

SITE SAFETY PLAN

**TANK REMOVAL/INSTALLATION PROJECT
XTRA OIL SERVICE STATION
1701 Park Street
Alameda, California**

April, 1994

Prepared for:

**XTRA Oil Company
Alameda, CA**

Prepared By:

**AllPro Environmental Corporation
1125-B Arnold Drive #284
Martinez, California 94553**

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SITE HEALTH & SAFETY PLAN

1.0 INTRODUCTION

A. Overview

This Project Safety Plan delineates the basic safety requirements for the Underground Fuels Storage Tank removal/replacement project at the XTRA Oil Service Station located in Alameda, California.

The program will include the removal of four (4) underground fuels storage tanks, and the installation of (3) new underground fuels storage tanks. During the tank removal project, soils from beneath the tank sites will be sampled for possible contamination. The soil samples will be collected and analyzed for the possible presence of migrating contaminants, including: TFHC (Total Fuel Hydrocarbons) and BTEX Compounds (Benzene, Toluene, Ethylbenzene and Xylene).

At the beginning of the project, ambient air samples (background) will be taken with a Gastech LEL meter or Organic Vapor Meter, set for reading ppm range, to determine the presence or absence of contamination. As the project continues during the day, the personnel on site shall draw periodic air samples to determine the possibility of increases in airborne contamination.

The provisions set forth in this plan will apply as minimum rules to be followed by the employees of AllPro Environmental Corporation and their subcontractors working on this phase of the project. Subcontractors may elect to modify these provisions, but only to upgrade or increase the safety requirements, and only with the concurrence of AllPro Environmental Corporation and accepted in writing by all representative parties.

PROGRAM WILL ALSO INCLUDE THE REMOVAL OF ONE (1), WHAT IS ASSUMED TO BE, A SMALL HOME HEATING OIL TANK, WITH APPROPRIATE SAMPLING.

2.0 PROJECT SAFETY AUTHORITY

A. ON-SITE PROJECT SAFETY:

Personnel responsible for the project safety are:

- o Mr. Keith Simas Project Safety Officer
(XTRA Oil Company)
- o Mr. Patrick J. Falk Project Manager
Project Safety Officer
(AllPro Environmental Corporation)
- o Mr. Scott A. Williams Corporate Health and Safety Officer
(AllPro Environmental Corporation)

The Project Health and Safety Officer reports to the Xtra Oil Company Project Safety Officer for overall safety and loss prevention functions.

The Project Safety Officer has the authority to suspend work anytime he or she determines that the provisions of the plan are inadequate to ensure worker safety. The Project Safety Officer shall also inform the Property Owner/Station manager and AllPro Environmental Corporations' Corporate Health and Safety Officer of individuals whose conduct is not consistent with the requirements of the plan. In addition, the Project Manager in conjunction with the Corporate Health and Safety Officer shall be responsible for the following:

Responsibilities include:

- o Health surveillance of all AllPro Environmental employees;
- o Assuring that safety procedures in effect are in compliance with all appropriate federal, state, and company regulations (following the most stringent of the standards);
- o Maintenance of personnel exposure monitoring records;
- o Assuring appropriate personal protective equipment is adequate for actual hazards of on-site conditions;
- o Assuring appropriate hazard areas are identified and marked;
- o assuring all personnel entering hazard area are in appropriate levels of protection;
- o Safety Supplies & Equipment Inventory
- o Medical Surveillance Program/Physical Examinations
- o Training Programs/Hazard Communication
- o Accident/Incident Reporting Procedures
- o Decontamination/Contamination Reduction Procedures

3.0 JOB HAZARD ANALYSIS

The possible major contaminants to be encountered on the project are Petroleum Hydrocarbons and Volatile Organic Compounds (VOCs). There is currently no known air concentration data available for VOCs emissions in the direct breathing zone of personnel working around the piezometer or exposed soils.

Inhalation and dermal (absorption) hazards are the major area of concern, regarding the exposure to VOCs. Results of toxicological studies on animal exposure to pure concentration of the VOCs that have been detected at the site are detailed in "Handbook of Toxic and Hazardous Chemicals", by M. Sittig (1981), and "Dangerous Properties of Industrial Materials", by N. Irving Sax (1984). An additional reference source used for the development of this Site Safety Plan is the "Documentation of the Threshold Limit Values", Published by the ACGIH (American Conference of Governmental Industrial Hygienists, Inc.

Gasoline

Gasoline has an appearance of a clear, aromatic, volatile liquid, and is a mixture of aliphatic hydrocarbons. The flash point is listed at -50° F (Lower Explosive Limit) of approximately 1.3%. The TLV for gasoline is listed as 300 ppm in air.

Diesel Fuel

This material currently has no TLV specifically adopted by NIOSH. However, it has been listed as a suspect carcinogen, and is currently being tested for carcinogenicity.

Benzene

Benzene is a common constituent of gasoline and other petroleum product materials. It is a clear, colorless liquid, with a flash point listed at 12° F. The currently established TLV for Benzene is 10 ppm in air. However, the American Conference of Governmental Hygienists (ACGIH) has recommended a TLV of 1 ppm be adopted.

Toluene

This material is a flammable, colorless liquid, with a benzol like odor. The flash point is listed at 40° F. The currently established TLV is 100 ppm in air.

Xylene

This material is a clear liquid with a flash point of 100° F. The TLV is currently established at 100 ppm in air, and is currently under study as a possible carcinogen.

It is currently not anticipated that the potential levels of exposure will reach PEL or TLV limits, but this is based solely on limited available specific information. It is planned that inhalation and dermal contact will be the potential exposure pathways of concern. Protective hand covering, including outer and under gloves will be mandatory for all field operations personnel. In addition, respiratory protective devices shall be required to be available to each person in the Exclusion Zone, or within easy reach of those persons working in the Contamination Reduction Zone, should irritating odors or irritation of respiratory tract become detectable.

The appropriate air-purifying respiratory protective devices, that are required to be available for all personnel working on-site, will be fitted with organic vapor cartridges and dust pre-filters, or with the high efficiency, organic vapor/HEPA stack type cartridge. Typically, if the respiratory protective devices are worn, the cartridge will need to be changed daily.

If air monitoring at the breathing zone of the workers is recorded to be 50 ppm or more (for total organic compounds), the Project Safety Officer will utilize colormetric tubes (Drager, Sensidyne, etc.) for Benzene speciation. Provided no Benzene is detected, the action level for increasing the level of protection from level D to level C (including respiratory protection) will be set at 200 ppm as measured at the breathing zone of workers. If Benzene is detected, at any level, respiratory protection will be required for all workers.

In addition, during the tank removal activities personnel working within the exclusion zone will monitor wind direction and speed, and will operate from the upwind side of the excavation location as much as possible.

4.0 RISK ASSESSMENT SUMMARY

It is not anticipated that there will be any significant or major potential source of exposures due to the scope of work to be followed on this project. The potential of any increased risk of exposure on other workers or the surrounding community is minimal. The basic potential exposure source would probably originate from airborne dusts, during the excavation activities, and those dusts containing low level concentrations of VOCs materials in the soils.

Due to this potential, the Contractor will have equipment on-site to provide for dust control during these activities, if it appears that dust control is warranted. Also, perimeter air monitoring, to detect potentially migrating contaminants, may be conducted to ensure no hazardous materials are migrating to the surrounding community.

5.0 EXPOSURE MONITORING PLAN

A. General

An air quality monitoring program shall be implemented to provide baseline and on-going air quality data for site operations. The program shall include:

1. A Preliminary survey of existing air quality conditions, prior to any surface disturbances and, if possible, under anticipated "worst case" weather conditions, to be used to establish baseline levels for input into the respiratory protection selection process;
2. An on-going evaluation of on-site atmospheric contaminant concentrations during site activities that involve significant surface disturbances;
3. Perimeter monitoring of downwind air quality conditions during significant surface disturbances.

AllPro Environmental Corporation personnel will have a direct reading, Gastech Model 1314 on site to assist with these air monitoring functions.

6.0 PERSONAL PROTECTIVE EQUIPMENT

A. Introduction

It is important that personal protective equipment and safety requirements be appropriate to protect against safety requirements be appropriate to protect against the potential hazards at the site. Protective equipment will be selected based on the contaminant type(s), concentration(s), and routes of entry. In situations where the type of materials and possibilities of contact are unknown or the hazards are not clearly identifiable, a more subjective determination must be made of the personal protective equipment.

Field personnel and visitors are required to wear the following clothing and equipment while on the Shell Service Station Project Site, as a minimum or as amended by the on-site Project Safety Officer.

- o Steel Toe Shoes/Boots
- o Hard Hat
- o Safety Glasses
- o Long Sleeved Shirts

B. Levels of Protection - General

Level A: Should be worn when the highest level of respiratory, skin, and eye protection is needed.

Level B: Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection is required.

Level C: Should be selected when the types of airborne substances are known, the concentration is measured, and the criteria for using air-purifying respirators are met.

Level D: Should not be worn on any site with respiratory or skin hazards. It is primarily a work uniform providing minimal protection.

C. Required Protection

It is anticipated that level D work clothing will be worn during the tank removal phase of the project. (Unless any liquids are encountered, then personnel will upgrade to level C, P.E. Tyvek or similar). In addition, however, the personnel working on the project will be required to wear surgical under gloves (latex), and chemical outer gloves. As the project involves the removal of underground storage tanks, and the retrieval of soil samples, the potential exposure anticipated is with the contact with potentially contaminated soils.

Historical information indicates the possibilities of encountering fuels from leaking lines or tanks. Should the readings with the LEL indicate the presence of contaminated materials near the TLVs of the materials analyzed, or the colormetric tubes indicates the presence of Benzene, or the LEL meter (set in ppm reading range) indicates vapor readings approaching the 75-100 ppm range of total organic compounds, the personnel assigned to the project will upgrade their personal protection with appropriate clothing and respiratory protective equipment. That equipment will include the selection of the proper cartridges for anticipated exposure.

AllPro Environmental Corporation will provide its employees with appropriate personal protective equipment as required. If respirators are deemed necessary, only NIOSH/NSHA certified respiratory protective equipment will be utilized. AllPro Environmental Corporation subcontractor(s) are responsible to supply the appropriate safety equipment for their own employees.

7.0 WORK ZONES AND SECURITY MEASURES

A. General

A site must be controlled to reduce the possibility of exposure to any contaminants present and their transport by personnel or equipment from the site.

A control system is required to assure that personnel and equipment working on the hazardous waste site are subjected to appropriate health and safety surveillance.

The possibility of exposure or translocation of contaminants can be reduced or eliminated in a number of ways, including:

- o Setting up security or physical barriers to exclude unnecessary personnel from the general area
- o Minimizing the number of personnel and equipment on-site consistent with effective operation
- o Establishing work zones within the site
- o Establishing control points to regulate access to work zones
- o Conducting operations in a manner to reduce the exposure of personnel and equipment
- o Minimizing the airborne dispersion of contaminants
- o Implementing the appropriate personnel and equipment decontamination procedures

B. Field Operation Work Area

Work areas (zones) will be established based on anticipated contamination. Within these zones prescribed operations will occur utilizing appropriate personal protective equipment. Movement between areas will be controlled at check points. The planned zones are:

1. Exclusion Area (contaminated);
2. Contamination Reduction Area; and,
3. Support Area (non-contaminated).

8.0 DECONTAMINATION PROCEDURES

A. Introduction

As part of the system to prevent or reduce the physical transfer of contaminants by people and/or equipment from on-site, procedures will be instituted for the proper decontamination of anything leaving the Exclusion Area and Contamination Reduction Area. These procedures include the decontamination of personnel, protective equipment, monitoring equipment, clean-up equipment, etc. Unless otherwise demonstrated, everything leaving the Exclusion Area should be considered contaminated and appropriate methods established for decontamination shall be followed. In general, decontamination at the site consists of rinsing of equipment, personnel, etc., with some amounts of water and washing with detergent water solutions.

B. Procedure

1. Personnel equipment worn into the Exclusion Area will be decontaminated upon leaving the Contamination Reduction Area. All equipment decontaminated will be air dried.
2. The decontamination of equipment, material, and personnel used or working in the Contamination Reduction Area may be some what less complex than that used in the Exclusion Area.
3. The spent solution, brushes, sponges, containers, stands, etc., used in the decontamination process must be properly disposed.

9.0 GENERAL SAFE WORK PRACTICES

The project operations shall be conducted with the following minimum safety requirements employed:

- A. Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and ingestion of materials is prohibited in any area where the possibility of contamination exists.
- B. Hands must be thoroughly washed upon leaving a contaminated or suspected contaminated area before eating, drinking, or any other activities transpire.
- C. Thorough washing of the entire body should be accomplished whenever decontamination procedures for outer garments are in effect. The washing should occur as soon as possible after the final wearing of protective garments.
- D. Legible and understandable precautionary labels shall be prominently affixed to containers of raw materials, intermediates, product, mixtures, scrap, waste, debris, and contaminated clothing.
- E. Contaminated protective equipment shall not be removed from the regulated area until it has been cleaned or properly packaged and labeled.
- F. Removal of materials from protective clothing or equipment by blowing, shaking, or any other means which may disperse materials into the air is prohibited.
- G. Personnel on-site must use the "buddy" system when wearing any respiratory protective devices. Communications between members must be maintained at all times. Emergency communications shall be prearranged in case of encountering unexpected situations. Visual contact must be maintained between "pairs" on-site, and each team should remain in close proximity to assist each other if necessary.
- H. Personnel should be cautioned to inform each other of subjective symptoms of chemical exposure such as headache, dizziness, nausea, and irritation of the respiratory tract.
- I. No excessive facial hair which interferes with a satisfactory fit of the face piece-to-face seal, will be allowed on personnel required to wear respiratory protective equipment.
- J. All respiratory protection selection, use, and maintenance shall meet the requirements of established AllPro Environmental Corporation procedures, recognized consensus standards (AIHA, ANSI, NIOSH), and shall comply with the requirements set forth in 29 CFR 1919.134.
- K. Appropriate work areas for support, contamination reduction, and exclusion will be established.

- L. AllPro Environmental Corporation personnel on-site are to be thoroughly briefed on the anticipated hazards, equipment requirements, safety practices, emergency procedures and communications methods, initially and in daily briefings.
- M. Contact with surface and groundwater shall be minimized.
- N. Steel toed boots will be worn on-site at all times.

In addition, the following precautions shall be implemented for all personnel working on the project site:

- o Gross decontamination and removal of all personal protective equipment shall be performed prior to exiting the facility. Contaminated clothing will be removed and collected in a drum for disposal.
- o The Project Safety Officer will be responsible to take necessary steps to ensure that employees are protected from physical hazards, which could include:
 - o Falling objects such as tools or equipment
 - o Falls from elevation
 - o Tripping over uneven grades, hoses, pipes, tools, or equipment
 - o Slipping on wet or oily surfaces
 - o Insufficient or faulty protective equipment
 - o Insufficient or faulty operation, equipment, or tools
- o All personnel shall be required to wash hands and face before eating, drinking, or smoking
- o Field operations personnel shall be cautioned to inform each other of no-visual effects of the presence of toxics, such as:
 - o Headaches
 - o Dizziness
 - o Nausea
 - o Blurred Vision
 - o Cramps
 - o Irritation of eyes, skin, or respiratory tract
 - o Changes in complexion or skin discoloration
 - o Changes in apparent motor coordination
 - o Changes in personality or demeanor
 - o Excessive salivation or changes in pupillary response
 - o Changes in speech ability or pattern

10.0 STANDARD OPERATING PROCEDURES

Respiratory Protection Program Guidelines

Respirators will be provided by the Company when such equipment is deemed necessary to protect the health of the employee. The Company shall provide respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of this respiratory protection program. The Project Safety Officer will approve the selection, purchase, and inspection of the models and types of respiratory protective devices.

A Medical evaluation is required prior to wearing any respirator, except where emergency escape respirators are provided. The contract physician shall determine annually if any health or physical conditions exist which would prohibit a worker from being assigned to an area requiring respiratory protection. A record will be retained in the employee's medical file, which will be retained at the medical clinic or doctor's office.

Respirators shall not be worn when conditions prevent a face piece-to-face seal. Such conditions as facial hair, scars, wrinkles, facial diseases, dentures removal, or other disorders could prevent a proper face piece-to-face seal. In these cases, corrective action will be taken to ensure a proper seal. Contact lenses shall not be worn when using any respirator.

For the safe use of any respirator, it is essential that the user be properly instructed in its operation and maintenance. Both supervisors and employees shall be so instructed. Employees shall be instructed and trained in the proper selection and use of respirators and their limitations. The employee shall use the provided respirator in accordance with instructions and training received. All training shall be documented with records retained in the employee's training files.

The AllPro Environmental Corporation Respirator Program will meet the 11 points as specified in Title 29 CFR 1910.134 *, and CAC Title 8.

11.0 EMERGENCY PROCEDURES

A. Site Emergency Warning System

Several warning systems may be utilized depending on the work site conditions or emergency involved:

1. Verbal communications
2. Vehicle horns
3. Portable hand-held compressed gas horns

Verbal instructions with or without assistance are used to deal with specific incidents.

Horn signals are used to signify an emergency warning.

One long blast is used on-site to signify emergency evacuation of the immediate work area to a predetermined location upwind, where a head count will be taken and further instructions given.

Repeated short blasts are used on-site or from off-site to signify evacuation of all personnel from the site to the hot line where further instructions will be given after a head count is taken.

B. Emergency Equipment

The following equipment comprises the basic emergency equipment list, of which all or some shall be available at the Project site:

1. Fire extinguisher - dry chemical
2. First aid kits (including chemical burn kit)
3. Combustible gas and oxygen detector analyzers
4. Organic vapor detector tubes for Benzene
5. Drager and/or Sensidyne, or equivalent
6. Appropriate spill clean-up supplies and equipment

C. General Emergency Procedures

In case of an emergency or hazardous situation, the team member that observes this condition shall immediately sound the alarm.

1. Upon hearing an alarm, all non-emergency communications will cease and the member giving the alarm will proceed to give the Site Safety Officer and the Project Manager all pertinent information.

2. Actions to be taken will be dictated by the emergency condition.

3. Power equipment will be shut down and operators will stand by for instruction.

4. Injured personnel will be transported to the Contamination Reduction Line.

5. AllPro Environmental Corporation Command Center will be notified immediately.

6. In case of a fire, explosion, or hazard alarm, personnel will immediately proceed to assigned prearranged safe locations.

7. Upon arrival at the safe locations, a complete head count will be given to the Site Safety Office and the Project Manager and personnel will stay at the safe locations until the area is secured.

D. Personal Injury

If an injury occurs due to an accident or exposure to a hazardous substance, the AllPro Environmental Corporation Command Center will be notified. The Site Safety Officer will be given all appropriate information concerning the nature and cause of the injury so that treatment preparation can be initiated. The injured person will be transported to the Contamination Reduction line where appropriate first aid and treatment can begin. The Project Manager will be informed and investigate and document the cause of the injury and make any necessary changes in work procedures.

E. Ambient Monitoring Contingencies

When ambient monitoring on the downwind edge of the site indicates significantly higher than background levels of any contaminants, the Site Safety Officer and Project Manager will immediately determine the cause, make changes to work practices or procedures, and if necessary, make changes in site layout (i.e., change the location of the Site Command Center, decon area, of Exclusion Area), and warn unprotected personnel to evacuate or don protective equipment.

In the event of an accident resulting in physical injury, first aid will be administered, and the injured worker will be transported to the nearest hospital for emergency treatment.

12.0 TRAINING REQUIREMENTS

All personnel assigned to this project will be required to demonstrate that they have completed the Initial Training Requirements(40-hrs.), according to Federal OSHA Standards under 29 CFR 1910.120.

Field personnel from AllPro Environmental Corporation and their sub-contractors will attend a project-specific training program for safety issues and project work task review before beginning work. The meeting will also be attended by the Project Manager, Corporate Health and Safety Officer and the Project Safety Officer. In addition, fit-testing of respiratory protective devices will be conducted as part of the safety/orientation training.

A. AllPro Environmental Corporation site personnel shall have completed training relative to the project operation plans, and the materials to be encountered during the project. This training shall be conducted by the AllPro Environmental Corporation Project Safety Officer, and shall include classroom and practical application exercises regarding the hazards to be expected and the protective equipment to be utilized.

This formal training is supplemented by daily safety briefings and site specific training as required. All subcontractor personnel will be required to complete the same basic training, and to attend all safety briefings.

13.0 MEDICAL SURVEILLANCE

AllPro Environmental Corporation personnel and sub-contractors engaged in project operation shall be participants in the Medical Surveillance program, and must be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for working with hazardous materials. The applicable requirements under Federal OSHA, 29 CFR 1910 will be observed.

Examination Requirements:

All AllPro Environmental Corporation personnel on-site shall have successfully completed a pre-placement or periodic medical examination in accordance with established AllPro Environmental Corporation policies and procedures, and consistent with the provisions of the OSHA carcinogen standards. This examination shall include a complete medical and occupational history, physical examination, and selected biological sampling. Laboratory studies include a complete blood count (CBC), urinalysis, chemistry panel (SMAC), pulmonary function (FEV and FVC), chest X-Ray, audiometry, and vision screening.

14.0 RECORDKEEPING

A. General

Recordkeeping shall be consistent with OSHA regulations in all respects. The following permanent records will be maintained in the AllPro Environmental corporation offices and at the site:

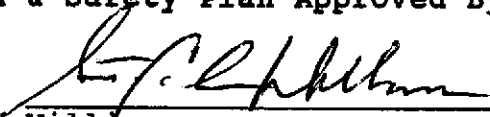
1. Safety Inspection Reports
2. Personnel Exposure Monitoring Records (spital or bound permanent log books will be used)
3. OSHA 200 - Current to within 5 days
4. Accident reports consistent with the established AllPro Environmental Corporation procedures

B. Medical Records

Permanent medical records shall be maintained in confidential files by the contract physician/medical clinic. The physician will supply AllPro Environmental Corporation with a medical status document, certifying that the personnel assigned to the project are physically capable of performing their individual work tasks.

15.0 SIGNATURES

Site Health & Safety Plan Approved By:

Signature: 

Name: Scott Williams

Date 3/30/97

Title: Corporate Health and Safety Officer
(AllPro Environmental Corporation)

Contractor and Sub-Contractor Agreements:

1. Contractor certifies that the following personnel to be employee on the subject project have met the following requirements of the OSHA Hazardous Waste Operator Standard(29 CFR 1910.120) and other applicable OSHA standards.
2. Contractor certifies that in addition to meeting OSHA requirements, it has received a copy of this Site Health & Safety Plan and will ensure that its employees are informed and will comply with both OSHA requirements and the guidelines in this Site Health & Safety Plan.
3. Contractor further certifies that it has read and understands and will comply with all provisions of the Health & Safety Plan and will not hold AllPro Environmental Corporation responsible or liable for any injury or health problems that may arise.

16.0 EMERGENCY CONTACT LISTING

Emergency Telephone Numbers:

	<u>Emergency Number</u>	<u>Alternate Number</u>
Fire	911	
Police	911	
Ambulance	911	

Alameda Hospital
2070 Clinton Ave.
Alameda, CA
(510) 522-3700

Directions:

Exit site on Park Street, turn left heading South on Park Street, turn right heading West on Clinton Avenue. Alameda Hospital four blocks on left hand side entrance to Emergency Room.

Additional Contingency Telephone Numbers

AllPro Environmental Corporation:

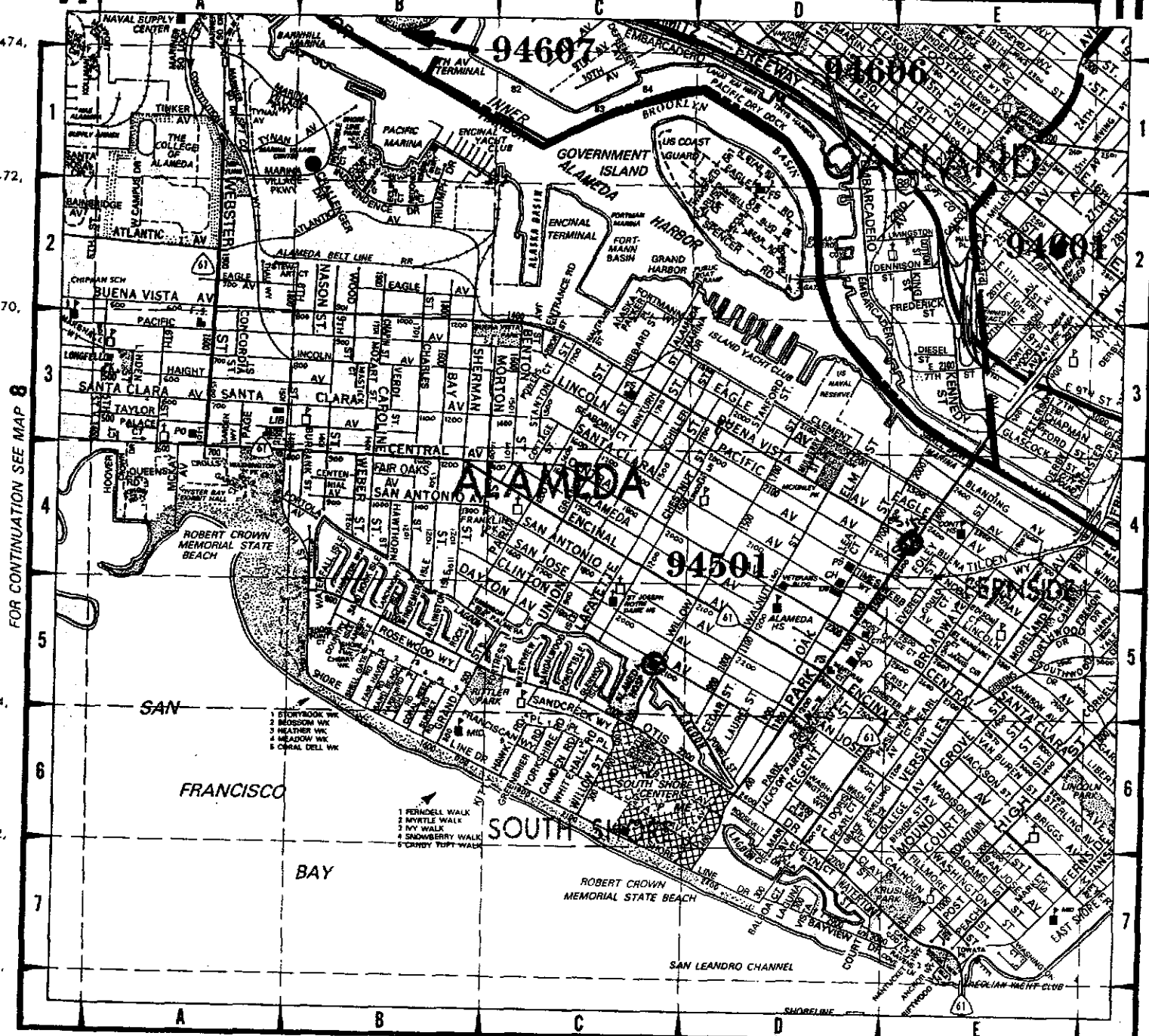
Corporate Office	(510) 933-6133
Site Mobile Phone	(510) 421-4488
Site Command Trailer	(510) 337-0715

XTra Oil Company:

Corporate Office	(510) 865-9503
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FOR CONTINUATION SEE MAP 9



FOR CONTINUATION SEE MAP 8

FOR CONTINUATION SEE MAP 12

DETAIL

474,
472,
470,
464,
462,
460,

1,485, 1,486, FOR CONTINUATION SEE MAP 21, 1,497, 1,500,

