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92 JUN 18 1992

June 18, 1992

Mr. Britt Johnson  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, California 94621

**Subject: Submittal of Preliminary Site Assessment Workplan  
Southern Pacific Transportation Company  
5th Avenue and 7th Street Property  
Oakland, California  
IC Project No. 05269**

94606 ←

↓ 94607

Dear Mr. Johnson:

Industrial Compliance (IC), on behalf of Southern Pacific Transportation Company (SPTCo), is submitting the attached Preliminary Site Assessment Workplan for an SPTCo property located at 5th Avenue and 7th Street in Oakland, California. This workplan was prepared in response to the Alameda County Health Care Services Agency (Alameda County) letter to SPTCo dated April 29, 1992. As requested, a statement of qualifications for the lead professionals involved with this project has been attached.

If there are any questions, please do not hesitate to contact Walter Floyd at (916) 369-8971.

Sincerely,

Walter Floyd  
Project Geologist

Mark S. Dockum, G.E.G.  
Project Manager

WF:MSD:au

Attachments

cc: Mike Grant



A workplan prepared for:

Southern Pacific Transportation Company  
One Market Plaza  
San Francisco, CA 94105

**PRELIMINARY SITE ASSESSMENT WORKPLAN  
SOUTHERN PACIFIC TRANSPORTATION COMPANY  
5th AVENUE AND 7TH STREET  
OAKLAND, CALIFORNIA**

IC Project No. 05269

Prepared by:

Walter Floyd  
Walter Floyd  
Project Geologist

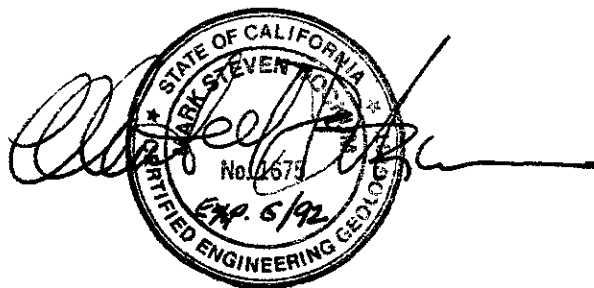
Mark S. Dockum  
Mark S. Dockum, C.E.G.  
Project Manager

unknown yet -  
① Inform county re ~500 cu yds  
of stockpiled soils generated from  
pull. Will these be remediated?

② Provide map for sites, to be  
as stated in April 3 1989  
report. -

③ Change location of new to be  
down gradient to pit, nearer the  
RR tracks

④ Need info confirming implied gradient



Industrial Compliance  
9719 Lincoln Village Drive, Suite 310  
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June 18, 1992

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**FIGURE**

**Location**  
(All figures are located at end of text)

- |   |                   |
|---|-------------------|
| 1 | Site Location Map |
| 2 | Site Map          |

## 1.0 INTRODUCTION

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This workplan was prepared in response to a letter from The Alameda County Health Care Services Agency (Alameda County), dated April 29, 1992, which required Southern Pacific Transportation Company (SPTCo) to provide a Workplan for a Preliminary Site Assessment for a SPTCo property located at 5th Avenue and 7th Street in Oakland, California (see Figure 1). The site formerly had 4 underground fuel storage tanks (USTs).

## 2.0 BACKGROUND

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In February 1989, Canonie Environmental Services Corporation (Canonie) removed from the site two 7,000-gallon USTs which contained diesel fuel, and two 7,000-gallon USTs which contained bunker "C" oil. As required by Alameda County, preliminary sampling was conducted around the perimeter of the tanks prior to excavation. The results of this sampling indicated that the soil contained from 6,200 to 16,000 parts per million (ppm) of total extractable petroleum hydrocarbons (TEPH). This information was conveyed to Alameda County in Canonie's letter report dated February 15, 1989 (report entitled: *Soil Sampling Report and Records of Correspondence with Regulatory Agencies*).

The tank removal operations were presented in Canonie's report dated April 3, 1989 (report entitled: *Completion Report - Underground Storage Tank Removal*). During the tank excavation, approximately 500 cubic yards of impacted soil were excavated and stockpiled on site. A total of 6 confirmation samples were collected from the bottom of the excavation. The results of analyses on these samples indicated benzene, toluene, ethylbenzene, and xylenes (BTEX) and polychlorinated biphenyls (PCBs) were not present at concentrations at or above the laboratory reporting limit. TEPH was detected in 1 sample at a concentration of 12 ppm. Oil and grease was detected in all of the soil samples at concentrations ranging from 8 to 43 ppm.

The Regional Water Quality Control Board (Regional Board) requires a groundwater investigation to be conducted when hydrocarbon concentrations exceed 100 ppm. For this reason, Alameda County, in a letter dated April 29, 1992, required SPTCo to further investigate the site.

### 3.0 PROPOSED SCOPE OF WORK

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It is proposed to install 1 monitoring well in the approximate center of the former USTs and sample the well quarterly for 1 year. The soil stockpile at the site will be sampled as part of this scope of work. This scope of work will be accomplished by completing the following 3 tasks; Task 1 - Field Investigation, Task 2 - Preparation and Submittal of Summary Report, and Task 3 - Quarterly Sampling and Report Preparation.

#### 3.1 Task 1 - Field Activities

This section presents the methods which will be used in conducting field activities at the site.

##### 3.1.1 Soil Stockpile Sampling

It is proposed to collect 6 composite samples from approximately 500 cy of stockpiled soil which originated from over excavation of the USTs. Each sample will be a composite of 4 discrete samples. The sampling locations will be spaced equidistant over the entire soil stockpile. The samples will be collected by digging into the stockpile approximately 12 inches. The soil at this depth will be manually packed into a clean brass tube (2-inch-diameter by 6-inch-long). Both ends of the brass tube will be covered with Teflon sheeting and tight-fitting plastic caps. The samples will be labelled and placed in a cooled ice chest upon transport to a state-certified laboratory. A chain-of-custody form will be filled out concurrently with sample collection and will accompany the samples upon shipment to the laboratory. Samples collected will be analyzed for semivolatile hydrocarbons with a fuel ID using EPA Method 8270 Modified. This method will detect diesel and heavier range hydrocarbons.

##### 3.1.2 Well Installation

One 4-inch diameter groundwater monitoring well will be installed in the approximate center of the group of former USTs (see Figure 2). The actual location of the well may be moved

approximately 10 feet if physical obstructions and/or underground or overhead utility lines present the construction of the well at this location.

A boring will be advanced with a truck mounted drill-rig equipped with 8-inch nominal outside diameter hollow-stem augers. A core barrel sampler will be fit within the hollow stem of the lead auger to provide a continuous core of each 5-foot interval for lithologic purposes. Each cored section will be examined and logged by an IC Geologist. If the continuous core section shows a change in lithology which could affect contaminant migration, or an interval of obvious impact, then a sample will be collected by filling a laboratory-supplied, 8-ounce glass jar with soil from the continuous cored section.

Samples for potential laboratory analysis will be collected at approximately every 5-foot interval (starting at the surface) using a California-modified split-spoon sampler lined with 3 brass liners (2-inch-diameter by 6-inch-long) inserted to help sample retention. The split-spoon sampler will be inserted through the annulus of the hollow stem augers and driven to the appropriate depth using a 140-pound drive hammer. The number of blows required to advance the sampler 6 inches at every 18-inch drive interval will be recorded on the well log. After the split-spoon sampler is driven to the appropriate depth, the sampler will be extracted from the borehole and the brass liners removed.

One brass liner from each drive interval will be preserved for shipment to the laboratory. Preservation will consist of covering both ends of the brass liner with Teflon sheeting and tight-fitting plastic caps. Each liner selected for shipment to the laboratory will be labelled with a unique sample number, boring number, depth of sample, date and time of collection, initials of collector, and any other pertinent information. After sample preparation, the brass liner will be sealed in a clean resealable plastic bag and placed in a cooled ice chest upon transportation to a state-certified laboratory. A chain-of-custody form will be filled out concurrently with sample collection and will accompany the samples upon shipment to a state-certified laboratory.

The soil samples collected in this investigation will be analyzed for total semivolatile hydrocarbons with a fuel ID using EPA Method 8270. This method detects diesel to motor oil range hydrocarbons.

IC anticipates encountering groundwater at a depth of 5 feet bgs, in which case only 1 soil sample will be submitted for analyses. If the water table is actually deeper than 5 feet bgs, then a maximum of 3 soil samples will be submitted to the laboratory for chemical analysis.

Residuals generated from the drilling process will be stored in 55-gallon drums appropriate for the storage and transportation of hazardous wastes. The date, contents, and the boring from which the contents originated will be labelled on each drum. Analytical results from the borings will be used to evaluate an appropriate disposal option. If analytical results indicate that TPH concentrations are below 10 ppm, the soil will be redistributed on site. If constituents are above these levels, a recommendation will be provided to Alameda County for the disposition of these soils. It is proposed that these drilling residuals be handled concurrently with the remediation effort.

The well casing shall consist of 4-inch diameter PVC pipe. The slotted section of the well will consist of 0.020-inch factory slotted PVC which shall extend 4 to 9 feet below and approximately 1 foot above the saturated zone. Because groundwater is anticipated at a depth of approximately 5 feet below ground surface (bgs), the sand pack, consisting of #1C or equivalent sand, shall extend approximately 6 to 8 inches above the slotted section. Approximately 6 to 8 inches of ¼-inch bentonite pellets will be emplaced over the sand pack and hydrated for approximately 10 minutes before filling the remaining annulus with a cement/bentonite grout consisting of approximately 2 pounds of powdered bentonite, 6.5 to 7 gallons of water, and 94 pounds (1 bag) of cement. The well will be completed at grade in a traffic box.

### **3.1.3 Well Development**

After well installation is completed and the cement seal has set for a minimum of 24 hours, the well will be developed. Development initially will be performed by using a bailer to remove coarse sediments that may have entered the well, after which a 4-inch surge block will be inserted into the casing. Surging will be performed by raising and lowering the surge block across the saturated portion of the screen approximately 20 times. A bailer will then be used to purge the well and remove coarse sediments. After which, a submersible or surface pump will be used to remove approximately 5 to 10 well volumes. Conductivity, pH, and



temperature measurements will be monitored until these parameters have stabilized. These parameters will be considered stabilized when 3 consecutive readings show:

- < 10% change in conductivity;
- < 10% unit change in pH; and
- < 10% change in temperature.

The well will be considered developed when the parameters have stabilized and the water flows clear or when 10 well volumes have been removed (whichever is the lesser amount).

#### **3.1.4 Well Sampling**

Prior to sample collection, the well will be purged to ensure that the water sample obtained from the well is representative of the formation water. The well will be purged until the total quantity of water removed is approximately 3 times the saturated volume in the well. Conductivity, pH, and temperature will be measured during purging. If parameters have not stabilized after 3 well volumes have been removed, an additional 2 well volumes (a total of 5) will be removed and the well sampled. The well will be considered adequately purged and ready to sample after development activities.

A groundwater sample will be collected with a clean acrylic bailer or a new, disposable polyethylene bailer. The water sample from the bailer will be transferred to clean, appropriately preserved laboratory-supplied glass containers.

The samples will be labelled and stored in a cooled ice chest until delivery to the analytical laboratory. A chain-of-custody form will be completed for the collected samples and will accompany these samples to a state-certified laboratory.

The groundwater samples will be analyzed for TPH as diesel, and BTEX using EPA Method 8260 Modified, and for TPH in the motor oil range using EPA Method 418.1.

Water from the well will be stored in 55-gallon drums appropriate for the storage and transportation of hazardous liquids. Results of the laboratory analyses will be used to dispose of this water in an appropriate manner.

### **3.1.5 Quality Assurance/Quality Control (QA/QC)**

As part of the QA/QC procedures for the first round of groundwater sampling, the following will be submitted to the laboratory for analysis in addition to the groundwater sample.

- 1 field blank prepared in the field using deionized water transferred through the well sampling equipment.
- 1 trip blank consisting of deionized water prepared in the laboratory, transported to the sampling location (in the ice chest to be used for the transport of all samples), and transported back to the laboratory along with the other groundwater samples.

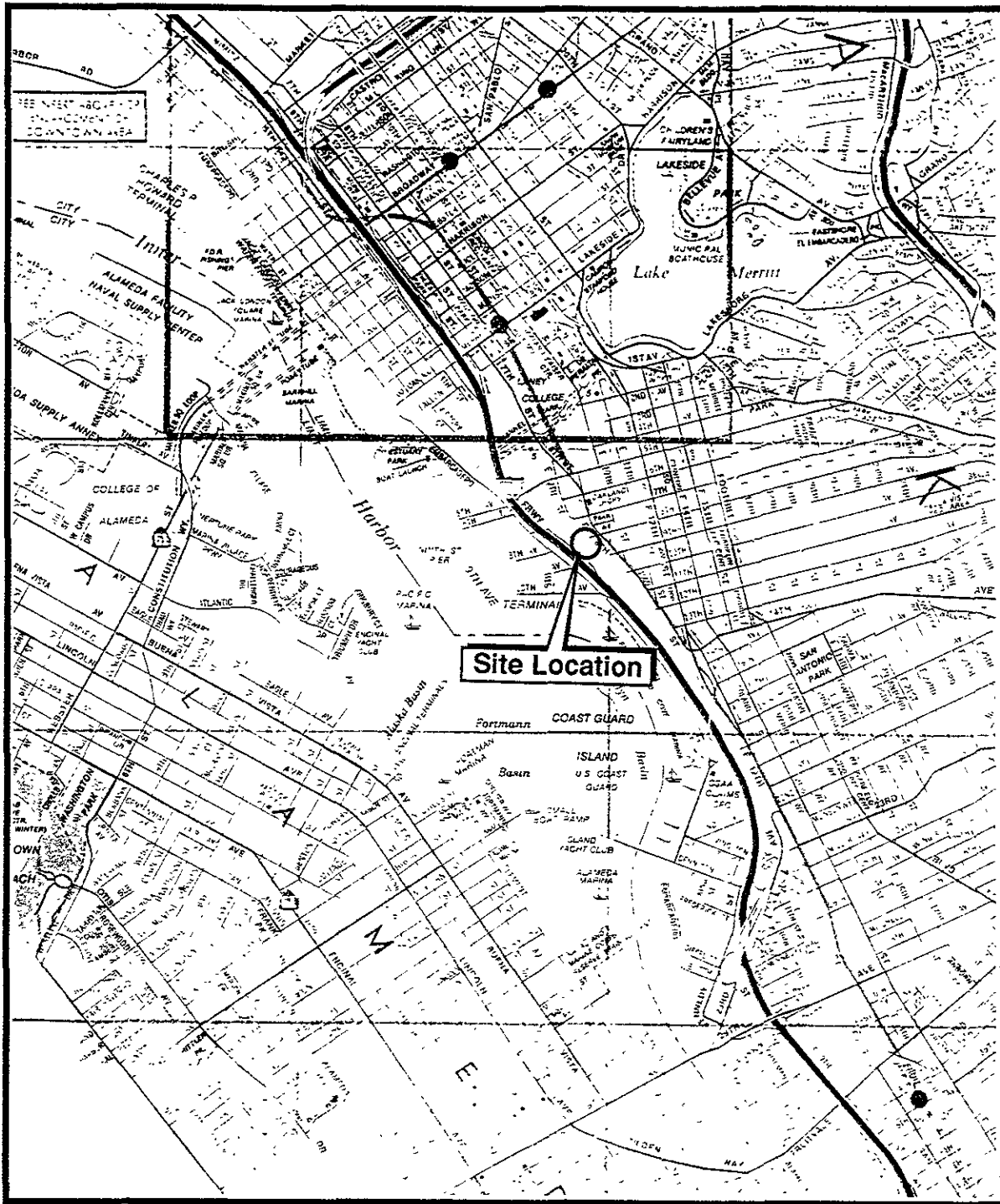
### **3.2 Task 2 - Preparation and Submittal of Summary Report**

Within 6 weeks after completion of field work, a summary report will be prepared. This report will include field procedures, analytical results, conclusions and recommendations.

### **3.3 Task 3 - Quarterly Sampling**

The groundwater monitoring well will be sampled on a quarterly basis for a period of 1 year; at which time the benefits of continued monitoring will be evaluated. The well will be sampled using the same protocol described in Task 2, with the exception of including only a trip blank with each sample collection as QA/QC.

A report will be prepared after each sampling event and submitted to the appropriate regulatory agencies.



Approx. Scale in Feet  
 0 2000'

Reference  
 Map of Oakland, Berkeley, Alameda  
 American Automobile Association



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 Environmental Systems, Inc.

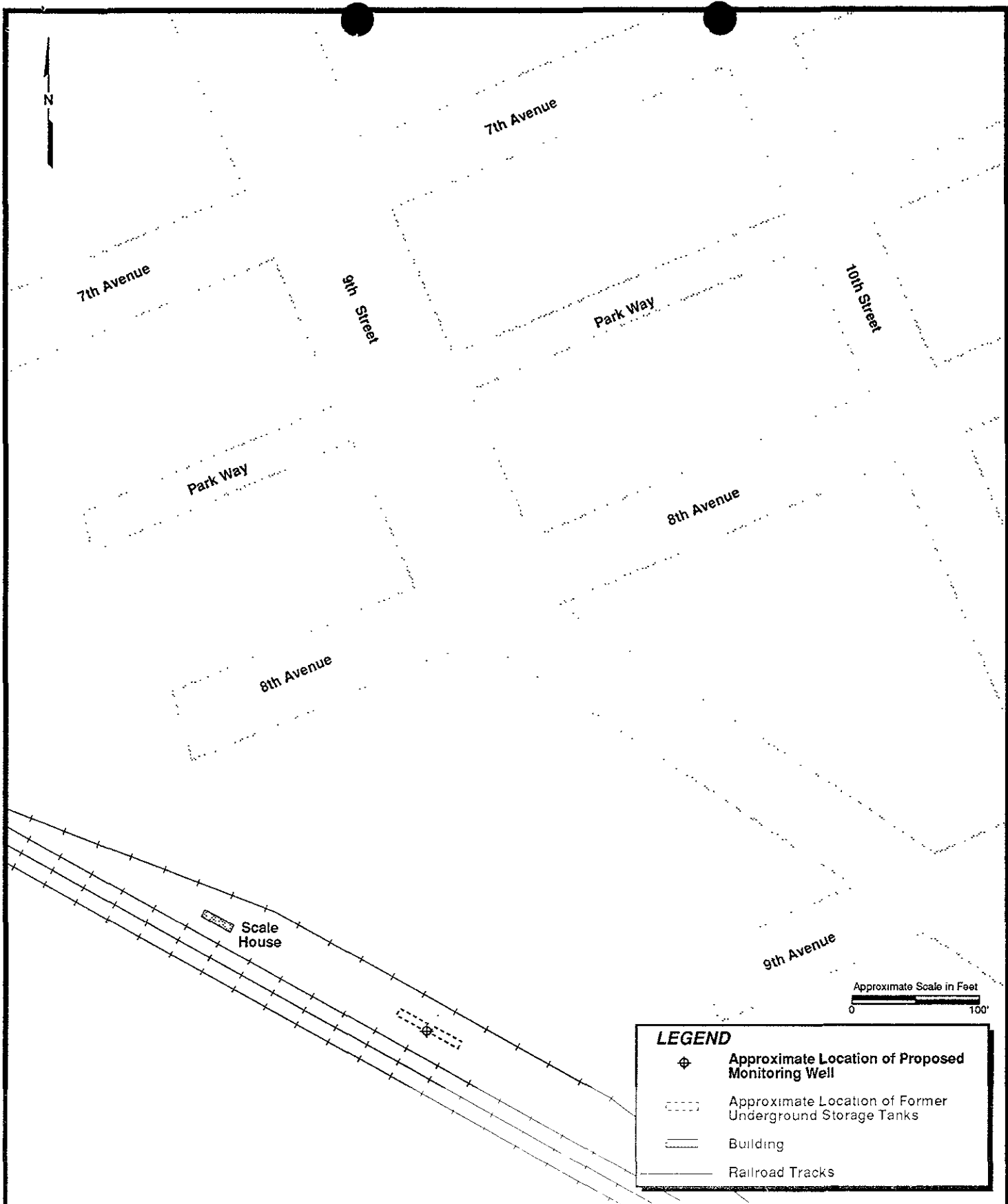


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| PROJECT NO: | 05269 | DATE       | 06 18 92 |
| DRAWN BY:   | PD    | CHECKED BY | WF       |

SITE LOCATION MAP  
 SOUTHERN PACIFIC TRANSPORTATION CO.  
 5TH AVENUE AND 7TH STREET PROPERTY  
 OAKLAND, CALIFORNIA

FIGURE  
 1

SCALE  
 as shown



**LEGEND**

- ◆ Approximate Location of Proposed Monitoring Well
- ⋯ Approximate Location of Former Underground Storage Tanks
- ▭ Building
- Railroad Tracks



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**SITE MAP**  
**SOUTHERN PACIFIC TRANSPORTATION CO.**  
**5TH AVENUE AND 7TH STREET PROPERTY**  
**OAKLAND, CALIFORNIA**

FIGURE:  
**2**

SCALE:  
 as shown

|                   |                |
|-------------------|----------------|
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