation will be used in conducting RBCA study. In addition, SOMA will review the engineering drawing at the City of Emeryville, Department of Public Works in order to evaluate the depth, direction of the underground utility conduits passing through ✓

the San Pablo Avenue and 47th Street for identification of the preferential flow paths in subsurface.

To evaluate the impact of Site related chemicals on on-site workers and off-site residents, SOMA proposes to use ASTM-RBCA approach. The results of RBCA study will reveal the impact of site related chemicals on current Site workers and nearby residents and determine risk-based cleanup levels of soil and groundwater, which will be protective of human health and the environment.

Finally, by taking the above-mentioned steps, SOMA will determine whether or not the Site can be categorized as a "High Risk Soil/Groundwater Site" based on the State Water Board Interim Guidance Document. Such evaluation will necessitate and justify the need for soil and groundwater remediation in on- and off-site areas.

Task 4.0: Preparation of Risk Management Plan (RMP)

The purpose of the Site-specific risk management plan (RMP) is to ensure that the following key environmental issues have been adequately addressed in support of a No Further Action (NFA) regulatory decision for the Site:

- Has the site been adequately investigated?
Specifically, has the nature and extent of soil and groundwater contamination at the Site been sufficiently characterized to allow the quantitative evaluation potential risks to human health and the environment?

- Have all sources been removed or stabilized?
Specifically, have all the sources of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylenes (BTEX) in soil been removed?

- Is the groundwater plume stable? *GWM*
Are groundwater contaminants (TPH, BTEX and MTBE) currently stable or has the on-site contamination moved beyond the site boundaries, potentially threatening off-site receptors?
- Does the site pose any current or future threats to public health or the environment?
Do chemicals detected in soil and groundwater pose any threat to future on-site receptors? Do chemicals detected in groundwater pose any threat to off-site receptors due to volatilization into the ambient air? Finally, do soil or groundwater contaminants pose any current or future threat to ecological receptors in the immediate vicinity of the Site?
- Does the site pose any current or future threat to water resources?
Can existing groundwater contamination potentially impact industrial supply, private supply or municipal supply water wells? Do soil or groundwater contaminants pose any threat to recreational use areas or ecologically sensitive habitats?
- Have all the necessary *long term & short term RMP* risk management precautions been incorporated to mitigate any threats to human health and the environment during Site construction activities?
Based on the above considerations, have all of the appropriate health and safety precautions been incorporated and implemented to mitigate any potential threats to human health and the environment?

Task 5: Preparation of the Site Closure Report

The Site Closure Report will summarize all available site characterization data, including:

1. Preliminary or Phase I data;
2. UST removal;
3. Removal/remediation of contaminated soil and groundwater;
4. Supplemental site investigation data (see Task 1);
5. Evaluation of potential threats to human health and the environment;
6. Identification of remediation goals for soil and groundwater contamination, if necessary;
7. Summary of key risk management issues, such as protection of construction workers during future redevelopment activities; and
8. Recommendations for Site status, including but not limited to additional soil or groundwater remediation, future monitoring, or no further action (NFA).



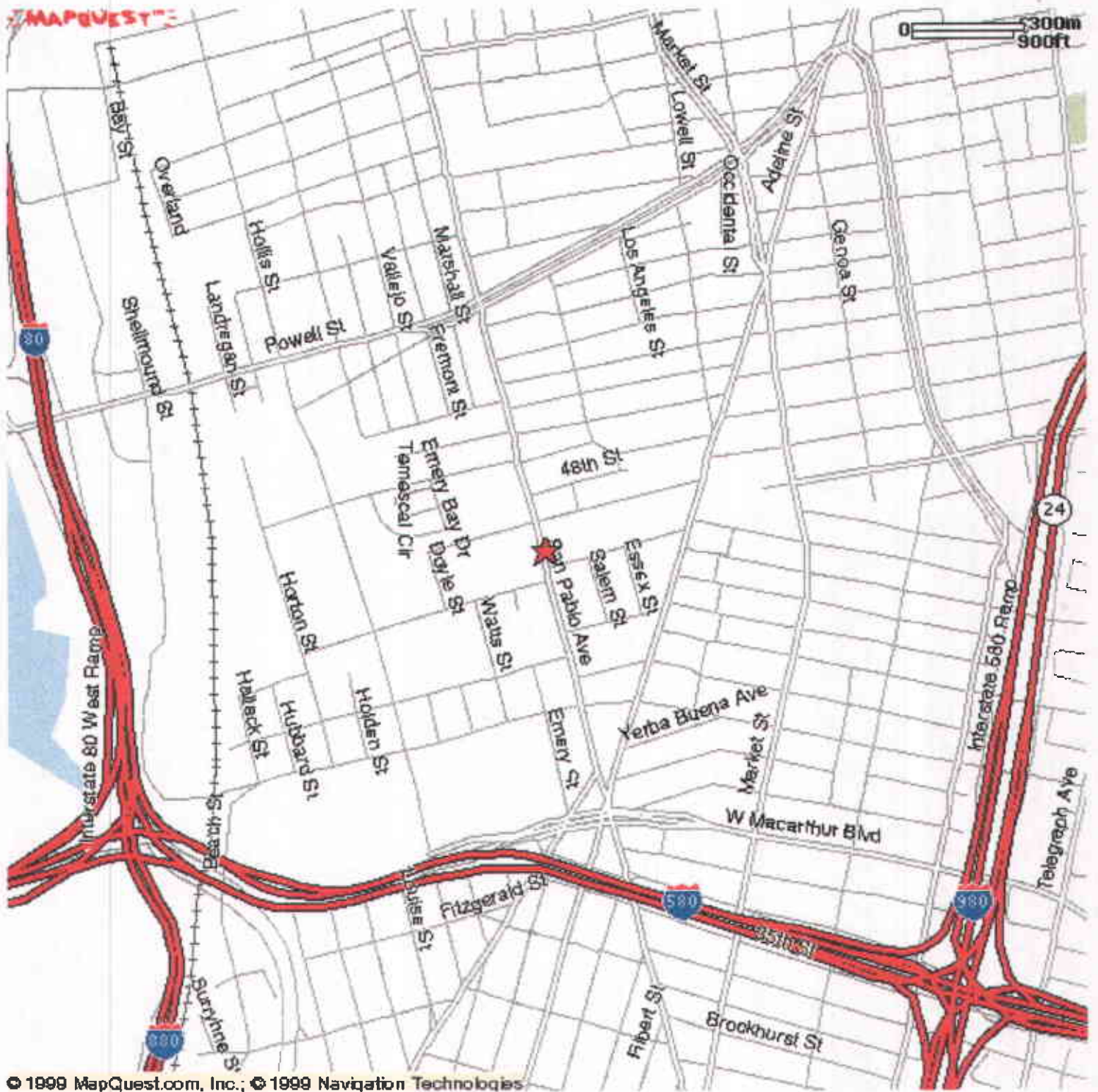
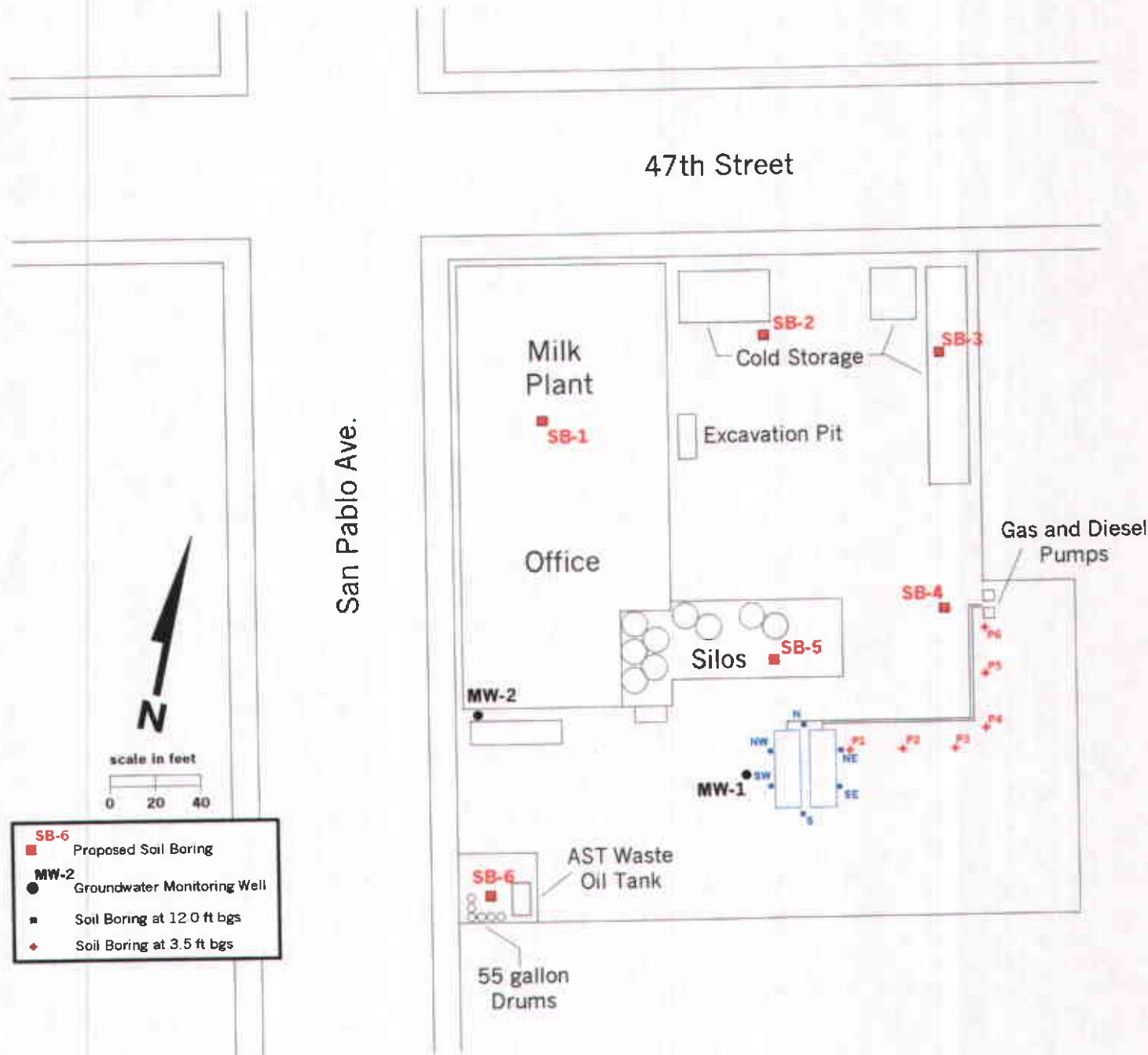


Figure 1: Site Vicinity Map



- SB-6 Proposed Soil Boring
- MW-2 Groundwater Monitoring Well
- Soil Boring at 12.0 ft bgs
- ◆ Soil Boring at 3.5 ft bgs

Figure 2: Site Map

Table-1

**Proposed Chemical Analysis Methods
On Soil Samples Collected from SB-1 through SB-3
Former Berkeley Farms, 4550 San Pablo Avenue
Berkeley, California**

| PROPOSED SAMPLING LOCATION | CHEMICAL CLASS TO BE ANALYZED FOR | PROPOSED ANALYTICAL METHOD |
|---|--|--|
| SB-1, Former Milk Plant | Total Petroleum Hydrocarbons Volatile Organics Semivolatile Organics Ammonia Metals Nitrite/Nitrate pH | EPA 8015M (TPH-D,G and Oil/Grease) EPA 8260 EPA 8270 EPA 350.1, 350.3 EPA 6010/7000 EPA 354.1/300 |
| SB-2, Former Cold Storage (West Building) | Total Petroleum Hydrocarbons Volatile Organics Semivolatile Organics Ammonia Metals Nitrite/Nitrate pH | SW 8015M (TPH-D,G and Oil/Grease) EPA 8260 EPA 8270 EPA 350.1, 350.3 6010/7000 EPA 354.1/300 |
| SB-3, Former Cold Storage (East Building) | Total Petroleum Hydrocarbons Volatile Organics Semivolatile Organics Ammonia Metals Nitrite/Nitrate pH | EPA 8015M (TPH-D,G and Oil/Grease) EPA 8260 EPA 8270 EPA 350.1, 350.3 6010/7000 EPA 354.1/ 300 |

Table-2

**Proposed Chemical Analysis Methods
On Soil Samples Collected from SB-4 and SB-5
Former Berkeley Farms, 4550 San Pablo Avenue
Berkeley, California**

| PROPOSED SAMPLING LOCATION | CHEMICAL CLASS TO BE ANALYZED FOR | PROPOSED ANALYTICAL METHOD |
|-----------------------------------|--|-----------------------------------|
| SB-4, Former Gas and Diesel Pumps | Total Petroleum Hydrocarbons | EPA 8015M (TPH-D, -G) |
| | Volatile Organics | EPA 8260 |
| | Semivolatile Organics | EPA 8270 |
| | Metals | EPA 6010/7000 |
| SB-5, Former USTs | Total Petroleum Hydrocarbons | EPA 8015M (TPH-D, -G) |
| | Volatile Organics | EPA 8260 |
| | Semivolatile Organics | EPA 8270 |
| | Metals | EPA 6010/7000 |

Table-3

**Proposed Chemical Analysis Methods
On Soil Samples Collected from SB-6
Former Berkeley Farms, 4550 San Pablo Avenue
Berkeley, California**

| PROPOSED SAMPLING LOCATION | CHEMICAL CLASS TO BE ANALYZED FOR | PROPOSED ANALYTICAL METHOD |
|--|--|--------------------------------------|
| SB-6, Former Waste Oil AST and Drum Storage Area | Total Petroleum Hydrocarbons | EPA 8015M (TPH-D, -G and Oil/Grease) |
| | Volatile Organics | EPA 8260 |
| | Semivolatile Organics | EPA 8270 |
| | Ammonia | EPA 350.1. 350.3 |
| | PCBs | EPA 8080 or CLP |
| | Metals | EPA 6010/7000 |
| | Nitrite/Nitrate | EPA 354.1/300 |