

20301



ENVIRONMENTAL TECHNICAL SERVICES

AN ENVIRONMENTAL CONSULTING FIRM

(800) 200-4ETS

Alameda County
2003
Environmental Health

**A WORK PLAN
FOR A LIMITED SITE ASSESSMENT
IN THE AREA OF A FORMER
500-GALLON GASOLINE UNDERGROUND STORAGE TANK**

Beneath the site at:

**1115 21st STREET
OAKLAND, CALIFORNIA 94607**

SEPTEMBER 2003

ENVIRONMENTAL TECHNICAL SERVICES

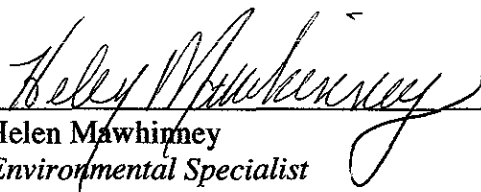
1548 Jacob Avenue, San Jose, CA 95188

Email: HMawhinneyETS@aol.com

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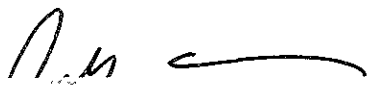
**1115 21st STREET
OAKLAND, CALIFORNIA 94607**



Helen Mawhinney
Environmental Specialist

9-23-03

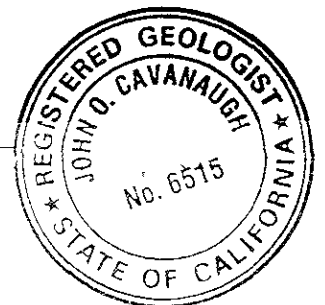
Date



John Cavanaugh
CA Registered Geologist License No. 6515

9/23/03

Date



1.0 INTRODUCTION

The following work plan, prepared in response to a pending real estate transaction, describes the proposed method of soil boring advancement, sample collection, and analyses, in the area of one former 500-gallon gasoline underground storage tank (UST), beneath the site at 1115 21st Street, Oakland, California. The site location is shown in the map of Figure 1. (Appendix A). The 500-gallon gasoline underground storage tank (UST) was removed from the subject site on November 11, 1993.

The Subject Site is located at 1115 21st and 2015 Chestnut Street, on the southwest side of 21st Street and on the northwest side of Chestnut Street in the City of Oakland. The subject site is located approximately 1-mile northwest of Highway 980 and approximately 1-mile southeast of the San Francisco Bay.

The purpose of the investigation is to attempt to determine the lateral and vertical migration, if any, of known contaminants in soil and ground water.

1.1 Subject Property Setting

The subject property located in the western portion of the City of Oakland in the San Francisco Bay Area occupies a broad alluvial valley that slopes gently northward toward San Francisco Bay and is flanked by alluvial fans deposited at the foot of the Diablo Range to the east and the Santa Cruz Mountains to the west.

The subject site is located approximately 1.25-miles west of Lake Merritt, a tidally influenced lake. Surface topography on and in the immediate vicinity of the subject property is almost flat.

1.2 Geologic and Soil Conditions

Materials underlying the site area are Quaternary-age sediments consisting of unconsolidated gravels, sands, and silts with interbeds of fine-grained floodplain clay deposits that form aquitards. Beneath these sediments, are older fine to coarse-grained sandy sediments (Lake Merritt Sand) deposited by erosion and alluvial deposition from the nearby upland surfaces. Bedrock at an estimated depth of less than 250-feet beneath the sediments consists of Jurassic-aged sedimentary rocks of the Franciscan Formation.

1.3 Groundwater Conditions

The subject site is located on the San Francisco Bay plain in the northernmost part of the Santa Clara Valley Groundwater Basin. (RWQCB, 1986), the surface of which slopes gently down toward the San Francisco Bay. The regional groundwater flow follows the topography, moving from areas of higher elevations to areas of lower elevation. The regional groundwater flow direction in the area of the subject property is estimated to be toward the west.

2.0 PREVIOUS ENVIRONMENTAL HISTORY

2.1 Removal of 500-Gallon Gasoline Underground Storage Tanks

A 500-gallon gasoline underground storage tank (UST) was removed from the subject site on November 11, 1993. A soil sample, designated as BP-1, was collected from beneath the former UST. The analytical results indicated Total Petroleum Hydrocarbons as gasoline (TPHg) at 630 mg/Kg, Benzene 600 ug/Kg, Toluene 770 ug/Kg, Ethyl Benzene 940 ug/Kg, Total Xylenes 2.5 ug/Kg and Lead 6.6 mg/Kg. Two samples, designated as SP-1 and SP-2, were collected from the stockpiled soil. Analytical results are presented in Table I.

TABLE I
Original Removal of One 500-Gallon Gasoline UST
November 23, 1993

Sample ID	TPHg (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl-Benzene (µg/Kg)	Total Xylenes (µg/Kg)	Lead (mg/Kg)
BP-1	630	600	770	940	2500	6.6
SP-1	ND	ND	ND	ND	ND	7.0
SP-2	22	21	27	33	85	3.2
Detection Limit	1.0	5.0	5.0	5.0	5.0	1.0

ND = Non Detect for constituent analyzed.

3.0 SCOPE OF SERVICES

This work plan describes a limited site assessment to be performed in the area of one former 500-gallon gasoline underground storage tank (UST). The purpose of the assessment is to attempt to determine the lateral and vertical migration of contamination, if any, in soil and groundwater.

3.1 Site Investigation

The assessment will be accomplished by advancing one to four soil borings to a total depth of 3.0' below groundwater. Soil and/or groundwater samples will be collected and analyzed. Groundwater depth is anticipated to be approximately 4' below ground surface (bgs).

The number of soil borings, their location, and sample collection will be based upon field monitoring i.e.; Gastech Model 1314 readings, odor and discoloration. The borings will be designated as FB1 through FB 4.

One exploratory soil boring (FB1) will be placed within the former tank pit. Soil and groundwater samples will be collected and analyzed. Should indications of contamination be present in soil or groundwater additional soil borings will be advanced as follows: Boring FB2 will be placed within 25' of, and in the assumed down gradient flow (west) of the former tank pit. A water sample will be collected and analyzed. Should indications of contamination not be present Boring FB3 will be placed west of and within 10' of the former tank pit, a capillary zone/soil and groundwater sample will be collected and analyzed. Boring FB4 will be placed southwest of and within 10' of the former tank pit. This boring will be lateral and up gradient to provide groundwater characterization. A capillary zone/soil and groundwater sample will be collected and analyzed.

3.2 Exploratory Soil Borings

Environmental Control Associates (ECA) of Aptos, California, will be engaged to perform field exploration using direct push Geoprobe ® equipment. Two-inch diameter soil probes will be advanced using truck-mounted hydraulic equipment to push and/or hammer, the Geoprobe ®, sampler into undisturbed soil. Continuous soil samples will be retrieved in clear plastic liners, so as to allow continuous profiling of the lithologic column. The soil profile will be logged in the field by a State Licensed Geotechnical Engineer, using the Unified Soil Classification System.

The probes will be advanced to approximately three-feet below first encountered water, to allow for the collection of groundwater samples.

3.3 Collection of Soil Samples

Soil samples will be collected upon encountering native soil (below the backfill), at five-foot intervals thereafter, at changing lithologies, and where indications of impact are present.

The clear plastic liner will be cut and prepared for transport to an analytical laboratory, based upon field monitoring results. The liner will be cut to a six-inch length, using a clean cutting tool designed specifically for this purpose. Each end of the tube will be covered with a clean Teflon sheet and tightly fitting plastic caps, then labeled with the site project number, date, and time of collection, depth interval, company and sampler ID. Pertinent data will be entered on to the chain of custody (COC) document. The sample will then be placed in a clean cooler, with ice in a plastic container, pending transport to an analytical laboratory.

3.4 Field Monitoring

Soil will be field monitored for odor and discoloration, and hydrocarbon vapor using a Gastech Model 1314, calibrated with hexane for gasoline vapor detection.

3.5 Collection of Groundwater Samples

Groundwater samples will be collected within each probe hole by lowering a clean 1/2-inch stainless steel bailer into the hole, and retrieving a groundwater sample. This process will be repeated and the bailer decanted into two one-liter amber glass bottles and two 40-ml volatile analysis vials (VOAs), to a positive meniscus eliminating headspace.

3.6 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. All sampling equipment will be decontaminated between samples using an Alconox wash, and two tap water rinses.

3.7 Analyses

Soil samples will be transported to Entech Analytical Laboratory of San Jose, California, a state certified hazardous materials analytical laboratory, under chain of custody.

Selected soil samples and all groundwater samples, will be analyzed for Total Petroleum Hydrocarbons as Gasoline (TPHg), Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) and MTBE, using EPA Modified Method 8015/8020/602.

3.8 Health and Safety Plan

A site specific Health and Safety Plan will be prepared to guide the field crew in safely handling potentially hazardous materials, to discuss potential site and work hazards, and to identify the nearest health care facilities. These issues will be discussed in a tailgate safety meeting prior to the initiation of work.

4.0 Report

A report will be prepared documenting work performed, tables of analytical results, laboratory analytical reports, field observations, chain of custodies, soil boring logs, and to-scale diagrams.

APPENDIX A - FIGURES

Figure 1. Site Location Map

Figure 2. Location of Former 500-Gallon Gasoline UST

Figure 3. Proposed Soil Boring Locations

1115 21st STREET
OAKLAND, CALIFORNIA

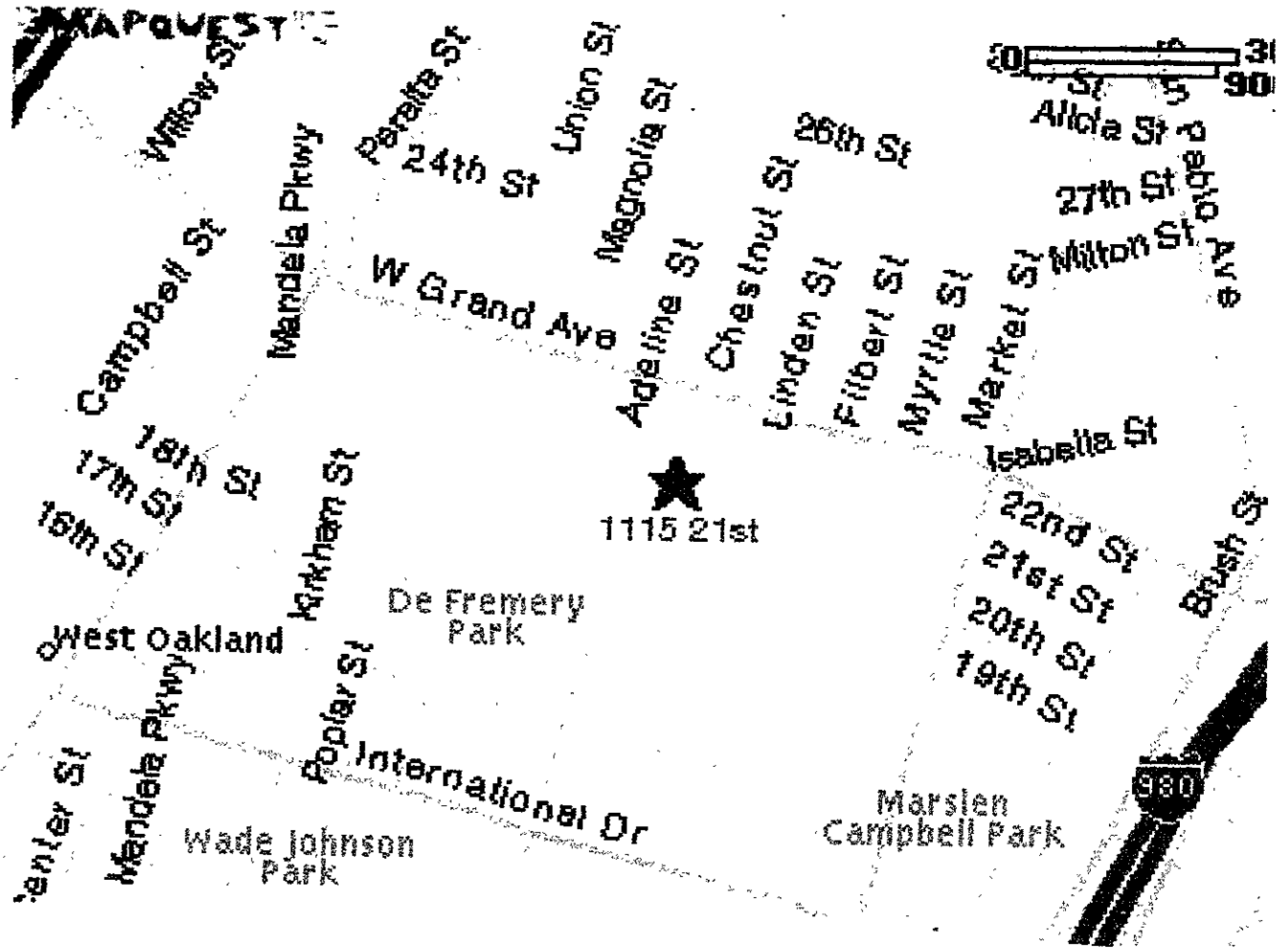


Figure 1 - Site Location Map

Site Location:
1115 21st Street
Oakland, CA 94607

Environmental Technical Services
1548 Jacob Avenue, San Jose, CA 95124
(408) 267-6427

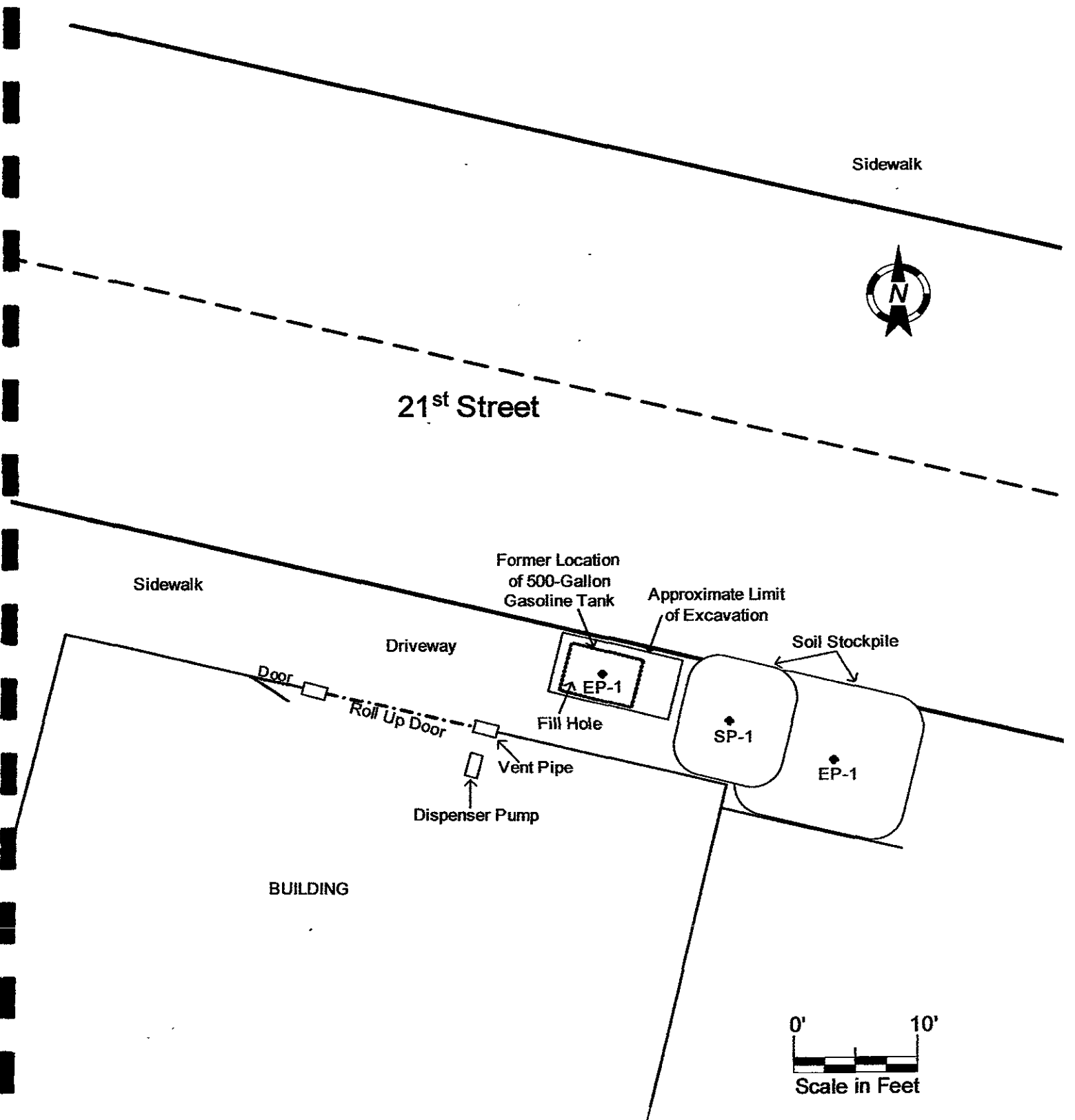


Figure 2 - Former 500-Gallon Gasoline UST Location and Soil Samples Locations collected on November 11, 1993

Site Location:
 1115 2nd Street
 Oakland, CA 94607

Environmental Technical Services
 1548 Jacob Avenue, San Jose, CA 95124
 (408) 267-6427

- Legend:**
- Location of Soil Sample
 - Location of Former UST

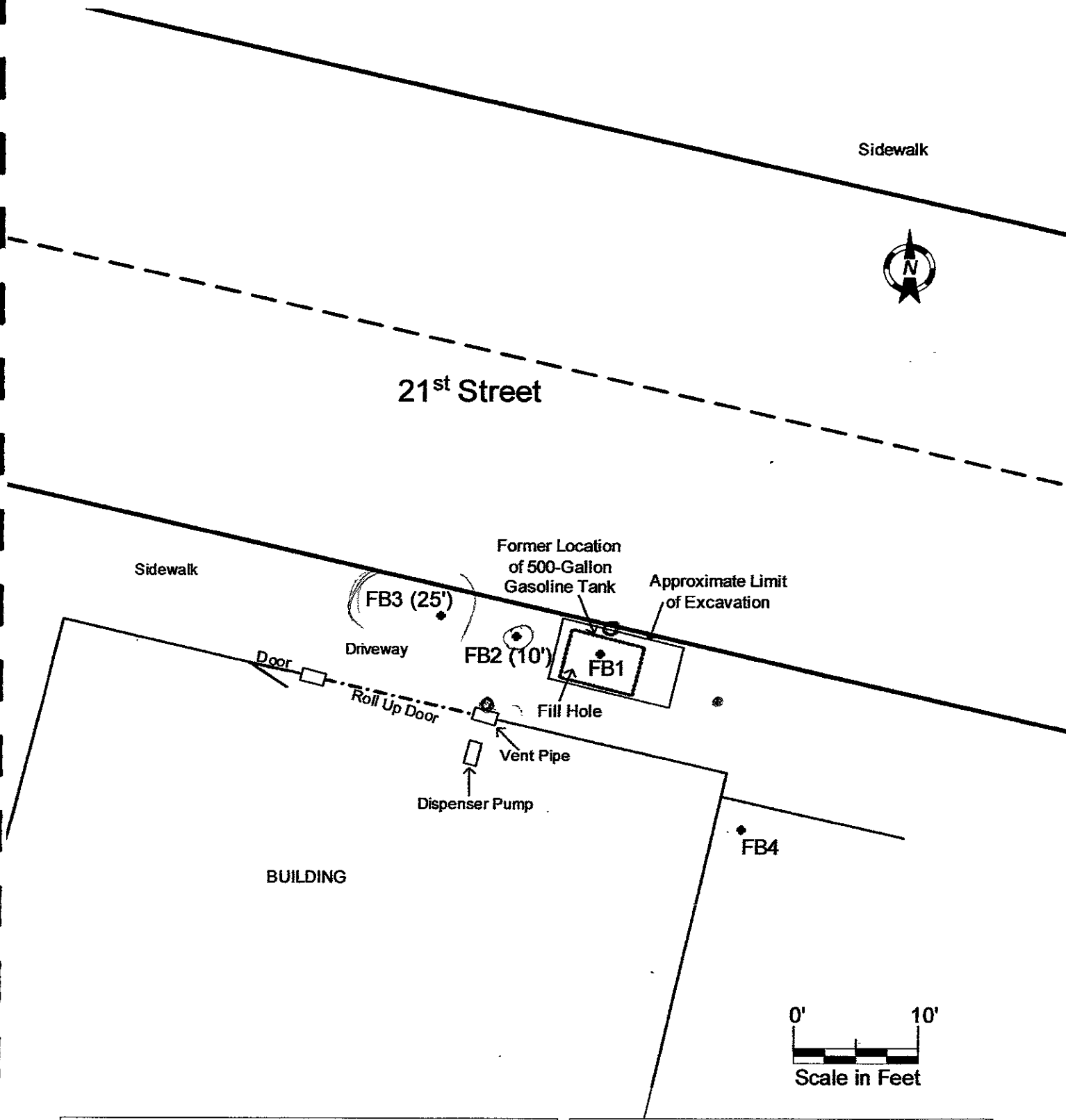


Figure 3 - Former 500-Gallon Gasoline UST Location and Proposed Soil Boring Locations

Site Location:
 1115 21st Street
 Oakland, CA 94607

Environmental Technical Services
 1548 Jacob Avenue, San Jose, CA 95124
 (408) 267-6427

Legend:

- Location of Proposed Soil Boring
- Location of Former UST

APPENDIX B

Original Tank Removal - November 23, 1993
Laboratory Analytical Report



PRIORITY ENVIRONMENTAL ANALYTICAL LABORATORY

Precision Environmental Analytical Laboratory

November 29, 1993

PEL # 9311075

TANK PROTECT ENGINEERING, INC.

Attn: Jeff

Re: Three soil samples for Gasoline/BTEX analysis.

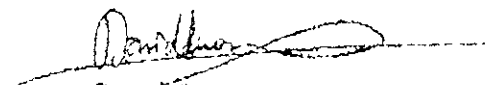
Project name: Franks Tire Service
Project location: 1115 21st St.- Oakland, CA.
Project number: 293A-112393

Date sampled: Nov 23, 1993
Date extracted: Nov 24-25, 1993

Date submitted: Nov 24, 1993
Date analyzed: Nov 24-25, 1993

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
BP-1 below UST	830	600	770	940	2500
SP-1	N.D.	N.D.	N.D.	N.D.	N.D.
SP-2	22	21	27	33	85
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	92.0%	90.2%	91.7%	89.6%	100.3%
Duplicate Spiked Recovery	94.9%	94.5%	93.2%	96.2%	104.1%
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030/ 8015	8020	8020	8020	8020


David Duong



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

November 29, 1993

PEL # 9311075

TANK PROTECT ENGINEERING, INC.

Attn: Jeff

Re: Three soil samples for total Lead analysis.

Project name: Franks Tire Services

Project location: 1115 21st St., - Oakland, CA.

Project number: 293A-112393

Date sampled: Nov 23, 1993

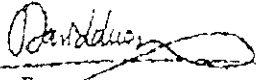
Date extracted: Nov 24-26, 1993

Date submitted: Nov 24, 1993

Date analyzed: Nov 24-26, 1993

RESULTS:

SAMPLE I.D.	Lead (mg/Kg)
BP-1	6.6
SP-1	7.0
SP-2	3.2
Blank	N.D.
Detection limit	1.0
Method of Analysis	7420


 David Duong
 Laboratory Director



TANK PROTECT ENGINEERING
 2021 WHIFFLE ROAD
 UNION CITY, CA 94507
 (415) 429-9089
 (800) 527-9089
 FAX (415) 429-1051

PEL # 9311075
 INV # 24233

LAB: PRIORITY
 TURNAROUND: NORMAL
 P.O. #: 715

PAGE 1 OF 1

CHAIN OF CUSTODY

PROJECT NO.		SITE NAME & ADDRESS				ANALYTES REQUESTED	REMARKS						
277A-112372		FRANKS TIRE SERVICE 115 5th ST STREET OAKLAND, CA											
CARRIER NAME, ADDRESS AND TELEPHONE NUMBER		TO NO	DATE	TIME	SOIL	WATER	SAMPLING LOCATION	TYPE OF CONTAINER	(1) TOTAL LIGHT METALS	LEAD	TOTAL HEAVY METALS	Pb & Cd	OTHER TOTAL LEAD
LYLE TRAVIS Tank Protect Engineering 2021 WHIFFLE ROAD, UNION CITY, CA 94507 (415) 429-9089													
X	BP-1	11/21/01	1:57		✓		BP-1 @ 9.5'	GLASS TUBE	✓	✓			
X	SP-1		2:07		✓		SP-1 @ 10'-15'	↓	✓	✓			
X	SP-2		2:15		✓		SP-2 @ 10'-15'	↓	✓	✓			

Notified by: (Signature) <i>Lyle Travis</i>	Date / Time 11/21/01 11:27AM	Received by: (Signature) <i>[Signature]</i>	Date / Time 11/21/01 9:30AM
Notified by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Notified by: (Signature)	Date / Time 11/21/01 9:30AM	Received by: (Signature)	Date / Time

F.02

FAX NO. 4093460663

PRIORIT LHEP

NOV-26-01 TUN 13:03

DATE: 11/23/01