



GROUNDWATER TECHNOLOGY, INC.

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FAX: (415) 685-9148

July 11, 1991

Project No. 020501446.020522

Mr. Peter H. Sher
San Francisco French Bread Company
7801 Edgewater Drive
Oakland, CA 94621

RE: Report of Environmental Assessment Results for Work Performed
at 580 Julie Anne Way, Oakland, California

Dear Mr. Sher:

This letter presents the results from the environmental assessment performed by Groundwater Technology, Inc. at the property located at 580 Julie Anne Way, Oakland, California (Colombo/Toscana facility). This investigation was conducted to determine whether petroleum hydrocarbon compounds had impacted the subsurface soils in the area of two underground storage tanks, one pump island and the associated product lines (Figure 1). The underground storage tanks are currently in place and are used for storage of gasoline and diesel fuel. Groundwater Technology was retained to conduct the following worksteps:

- Prepare a site-specific health and safety plan
- Conduct a utility sweep of the drilling area
- Advance six soil borings to approximately 10-feet below surface grade
- Collect soil samples from the soil borings for laboratory analyses
- Prepare a brief letter report

The results from these activities are provided as follows:

Site Safety Plan

A site-specific health and safety plan was prepared in accordance with OSHA standards and was in the possession of Groundwater Technology personnel working at the site.

Utility Sweep

On June 6, 1991, Spectrum ESI conducted a utility sweep of the drilling area using ground-penetrating radar. A map of the underground utility locations is provided (attached Figure 2).

Soil Borings

On June 19, 1991, a total of six soil borings were drilled in the area of the two underground storage tanks and associated product lines. The soil borings were drilled by Powercore Soil Sampling, Inc. under the direct supervision of Groundwater Technology personnel. The boring locations are shown on Figure 3.

Each of the soil borings were advanced using hydraulically operated machinery to provide the force necessary to drive in and to extract the drill string and retrieve the soil samples. The drill string consisted of a 1-3/4-inch steel drill rod attached to a 2-inch outside diameter by 1-1/2-inch inside diameter by 24-inch long split-spoon sampler. After driving 2-feet deep, the drill string was extracted from the borehole, the sample was collected and the drill string was replaced in the hole to drive another 2-feet deep. This procedure was repeated for each boring to a completion depth of 10 feet. A continuous log of the soils encountered were recorded for each boring by Groundwater Technology's on-site geologist. These boring logs are provided with this report.

A photo-ionization detector (PID) was used to scan each soil core for the presence of volatile hydrocarbon compounds. Based on field observations and PID readings, specific samples were selected for laboratory analyses. Samples collected for laboratory analyses were stored in brass tubes, sealed on each end using aluminum foil, plastic end caps and duct tape. Each sample was immediately labeled, and placed on ice to be transported to the laboratory for analyses. Samples were accompanied at all times by a Chain-of-Custody Manifest.

Laboratory Analytical Results

At least one sample was submitted for laboratory analyses from each of the borings described above. Selected samples were analyzed for the presence of benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH)-as-gasoline using U.S. Environmental Protection Agency (EPA) Methods 5030, 8020 and modified EPA Method 8015; for TPH-as-diesel fuel using modified EPA Methods 3550/8015; and for total oil and grease by APHA Method 5520C.

Results showed concentrations of benzene were detected in each of the six soil samples analyzed. The highest benzene concentration reported was detected in the sample from soil boring SB-F at 7-feet below grade (SB-F-7) at 28 milligrams per kilogram (mg/kg). The lowest benzene concentration was detected in sample SB-E-5 collected west of the pump island at 0.02 mg/kg. Similarly, TPH-as-gasoline was detected in each of the samples analyzed with the exception of SB-E-5, which was reported to have a concentration of less than 1 mg/kg. The highest concentrations of TPH-as-gasoline was reported for soil sample SB-B-5 at 4,800 mg/kg.

Concentrations of TPH-as-diesel fuel were found above the detection limit in two of the seven samples analyzed. Concentrations in sample SB-D-7 were reported at 2,300 mg/kg, while concentrations in sample SB-B-5 were reported at 600 mg/kg. TPH-as-diesel fuel in all other samples analyzed was reported with less than 10 mg/kg.

Due to staining in soil collected from soil boring SB-A, sample SB-A-5 was analyzed for the presence of total oil and grease. A concentration of 1,300 mg/kg of total oil and grease was reported for sample SB-A-5.

The laboratory analytical results are summarized in Table 1. Copies of the actual laboratory analytical reports are attached. The concentrations of the hydrocarbons detected at each soil boring location are shown on Figure 4.

Conclusions

Based upon the field observations, as recorded in the soil boring logs, along with results from the laboratory analyses results for the soil samples collected, there is petroleum hydrocarbon impact in the area of investigation. The area of highest impact by gasoline and diesel fuel constituents was found around the eastern-most storage tank. Total oil and grease was also detected in a significant concentrations in the northwestern area of investigation.

Groundwater was found in each of the borings at approximately 7-to 8-feet below grade. Due to the proximity of the observed impacted soil to the groundwater table, it is likely that groundwater has also been impacted by these petroleum hydrocarbon compounds.

Recommendations

It is Groundwater Technology, Inc.'s recommendation that the following work be conducted to further delineate the source and extent of the petroleum hydrocarbon compounds:

- 1) The presence of the detected petroleum hydrocarbons in the soils warrants the San Francisco French Bread Company contacting the Regional Water Quality Control Board - San Francisco Bay Region for further guidance at this site.
- 2) Review the history of the storage tanks. This shall include review of inventory records for the existing storage tanks along with possible pre-existing tanks.
- 3) Determine the source of any current leakages and repair them or remove and replace the existing storage tank facilities.
- 4) Determine the extent of the hydrocarbon impact to the subsurface soils and groundwater.
- 5) Source removal of petroleum impacted soils should also be considered to prevent further spread of petroleum hydrocarbons. This could be performed in conjunction with tank removal activities.

Mr. Peter Sher
July 11, 1991
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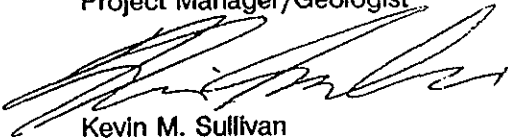
Closure

Groundwater Technology, Inc. would like to thank the San Francisco French Bread Company for this opportunity to be of service. If there are any questions or comments, please contact our Concord office at (415) 671-2387.

Sincerely,
GROUNDWATER TECHNOLOGY, INC.



Kenneth P. Johnson
Project Manager/Geologist



Kevin M. Sullivan
Industrial Group Manager

KPJ:KMS:drg

Attachment

LR1446A1.KPJ

JULIE ANNE WAY

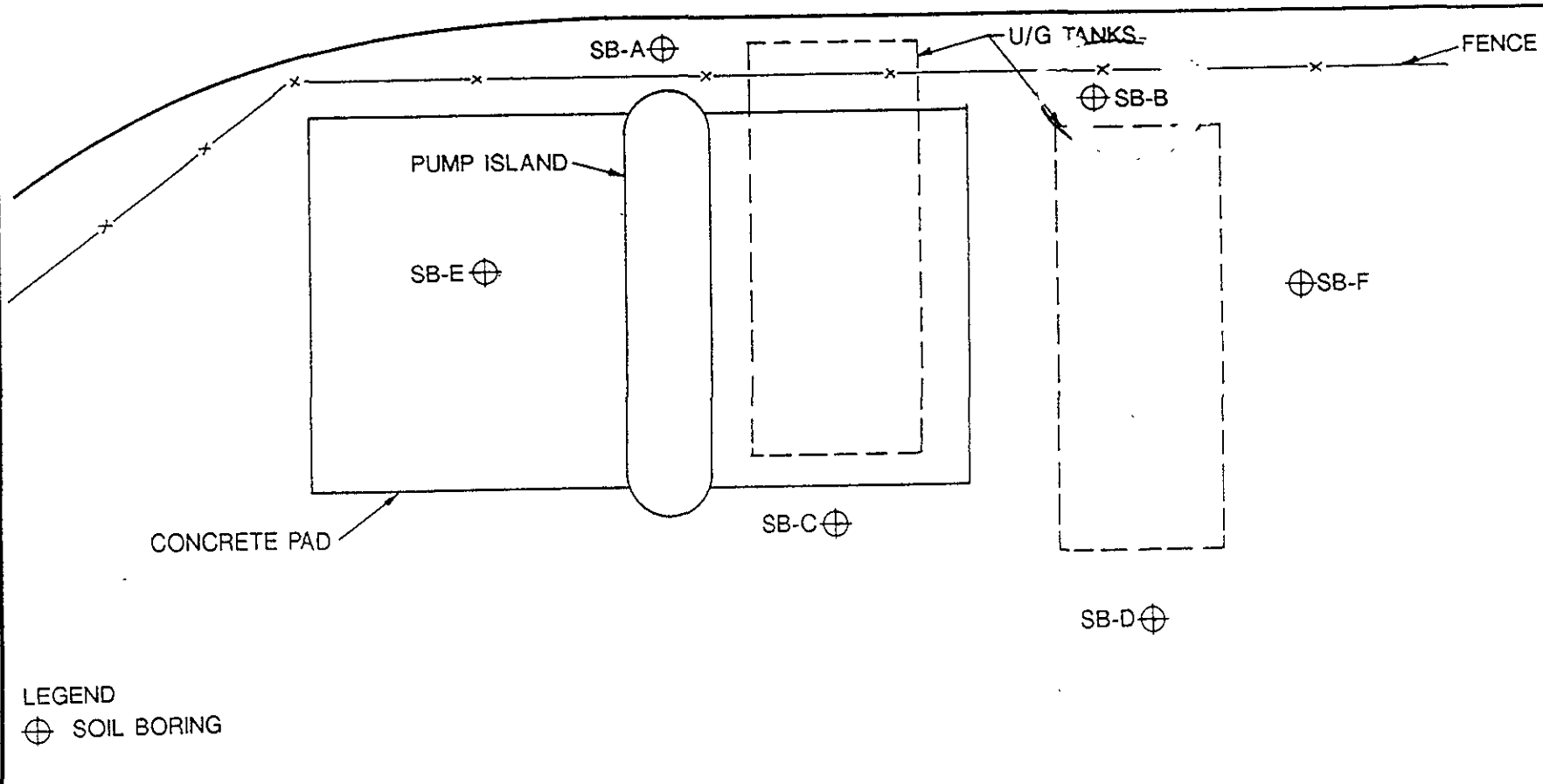
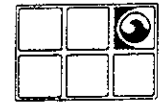


FIGURE 3
SOIL BORING LOCATION MAP

0 FEET 10

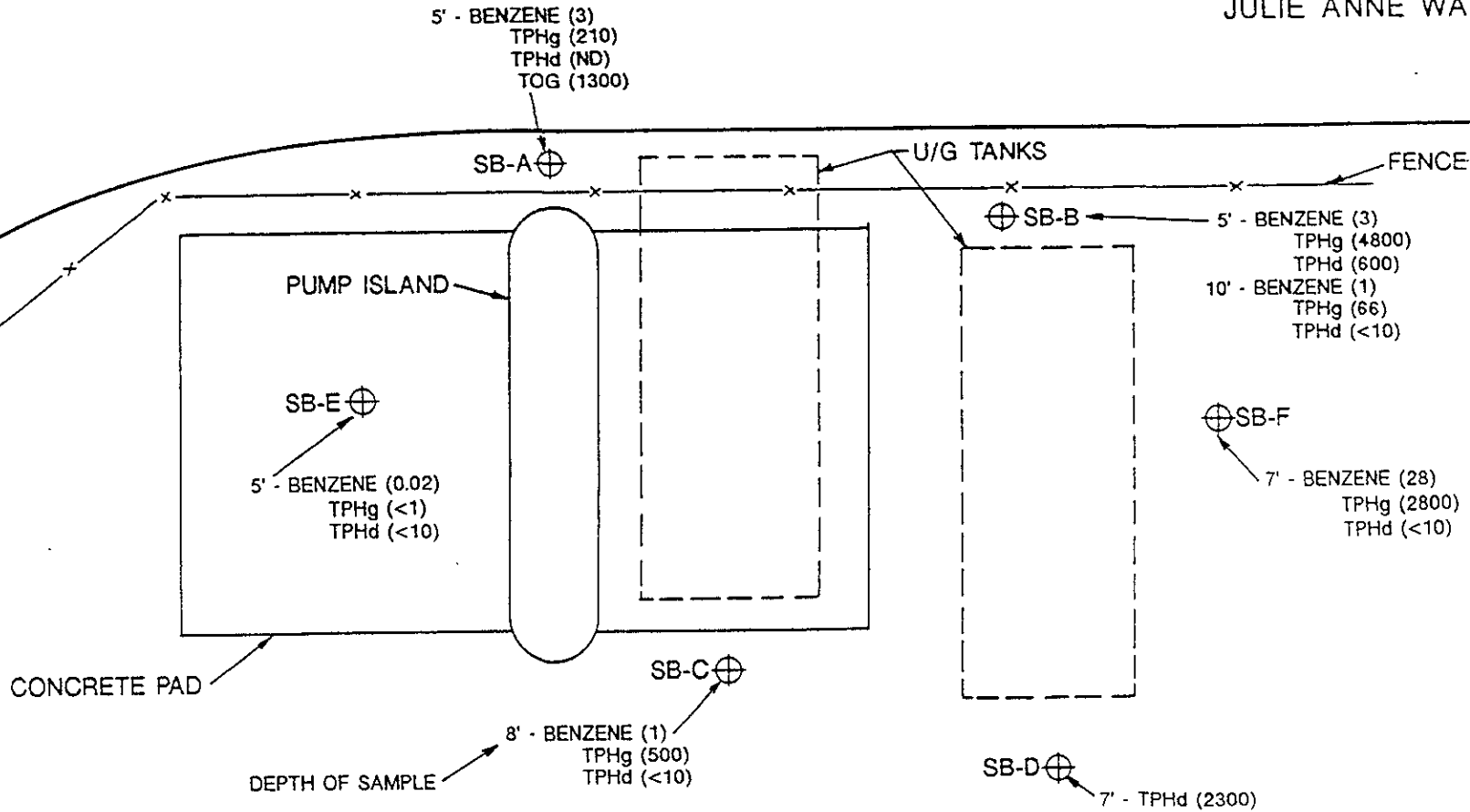
SAN FRANCISCO FRENCH BREAD
OAKLAND, CALIFORNIA

DRAWN BY: ML 7/91



GROUNDWATER
TECHNOLOGY, INC.

JULIE ANNE WAY



LEGEND

⊕ SOIL BORING

() CONCENTRATIONS IN (mg/kg)

TPHg TPH-as-GASOLINE

TPHd TPH-as-DIESEL

TOG TOTAL OIL AND GREASE

FIGURE 4
PETROLEUM HYDROCARBON CONCENTRATION MAP



TABLE 1
SAN FRANCISCO FRENCH BREAD COMPANY
SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
(collected June 19, 1991)

| SAMPLE ID | DEPTH (ft) | BENZENE (mg/kg) | TPH-AS- GASOLINE (mg/kg) | TPH-AS- DIESEL (mg/kg) | TOTAL OIL AND GREASE (mg/kg) |
|-----------|---------------|--------------------|--------------------------------|------------------------------|------------------------------------|
| SB-A-5 | 5 | 3 | 210 | <10 | 1,300 |
| SB-B-5 | 5 | 3 | 4,800 | 600 | NA |
| SB-B-10 | 10 | 1 | 66 | <10 | NA |
| SB-C-8 | 8 | 1 | 500 | <10 | NA |
| SB-D-7 | 7 | NA | NA | 2,300 | NA |
| SB-E-5 | 5 | 0.02 | <1 | <10 | NA |
| SB-F-7 | 7 | 28 | 2,800 | <10 | NA |

ft = Feet
mg/kg = Milligrams per kilogram

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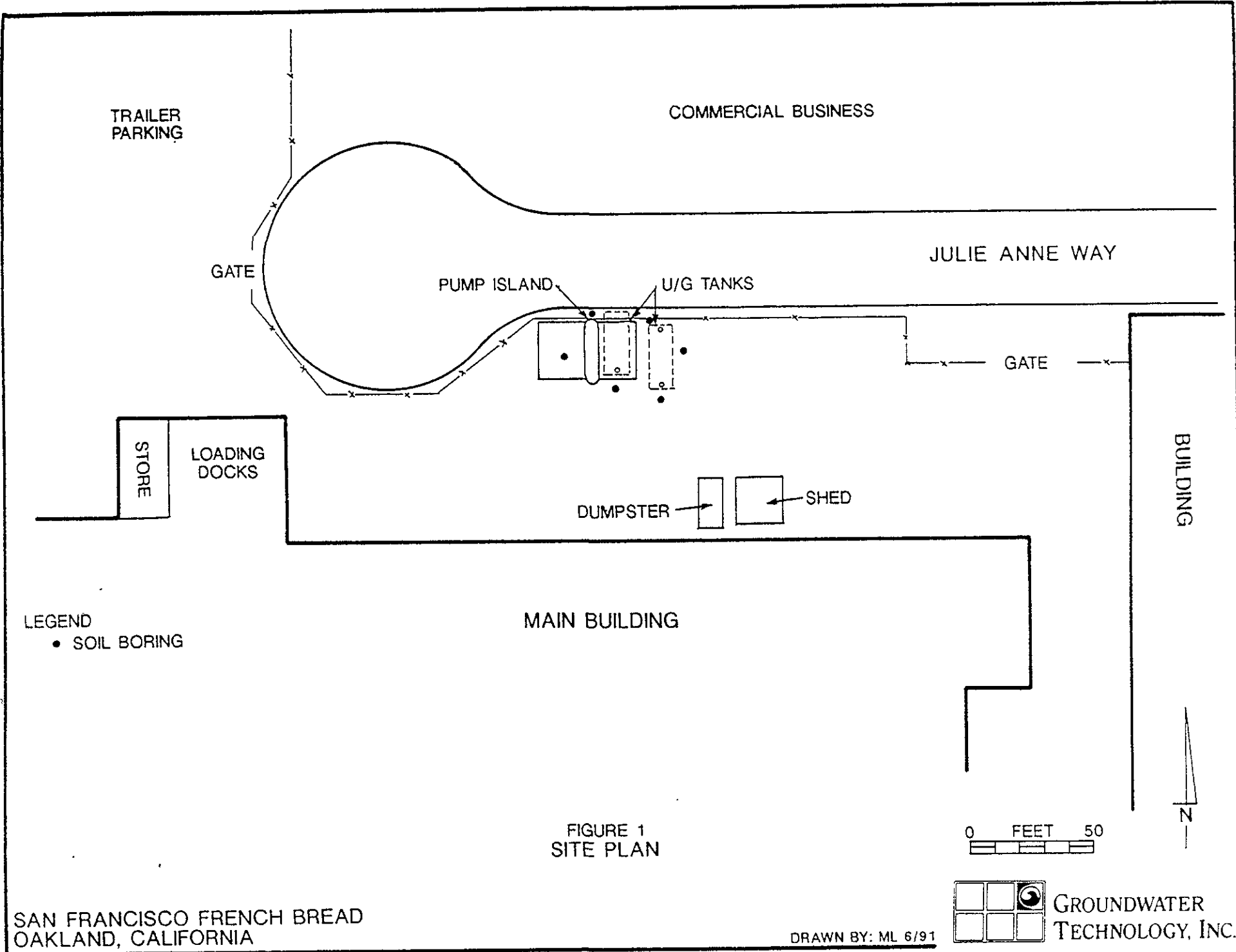


FIGURE 1
SITE PLAN

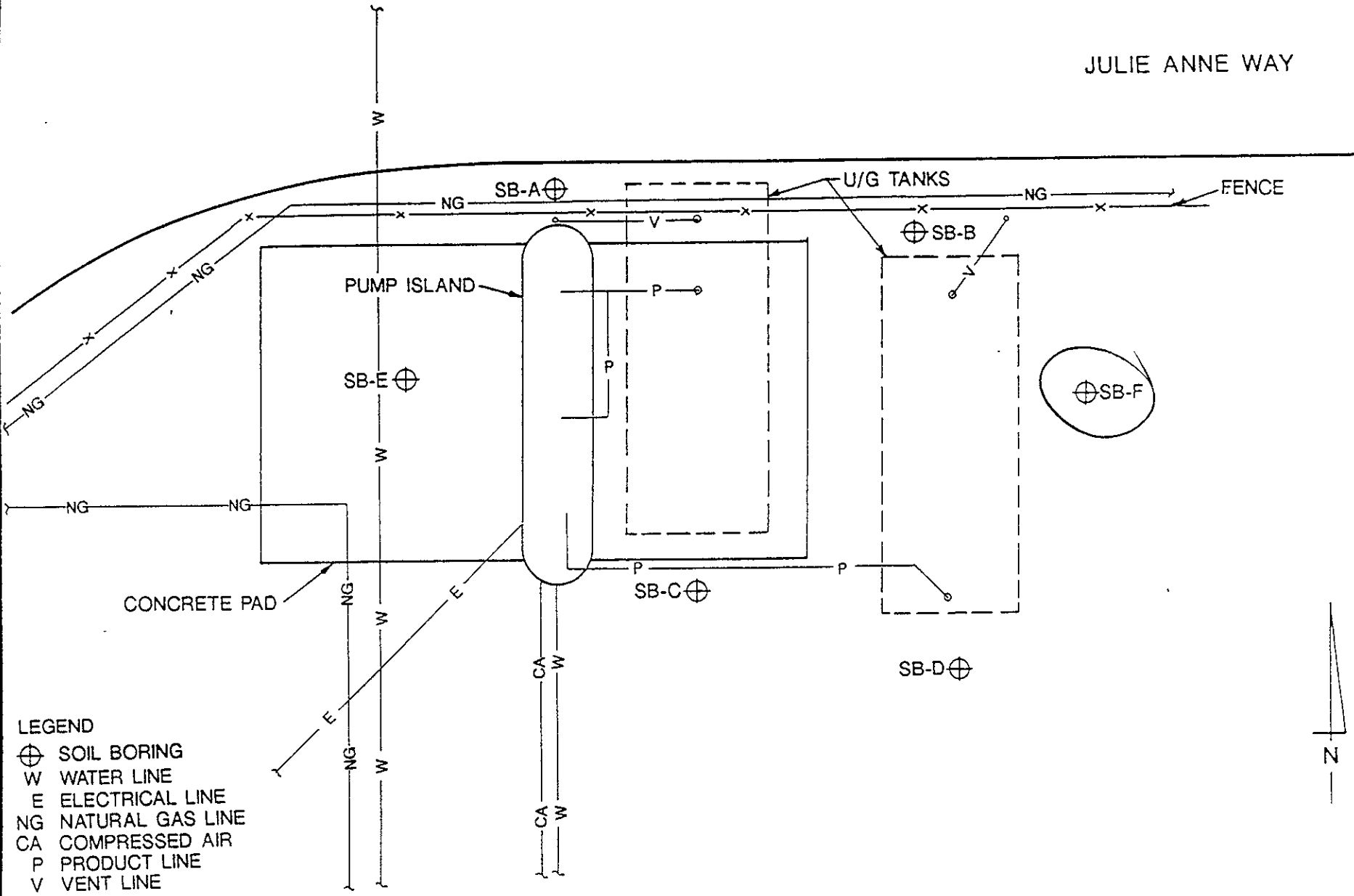
0 FEET 50

SAN FRANCISCO FRENCH BREAD
OAKLAND, CALIFORNIA

DRAWN BY: ML 6/91

 GROUNDWATER
TECHNOLOGY, INC.

JULIE ANNE WAY



- LEGEND
- ⊕ SOIL BORING
 - W WATER LINE
 - E ELECTRICAL LINE
 - NG NATURAL GAS LINE
 - CA COMPRESSED AIR
 - P PRODUCT LINE
 - V VENT LINE

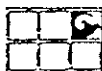


FIGURE 2
UNDERGROUND UTILITIES MAP

SAN FRANCISCO FRENCH BREAD
OAKLAND, CALIFORNIA

DRAWN BY: ML 7/91

GROUNDWATER
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GROUNDWATER
TECHNOLOGY, INC.

Soil Boring SB-A

Drilling Log

Project SFFB/520 Julie Anne Owner San Francisco French Bread
 Location Oakland, CA Project Number 020501446.020503
 Date Drilled 6/19/91 Total Depth of Hole 10.0 ft. Diameter 2.0 in.
 Surface Elevation _____ Water Level Initial 5.5 ft. 24-hour _____
 Screen Dia _____ Length _____ Slot Size _____
 Casing Dia _____ Length _____ Type _____
 Filter Pack Material _____
 Drilling Company Powercore Drilling Method Solid stem pushrod
 Driller George Evans Log by William L. Hughes
 Geologist/Engineer _____ License No _____

See Site Map
For Boring Location

NOTES:

| Depth (feet) | Well Completion | PID (ppm) | Sample ID Blow Count | Graphic Log | Soil Class | Description (Color, Texture, Structure) |
|--------------|-----------------|------------|-------------------------|-------------|------------|---|
| 0 | | | | | | BASE coarse |
| 2 | | 18 | | | CL | Greenish gray CLAY with some medium coarse grained sand (damp) (grades to dark gray, medium stiff) |
| 4 | | 32 | | | SP | Light brown to white SAND with some gravel (dry, very loose) |
| 6 | | 175 | SBA5 | | CL | Dark gray CLAY with rare gravel (10%), some sand (20%) Encountered water at 5.5 feet on 6/19/91 |
| 8 | | | | | GC | Dark gray sandy clayey GRAVEL (loose, saturated, wood fragments) |
| 10 | | 319 364 | | | SP | Fine SAND with some coarse sand (saturated, wood fragments) |
| 12 | | | | | | End of boring at 10.0 feet. Backfilled with neat cement grout. |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |



**GROUNDWATER
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**Soil Boring SB-B
Drilling Log**

Project SFFE/530 Jefe Anne Owner San Francisco French Bread
 Location Oakland, CA Project Number 020501446.020503
 Date Drilled 6/19/91 Total Depth of Hole 10.0 ft. Diameter 2.0 in.
 Surface Elevation _____ Water Level Initial 6.0 ft. 24-hour _____
 Screen Dia _____ Length _____ Slot Size _____
 Casing Dia _____ Length _____ Type _____
 Filter Pack Material _____
 Drilling Company Powercore Drilling Method Solid stem pushrod
 Driller George Evans Log by William L. Hughes
 Geologist/Engineer _____ License No _____

See Site Map
For Boring Location

NOTES:

| Depth (feet) | Well Completion | PID (ppm) | Sample ID Blow Count | Graphic Log | Soil Class | Description (Color, Texture, Structure) |
|--------------|-----------------|-----------|-------------------------|-------------|------------|--|
| 0 | | | | | | BASE coarse |
| 2 | | 25 | | | CL | Dark brown silty CLAY (damp) |
| 4 | | 14.4 | | | SP | Brownish gray fine grained poorly sorted SAND |
| 6 | | 185 | SBB5 | | SW | Dark greenish gray medium to fine grained SAND with subangular gravel (medium stiff, saturated, sheen, strong hydrocarbon odor) Encountered water at 6.0 feet on 6/19/91 |
| 8 | | 331 | | | SW | |
| 10 | | 257 | SBB10 | | CL | Dark greenish gray CLAY (very soft, very moist to saturated, strong hydrocarbon odor) |
| 10.0 | | | | | | End of boring at 10.0 feet. Backfilled with neat cement grout. |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |



Project SFF9/520 Jule Anne Owner San Francisco French Bread
 Location Oakland, CA Project Number 020501446.020503
 Date Drilled 6/19/91 Total Depth of Hole 10.0 ft. Diameter 2.0 in.
 Surface Elevation _____ Water Level Initial 8.0 ft. 24-hour _____
 Screen Dia _____ Length _____ Slot Size _____
 Casing Dia _____ Length _____ Type _____
 Filter Pack Material _____
 Drilling Company Powercore Drilling Method Solid stem pushrod
 Driller George Evans Log by William L. Hughes
 Geologist/Engineer _____ License No _____

See Site Map
For Boring Location

NOTES:
Rig refusal encountered at 2 feet. Rig was moved 8 inches west. Sampling was resumed at 2 feet below grade.

| Depth (feet) | Well Completion | PID (ppm) | Sample ID Blow Count | Graphic Log | Soil Class | Description (Color, Texture, Structure) |
|--------------|-----------------|-----------|-------------------------|-------------|------------|---|
| 0 | | | | | | BASE coarse |
| 2 | | 10.6 | | | | Green mottled black CLAY with angular 3/4" diameter gravel and sand (stiff to very stiff, damp to dry) |
| 4 | | 19 | | | CL | |
| 6 | | | SBC5 | | GC | Light brown to white coarse grained GRAVEL with fine grained sand and traces of dark gray to black clay and silt (loose, dry, hydrocarbon odor) |
| 8 | | 177 | | | GC | |
| 8 | | 145 | SBC8 | | CL | Encountered water at 8.0 feet on 6/19/91 (1047 hours) Black to dark gray sandy CLAY (very soft, saturated, sheen) |
| 10 | | 98 | | | | End of boring at 10.0 feet. Backfilled with neat cement grout. |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |



Project SFFE/580 Julie Anne Owner San Francisco French Bread
 Location Oakland, CA Project Number 020501446.020503
 Date Drilled 6/19/91 Total Depth of Hole 10.0 ft. Diameter 2.0 in.
 Surface Elevation _____ Water Level Initial 8.5 ft. 24-hour _____
 Screen: Dia _____ Length _____ Slot Size _____
 Casing: Dia _____ Length _____ Type _____
 Filter Pack Material _____
 Drilling Company Powercore Drilling Method Solid stem pushrod
 Driller George Evans Log by William L. Hughes
 Geologist/Engineer _____ License No _____

See Site Map
For Boring Location

NOTES:
Pig refusal occurred at 5 feet below grade.
Pig was moved 8 inches closer to the tank.
Sampling was resumed at 5 feet below grade.

| Depth (feet) | Well Completion | PID (ppm) | Sample ID Blow Count | Graphic Log | Soil Class | Description (Color, Texture, Structure) |
|--------------|-----------------|-----------|-------------------------|-------------|------------|---|
| 0 | | | | | | BASE coarse |
| 2 | | 34 | | | CL | Black CLAY with some gravel (very stiff, damp) (grades dark green, increasing sand and silt) |
| 4 | | 209 | SBD5 | | | |
| 6 | | | | | | Fine to medium grained, poorly sorted SAND (very loose, grains coated with dark liquid) |
| 8 | | 327 | SBD7 | | SP | ▼ Encountered water at 8.5 feet on 6/19/91 |
| 10 | | 68 | | | | End of boring at 10.0 feet. Backfilled with neat cement grout. |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |



Project SFB/580 Jane Anne Owner San Francisco French Bread
 Location Oakland, CA Project Number 020501446.020503
 Date Drilled 6/19/91 Total Depth of Hole 10.0 ft. Diameter 2.0 in.
 Surface Elevation _____ Water Level Initial 7.5 ft. 24-hour _____
 Screen: Dia _____ Length _____ Slot Size _____
 Casing: Dia _____ Length _____ Type _____
 Filter Pack Material _____
 Drilling Company Powercore Drilling Method Solid stem pushrod
 Driller George Evans Log by William L. Hughes
 Geologist/Engineer _____ License No _____

See Site Map
For Boring Location

NOTES:

| Depth (feet) | Well Completion | PID (ppm) | Sample ID Blow Count | Graphic Log | Soil Class | Description (Color, Texture, Structure) |
|--------------|-----------------|-----------|-------------------------|-------------|------------|--|
| 0 | | | | | | BASE coarse |
| 2 | | 3.1 | | | GC | Sandy clayey GRAVEL (mottled dark green clasts up to 3/4" in diameter, very stiff, damp, hydrocarbon odor) |
| 4 | | 4.8 | SBE5 | | CL | Dark green to black CLAY with some gravel (medium stiff, damp, hydrocarbon odor) (grades to black) |
| 6 | | 3.1 | | | | (grades decreasing gravel) |
| 8 | | | | | | Encountered water at 7.5 feet on 6/19/91 |
| 10 | | 4.0 | SBE9 | | SP | Dark gray to black interbedded SAND with gravel and clay (damp clay-sand beds, dry sand-gravel beds, stiff clay) |
| 10 | | | | | CL | Black sandy CLAY (soft, saturated) |
| 10 | | | | | | End of boring at 10.0 feet. Backfilled with neat cement grout. |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |



Project SFFB/520 Joe Anne Owner San Francisco French Bread
 Location Oakland, CA Project Number 020501446.020503
 Date Drilled 6/19/91 Total Depth of Hole 10.0 ft. Diameter 2.0 in.
 Surface Elevation _____ Water Level Initial _____ 24-hour _____
 Screen Dia _____ Length _____ Slot Size _____
 Casing Dia _____ Length _____ Type _____
 Filter Pack Material _____
 Drilling Company Powercore Drilling Method Solid stem pushrod
 Driller George Evans Log by William L. Hughes
 Geologist/Engineer _____ License No _____

See Site Map
For Boring Location

NOTES

| Depth (feet) | Well Completion | PID (ppm) | Sample ID Blow Count | Graphic Log | Soil Class | Description (Color, Texture, Structure) |
|--------------|-----------------|-----------|-------------------------|-------------|------------|--|
| 0 | | | | | | BASE coarse |
| 2 | | 10 | | | CL | Dark gray to black CLAY with some gravel (medium stiff, damp, red brick fragments) |
| 4 | | 220 | | | SW | (2 inch diameter wood fragments) SAND with some gravel |
| 6 | | 230 | SBF5 | | CL | Dark gray to black CLAY with some gravel |
| 6 | | 277 | SBF7 | | GW | (3 inch diameter wood fragments) Light gray to white GRAVEL with some sand (loose, dry) |
| 8 | | 220 | | | CL | CLAY with some gravel (grades decreasing gravel) |
| 10 | | 297 | SBF10 | | CL | (grades to dark grayish black) |
| 10 | | | | | | End of boring at 10.0 feet. Backfilled with neat cement grout. |
| 12 | | | | | | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | | | | | | |
| 20 | | | | | | |
| 22 | | | | | | |
| 24 | | | | | | |
| 26 | | | | | | |