

May 25, 1993



Ms. Juliet Shin
Alameda County Health Care Services Agency
Department of Environmental Health
UST Local Oversight Program
80 Swan Way, Rm. 200
Oakland, CA 94621

Re: Soil Remediation Workplan
1200 San Antonio Avenue
Alameda, California

Dear Ms. Shin:

Artesian Environmental Consultants (Artesian) is pleased to present this proposal and site safety plan to you regarding soil remediation on 1200 San Antonio Avenue. Artesian has been retained by Mr. Peter Templeton. Artesian Environmental Consultants is a state licensed general engineering contractor (CA: A, Haz Waste, C-57: 624461).

INTRODUCTION

This work plan presents the proposed activities by Artesian Environmental Consultants, (Artesian) at 1200 San Antonio Avenue in Alameda, California (Figures 1 through 3). The purpose of the project is to clean-up contaminated soil identified during the removal of a fuel oil tank on a residential property.

Groundwater depth is unknown. The depth of the former fuel oil tank pit was 6.5 feet below groundwater. The depth of the excavation will be approximately 7 to 10 feet below ground surface. The summary of the scope of work is listed below:

Scope of Work

Soil Remediation

1. Prepare a workplan and site safety plan;
2. Using an backhoe, remove fuel oil contaminated soil to a depth of approximately 7 to 10 feet below ground surface in the vicinity of the former 550 gallon tank.
3. Supervise the filling of the excavations with clean engineered fill and compact to proper compaction;
4. Document the field activities, review laboratory data and prepare a report of the soil remediation;

BACKGROUND

Site Setting

The project site is located within the city limits of Alameda, Alameda County, California. The site is surrounded by residential properties. The site is bounded by San Antonio Avenue to the north, and Bay Street to the west (Figure 2).

Previous Work

On January 11, 1993, one underground storage tank (UST) was removed from the property at 1200 San Antonio Avenue in Alameda, California. The tank had a capacity of 550 gallons. The fuel contents were Diesel No.2, fuel oil. The tank was removed by Artesian Environmental Consultants (Lic. 624461). The original tank installation permit was from 1928.

The tank, and associated piping was transported and destroyed by Erickson, a licensed hauler and disposal facility. One of the pipeline samples, P-3, contained 420 ppm of TPH-d and a small quantity of xylene compounds (5.5 ppb). The sample location was within 6 inches of a 90° elbow.

The soil samples T-1 and T-2 were collected from underneath the tank contained low levels of TPH-d at 64 ppm and 58 ppm, respectively. The tank did not appear to have any holes in it, and the soil in the excavation was not stained or discolored. The impacted soil around the tank may be a result of past overfilling.

SOIL REMEDIATION

Site Safety Plan

The site safety plan has been prepared (Attachment A) and will be on-site during all field activities. All persons in the decontamination area will be signed in on the site safety forms and informed of the safety regulations on site. Underground Service Alert (USA) will be notified to identify underground utilities and other possible subsurface obstacles. An underground line locating survey will be performed in the vicinity of the proposed subsurface activities. For safety reasons, the area of the property undergoing soil remediation will be secured with a minimum of a five-foot high fence to prevent access to the property by unauthorized persons.

Soil Excavation

Soil containing diesel in the former tank area will be removed using a backhoe. The soils will be excavated to approximately 7 to 10 feet below ground surface. Groundwater depth is unknown. For safety purposes, an organic vapor meter will be used in the field to detect the lighter ends of diesel (BTEX) in the breathing zone.

Soils will be visually isolated and segregated in the field for staining and discoloration. Artesian will document the soil removal process with field reports and photographs. After the removal of soil having obvious staining, discoloration or odor, confirmatory soil samples will be collected as follows: one sample in the base of the former tank pit, two soil samples in opposite walls at the maximum depth of the over-excavated area. One sample will be collected in the pipe area (near sample P-3). Additional samples may be selected on the recommendation of the geologist and regulator. All sampling will be performed according to Standard Operating Procedures in Attachment B.

Confirmation Soil Samples

Soil samples will be sent to Chromalab, Inc. of San Ramon, California, a state-certified hazardous materials testing laboratory. Soils will be analyzed for total petroleum hydrocarbons (TPH-d) by EPA Method 8015 and BTEX by EPA Method 8020.

7. Clean soils from the overburden from the excavation will be placed onto plastic sheeting. Soil stockpiles will be sampled with pre-cleaned brass tubes, 6 inches long and 1.5 inches in diameter. The clean soils removed from the diesel excavation area will be segregated in the field from the contaminated soils. The soils will be characterized using the same analyses as mentioned above. Contaminated soils will be disposed of at a proper landfill, pending analytical results.

DISTRIBUTION

Artesian will submit copies of this workplan to the following individuals:

Name

Mr. Peter K. Templeton
1200 San Antonio Avenue
Alameda, CA 94501

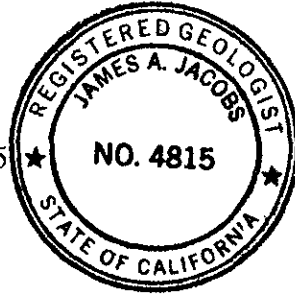
Mr. Richard Hiatt
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster St., 5th Floor
Oakland, CA 94612

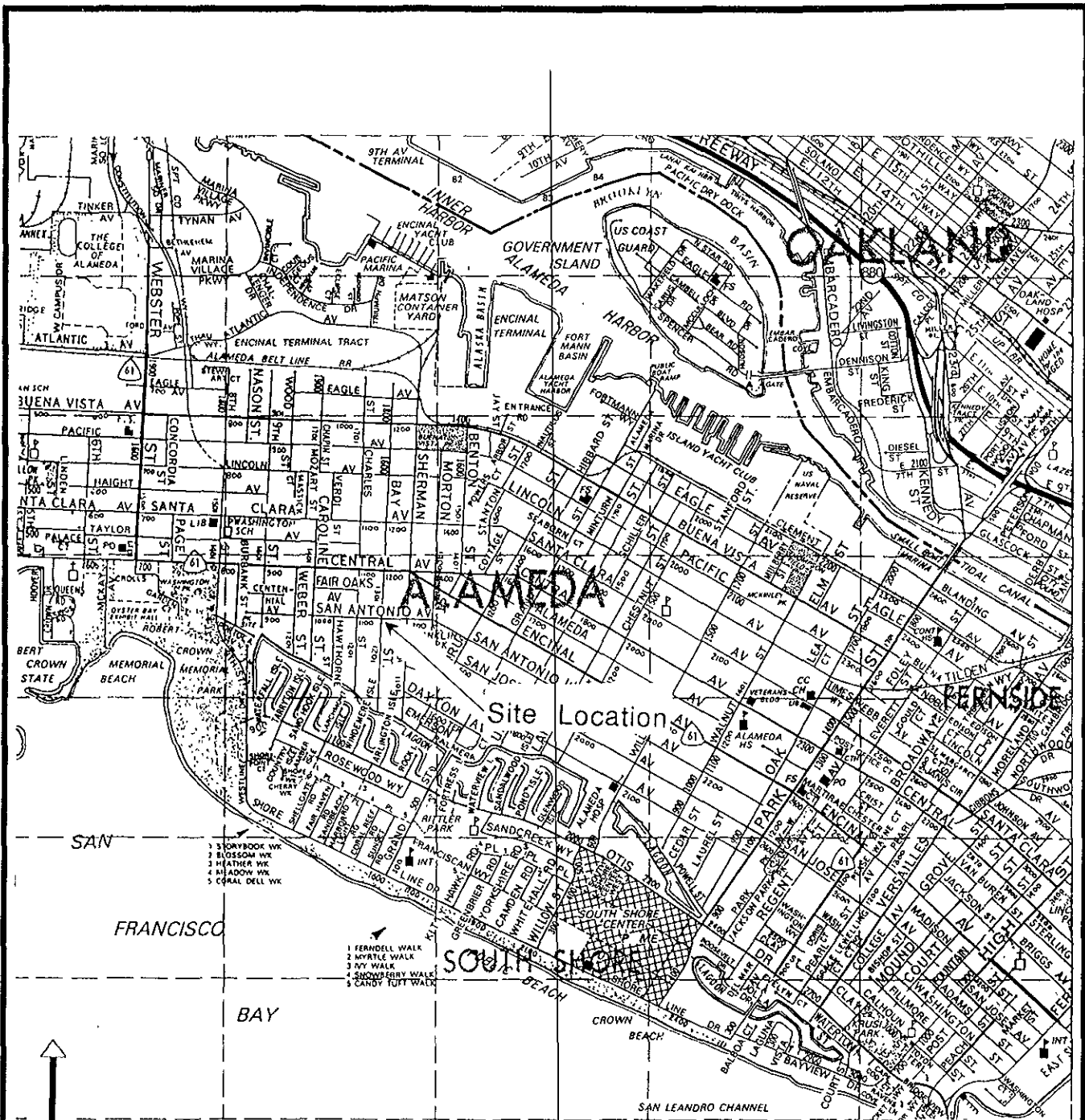
Ms. Juliet Shin, Hazardous Materials Specialist
Alameda County Environmental Health Services Agency
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621

Please call me at (415) 257-4801 if there is any questions or comments.

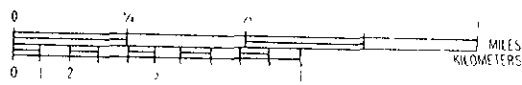
Sincerely,

James A. Jacobs
James A. Jacobs, R.G. #4815
Principal Geologist





Taken from Thomas Bros Maps



Artesian Environmental Consultants
 3175 Kerner Blvd., Suite E
 San Rafael, CA 94901
 (415) 257- 4801

Mr. Peter Templeton
 1200 San Antonio Ave.
 Alameda, CA

Project No. 061-01-01

Date: 1/21/93

Drawn by: TNM

Figure 1

SAN ANTONIO AVENUE

Garage

1200 San Antonio Ave.
House

Tank →

N

SIDEWALK

BAY STREET

Artesian Environmental Consultants
3175 Kerner Blvd., Suite E
San Rafael, California 94901
415-257-4801 Fax 257-4805

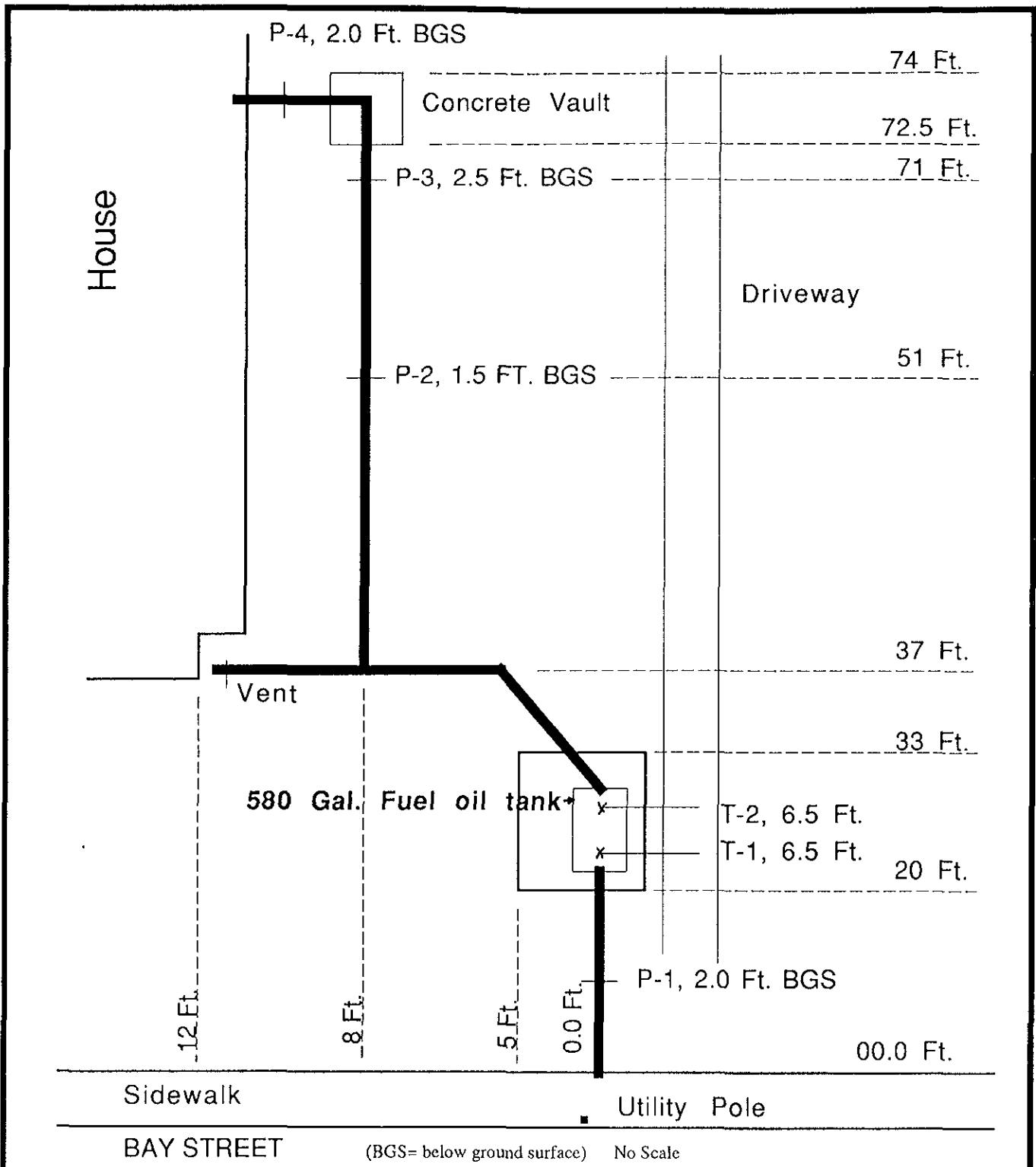
Mr. Peter Templeton
1200 San Antonio Ave.
Alameda, California

Project No. 061-01-01

Date: 1/17/93

Drawn by: OTJ

Figure No.: 2



BAY STREET

(BGS= below ground surface) No Scale

Artesian Environmental Consultants
 3175 Kerner Blvd., Suite E
 San Rafael, California 94901
 415-257-4801 Fax 257-4805

Soil Sample Location Map

Peter Templeton
 1200 San Antonio Avenue
 Alameda, California

Project No. 061-01-01

Date: 1/17/93

Drawn by: JJ

Figure No.: 3

ATTACHMENT A

ARTESIAN ENVIRONMENTAL CONSULTANTS
JOB SAFETY PLAN

Project Location: 1200 SAN ANTONIO AVE., ALAMEDA, CA ., 94501

Artesian Job Number: 061-01-02

The possible hazards associated with this job are expected to be: physical hazards associated with working a truck-mounted drill rig, acoustical hazards associated with concrete drilling, chemical hazards from DIESEL AND B-TEX, PHYSICAL HAZARDS ASSOCIATED WITH OPERATING A BACKHOE.

Required personal protective equipment for this project: Level D Protection (steel toe neoprene boots, coveralls, work gloves, hard hat, safety glasses, and ear plugs when necessary). Level C Protection on standby (OV cartridges).

ARTESIAN ENVIRONMENTAL CONSULTANTS
JOB SAFETY PLAN

1. Site: RESIDENCE
1200 SAN ANTONIO AVE
ALAMEDA, CA 94501
2. Location:
3. Plan Prepared: TOM MAGNEY Date: 11/13/92
4. Plan Approved: JIM JACOBS .PM Date: 11/13/92 ; 5/28/93
5. Facility Description: PRIVATE RESIDENCE
6. Status (active, inactive, unknown):
7. Surroundings: Site is bounded by : (west), (south), (east), (north).
BAY STREET, RESIDENCE, RESIDENCE, SAN ANTONIO AVE.
8. Site Map: Attached
9. Climate: Moderate dry summers, cool wet winters
10. Site history (origin of contamination and history of injuries exposure, chemical spills, complaints, etc.). 550 GALLON HEATING OIL TANK FOR RESIDENCE - TO BE REMOVED.
11. Description of work: REMOVAL OF 550 GALLON DIESEL OR HOME HEATING OIL TANK
12. Chemical contaminants: DIESEL, BENZENE, TOLUENE, ETHYLBENZENE, XYLENES

Chemical	Media	Minimum	Maximum
DIESEL	FUEL	0.0	420 ppm
B	" CONTAMINATED SOILS	↓	Unknown
T	"		Unknown
E	"		Unknown
X	"		5.5 ppb

ARTESIAN ENVIRONMENTAL CONSULTANTS
JOB SAFETY PLAN

13. Procedures to mitigate hazards:

A) Mechanical Hazards

- verify that all equipment is in good condition
- barricade area or otherwise restrict access
- exercise caution when working in close proximity to the drill rig

B) Electrical Hazards

- locate and mark buried utilities before drilling
- maintain at least 10 feet of clearance from overhead power lines
- properly ground all electrical equipment
- avoid standing in water when operating electrical equipment
- be familiar with specific operating instructions for each piece of equipment
- barricade area or otherwise restrict access
- deactivate any source of ignition within 25 feet of work area

C) Chemical Hazards

- use personal protective equipment listed above
- conduct direct reading air monitoring to evaluate respiratory and explosion hazards
- wash hands before eating or drinking
- avoid hand to mouth contact before washing hands
- keep dust to a minimum, avoid breathing dust

D) Temperature Hazards

- Heat: When temperature exceeds 70 F, take frequent breaks in shaded area. Unzip or remove coveralls during breaks. Have cool water or electrolyte replenishment solution available. Drink small amounts frequently to avoid dehydration. Count the pulse rate for 30 seconds, as early as possible in the rest period. If the pulse rate exceeds 110 beats per minute at the beginning of the rest period, shorten the work cycle by one-third
- Cold. wear multilayer cold weather outfits, the outer layer should be of wind-resistant fabric.

E) Acoustical Hazards

- use earplugs when noise level prevents conversation in normal voice at a distance of three feet.

F) Organic Vapors

- monitor organic vapors. If total hydrocarbons exceed 50 ppm above background, don Level C personal protective equipment
- if total hydrocarbons exceed 500 ppm, supply mechanical ventilation
- monitor lower explosive limit. If LEL exceeds 20%, leave area and call fire department
- no smoking within 25 feet of working area

- 14. Decontamination procedures:
 - Steam clean equipment before leaving work area.
 - Wash boots and gloves.
 - Launder coveralls.
 - Wash hands and face as soon as possible after stopping work.

- 15. Materials generated on-site:
 - Drum drill cuttings, decon water, and well water in DOT approved drums with proper labels and markings.
 - Leave on-site pending analytic results.
 - LEAVE SOIL ON VISQUEVE PLASTIC PENDING ANALYTIC RESULTS

- 16. Site resources: WATER
ELECTRICAL
TELEPHONE
FIRE EXTINGUISHER

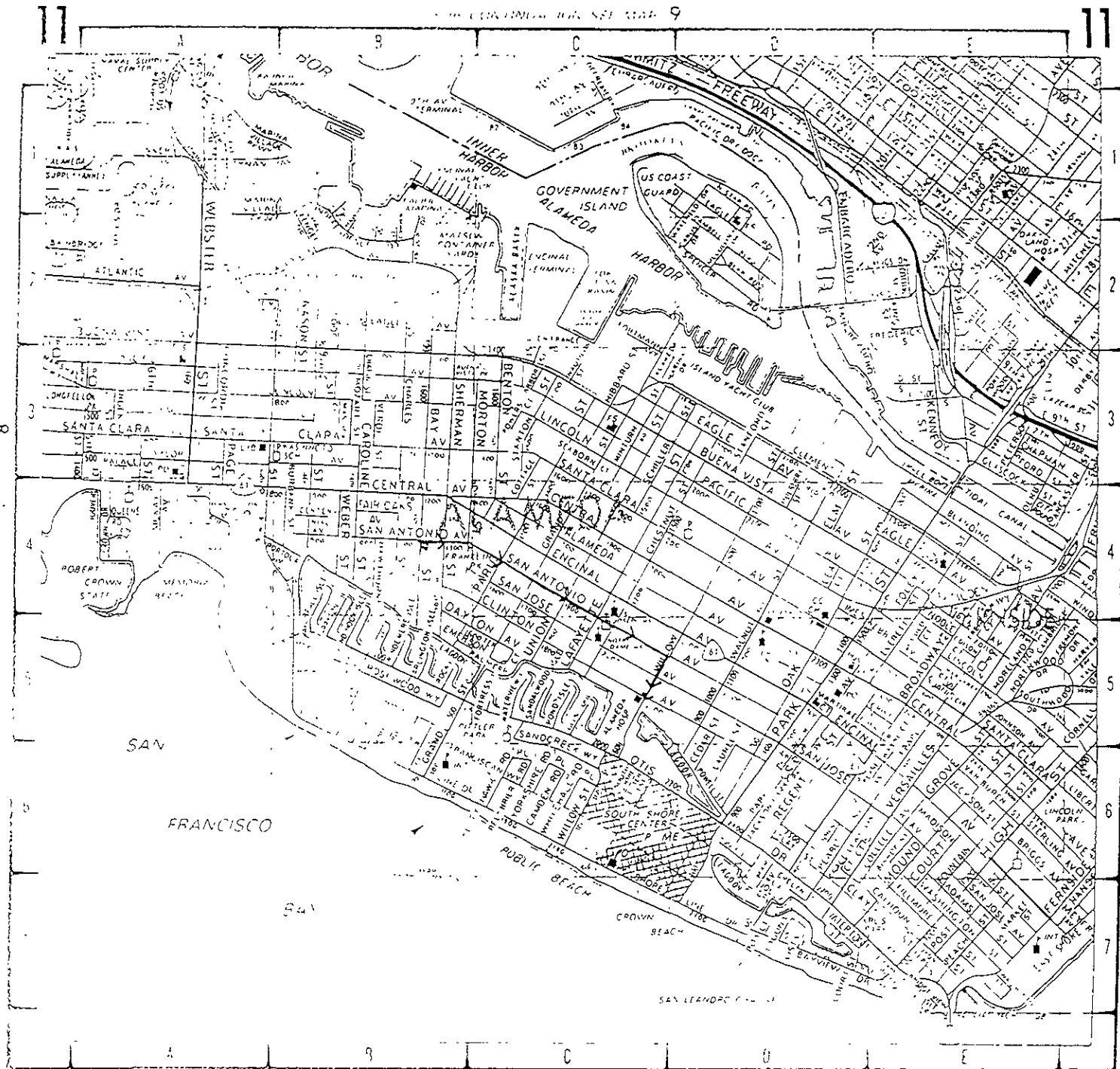
- 17. Emergency equipment:
 - Fire extinguisher and first aid kit are to be on-site at all times.

- 18. Emergency telephone numbers:
 - Ambulance..... 911
 - Police 911
 - Fire Department 911
 - Hospital:
 - Poison Control Center (800) 233-3360
 - Project Manager: Office .. (415) 257-480
 - Home (415) 381-6456

- 19. Emergency routes: Map attached. Route:
 - EAST ON SAN ANTONIO RD. 8 BLOCKS
 - SOUTH ON WILLOW ST. 2 BLOCKS
 - TO ALAMEDA HOSPITAL

22. Visitors: It is Artesian Environmental Consultants policy that visitors must furnish his/her own personal protective equipment. All visitors are required to sign the visitor log and comply with the safety plan requirements.

Name of Visitor	Date/Time	Firm Name	Signature
_____	_____	_____	_____
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FOR CONTINUATION SEE MAP 9

FOR CONTINUATION SEE MAP 12

FOR CONTINUATION SEE MAP 21

ALAMEDA CO.

DETAIL

ALAMEDA COUNTY

8

11

11

A B C D E

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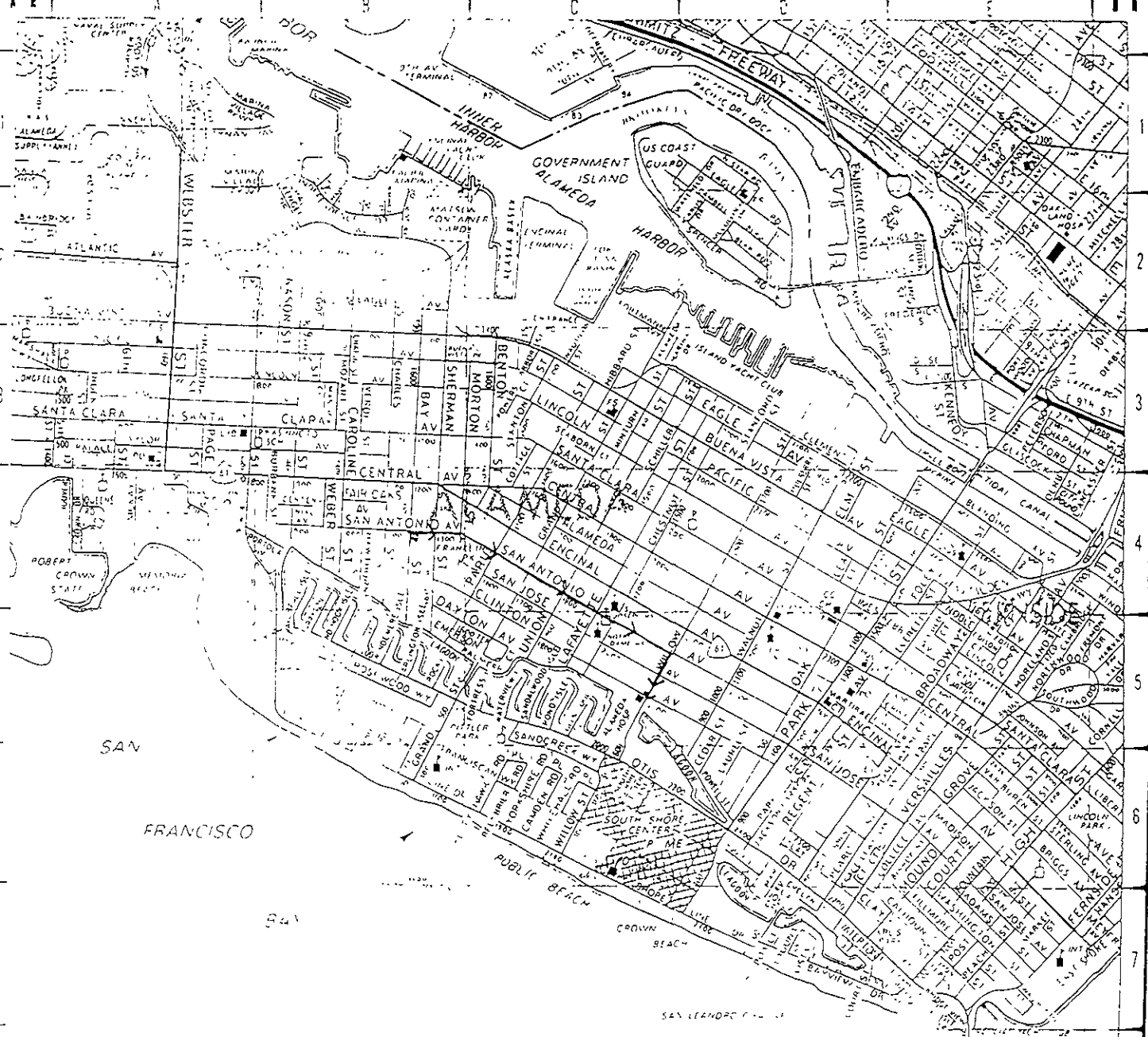
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CROWN BEACH

SAN LEANDRO

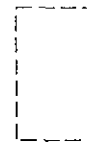
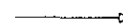


San Antonio Avenue

Garage

1200
San Antonio
Avenue

Estimated
Tank Location



Sidewalk

Bay Street

Artesian Environmental Consultants
3175 Kerner Blvd., Suite E
San Rafael, California 94901
415-257-4801
Fax 257-4805

San Mateo Police Dept
2000 South Delaware
San Mateo, California

Project No. 064-01-01

Date: 11 11/92

Drawn by: TNM

Figure 1

ATTACHMENT B

Artesian Environmental Consultants

Standard Operating Procedures

SOIL SAMPLING

Hand Samples: Undisturbed soil samples are obtained using a slide hammer hand sampler with a single sampling cup at the end. The sampler holds one (1), clean, six inch long by two inch diameter brass tube. The sample is obtained by hammering the cup and tube into the undisturbed soil. The sampler is removed, opened, and the brass tube containing the sample is extracted.

Electric Drive Samples: Undisturbed soil samples are obtained using a continuous coring, 0.75 inch, lined, steel sampler. The sampler is driven into the soil using an electric rotary hammer. The sampler holds one, four foot by one inch diameter, new, plastic, sampling liner. After driving the steel sampler three to four feet, the sampler is extracted and the sampling liner containing the sample is removed.

Pneumatic Drive Samples: Undisturbed soil samples are obtained using a 1.0 inch, steel, outer drive casing, fitted with a 0.5 inch, inner soil sampler, fitted with a brass liner. The casing is pneumatically driven to the desired depth, an inner plug rod is removed and the sampler is inserted into the casing. The sample is obtained by hammering the sampling cup into the undisturbed soil. After driving the sampler six inches, it is extracted and the sampling liner containing the sample is removed.

California Split-spoon Samples: Undisturbed soil samples are obtained using a California Split-spoon sampler fitted with three six inch long by two inch diameter brass tubes. The sampler is lowered down inside a hollow stem auger after the auger plug has been removed. The sampler is then driven at least eighteen inches. The sampler is usually driven using a 140 pound hammer dropping 30 inches at each blow. After driving the sampler, the sampler is extracted and the sampling liner containing the sample is removed.

Immediately after extraction the sample tube ends are sealed with Teflon tape, plastic cap plugs, and isolated in hermetically sealed locking plastic bags.

All samples are labeled and chilled to 0° C for transportation to a California State certified hazardous materials laboratory. Chain of Custody documentation accompanies all samples to the laboratory. A copy of the Chain of Custody documentation is attached to the Certificate of Analysis.

All soil samples are collected in accordance with California Regional Water Quality Control Board (RWQCB) procedures described in the *Leaking Underground Fuel Tank (LUFT) Field Manual*, the *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites*, and local regulatory guidelines.

Standard Environmental Protection Agency (EPA), San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), and Department of Health Services (DHS) methodologies for sampling and analyses are routinely utilized.

Chain of Custody documentation accompanies all samples to the laboratory. A copy of the Chain of Custody documentation is attached to the Certificate of Analysis.

Soil cuttings and excess sampling materials are properly stored and labeled on site in DOT 17-H containers pending off site disposal.

Artesian Environmental Consultants

Standard Operating Procedures

ORGANIC VAPOR SAMPLING

Soil samples from drill cuttings, soil piles or tank excavations are placed with minimal disturbance into pre-cleaned standard soil sample collection jars. The jars are filled to approximately one half full. The soil samples are broken up to provide sufficient surface area to allow for volatilization. Aluminum foil is placed over the mouth of the jar. The jar mouth is then capped with the lid.

The jars are then placed out of direct sunlight and allowed to sit undisturbed for a minimum of twenty minutes; allowing time for the air in the headspace and soil to equilibrate.

An organic vapor analyzer (OVA) or photoionization detector (PID) is to be calibrated and the batteries checked prior to each use. After the headspace within the sample jar and soil vapor has equilibrated, the probe of the organic vapor analyzer or photoionization detector should be inserted into the jar, puncturing the aluminum foil. The presence of any organic vapor detected should be measured and recorded in parts per million (ppm).

The samples used for collecting organic vapor data are never submitted for analytical testing.