Buck St Clair
UST removal
8/31/93

[redacted]

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

August 25, 1993

LF 1649.16

ADDENDUM TO

**HELATH AND SAFETY PLAN FOR
SOIL REMEDIATION ACTIVITIES
YERBA BUENA PROJECT SITE
OAKLAND AND EMERYVILLE, CALIFORNIA
(Dated May 8, 1991)**

The following text is an addendum to the Health and Safety Plan entitled: "Health and Safety Plan for Soil Remediation Activities, Yerba Buena Project Site, Oakland and Emeryville, California", dated May 8, 1991. This addendum addresses the removal of two oil underground storage tanks (USTs) at the Beach Street Area, located in the north-western portion of the Yerba Buena Project Site ("the Site"; see Figures 1 and 2).

The planned activities at the Site include:

- removing liquid from tanks
- removing the soil overlying and surrounding the USTs
- inerting tank with dry ice (CO_2), if necessary, prior to removal by placing approximately 150 pounds of dry ice in each of the tanks to purge volatile hydrocarbons.
- removing tanks and associated piping with a backhoe and/or crane
- collecting native soil samples from the bottom and sidewalls of the tank excavation pit by removing samples from the backhoe bucket
- collecting water samples from the tank excavation, if encountered, using a teflon bailer lowered by nylon rope into the excavation
- excavating fuel-affected soils around tank, if encountered, with the backhoe
- backfilling the excavation with soil backfill and compacting. Levine•Fricke will perform field density tests during compaction.

1900 Powell Street, 12th Floor
Emeryville, California 94608
(510) 652-4500
Fax (510) 652-2246

Other offices in Irvine, CA; Sacramento/Roseville, CA; Tallahassee, FL; Honolulu, HI

Site Safety Personnel

Name	Responsibilities
Michael J. Stoll or William Madison	Site Safety Officer
Michael Stoll	Project Manager
Shari A. Samuels	Health and Safety Director

All field personnel will observe Level D Personal Protective Equipment (PPE) requirements in all work areas. The primary route of potential exposure for chemicals is inhalation. Inhalation hazards due to volatilization will be monitored using a photoionization detector (PID) to measure concentrations of volatile organic chemicals (VOCs) in the breathing zone. If ambient air concentrations of VOCs in the breathing zone reach 25 parts per million (ppm) or greater, personnel shall upgrade to Level C using half-face air-purifying respirators equipped with NIOSH-approved high efficiency particulate/organic vapor combination cartridges, and Sensidyne brand low-range benzene detector tubes will be used to detect the presence of benzene. If benzene is detected, a temporary stop work will take place, and the area will be (1) cleared of construction personnel and (2) ventilated and monitored until no benzene is detected in the breathing zone. PPE will be worn by all on-site field personnel, including the contractor's personnel.

EMERGENCY PHONE NUMBERS:

- POLICE 911
- FIRE 911

Hazardous Materials Release Response/Reporting

- National Response Center 1-800-424-8802
- California Office of Emergency Services 1-800-852-7550

Toxics Information

- CHEMTREK 1-800-424-6699
- Poison Control Center 1-415-476-6600

- **AMBULANCE** 911

- **HOSPITAL**

  Emergency Room 1-510-204-1303
  Alta Bates Hospital
  2450 Ashby Avenue
  Berkeley, California

  See attached map for route to hospital.

LEVINE·FRICKE APPROVAL SIGNATURE

Michael Stoll — 8-25-93
Michael Stoll **Date**
Project Manager

Jenifer Beatty — 8/25/93
Jenifer Beatty **Date**
Quality Assurance Reviewer

CONTRACTOR AND SUBCONTRACTOR AGREEMENTS

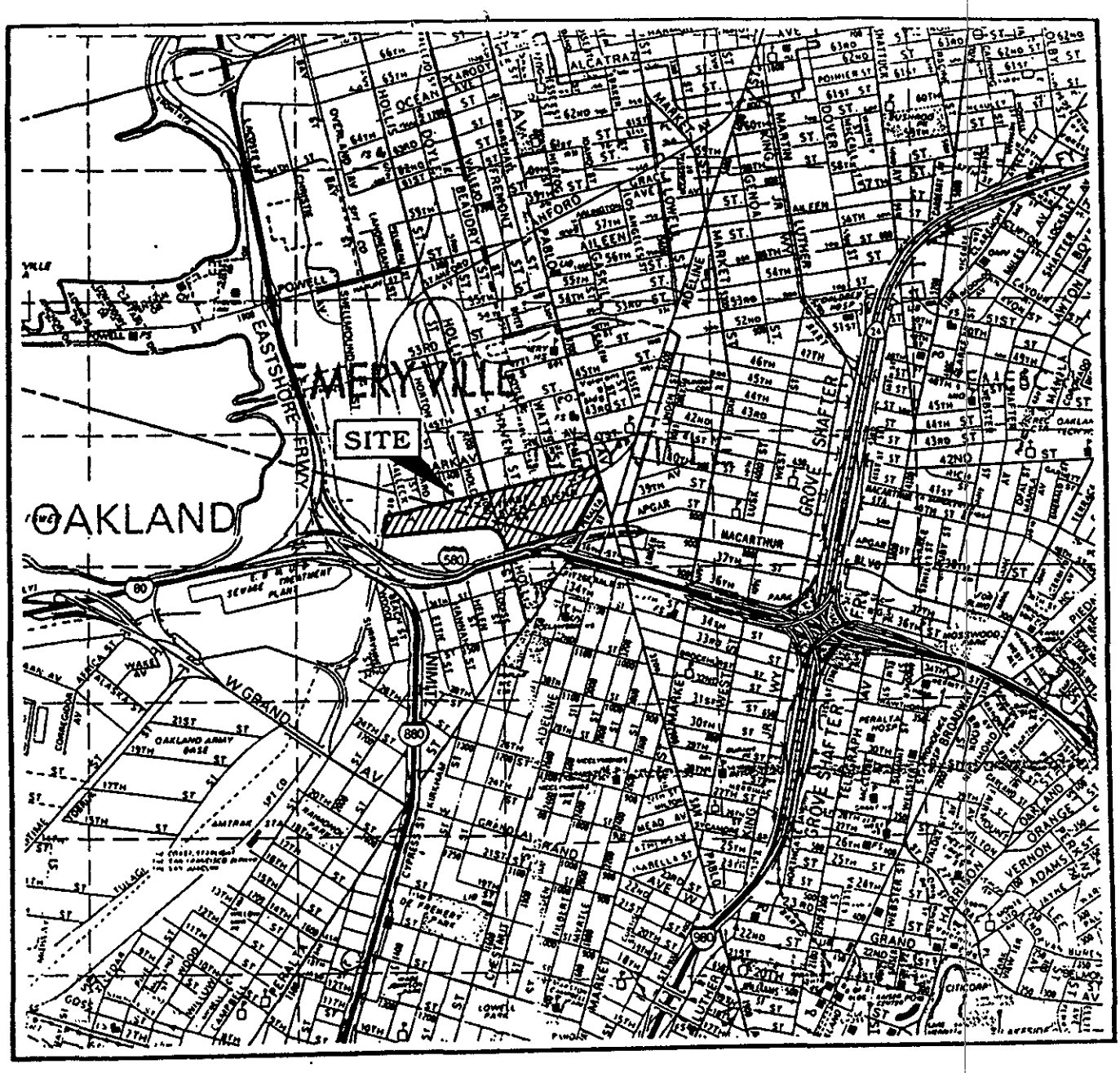
Contractor and Subcontractor Agreements:

1. Contractor certifies that the following personnel to be employed on the Site have met the Hazards and Protection requirements of the OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) and other applicable standards.

2. Contractor certifies that, in addition to meeting the OSHA requirements, she/he has received a copy of this HSP and will insure that the employees and subcontractors of the Contractor are informed, and will comply with both OSHA requirements and the guidelines in this HSP.

3. Contractor further certifies that she/he has read, understands, and will comply with all provisions of this HSP and will not hold Levine·Fricke responsible or liable for any injury or health problems that may occur.

Contractor Personnel	Training/ Certification/ Medical Examination	Signature	Date



MAP SOURCE.
Alameda & Contra Costa Counties.
Thomas Bros. map, 1990 Edition

Figure 1 : SITE LOCATION MAP
YERBA BUENA PROJECT SITE

Project No. 1649

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

1649ALS-SITE91-rv2

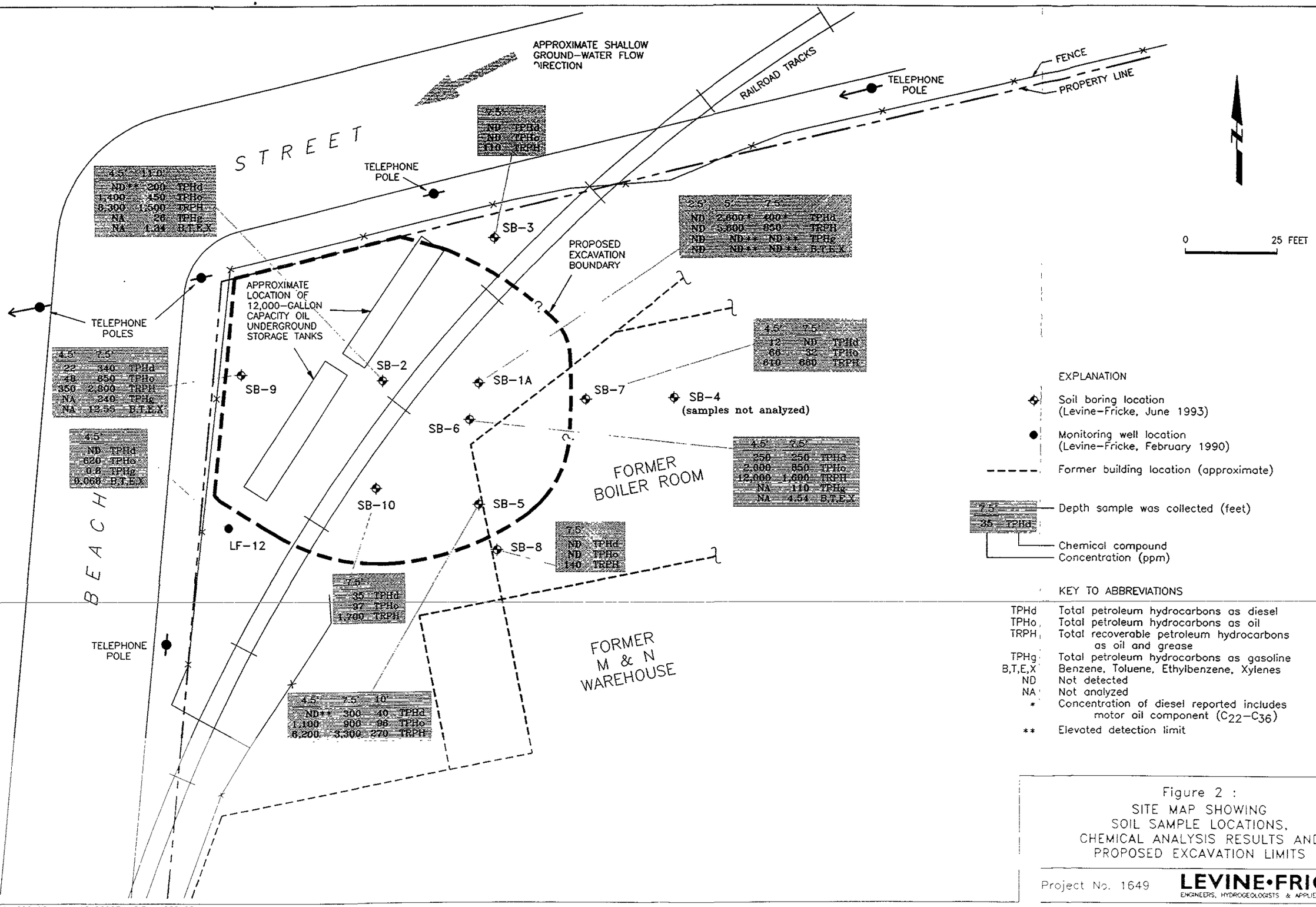


Figure 2 :
SITE MAP SHOWING
SOIL SAMPLE LOCATIONS,
CHEMICAL ANALYSIS RESULTS AND
PROPOSED EXCAVATION LIMITS

Project No. 1649

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1649B030 MJS EM 082493 1649C007 MJS EM 082493

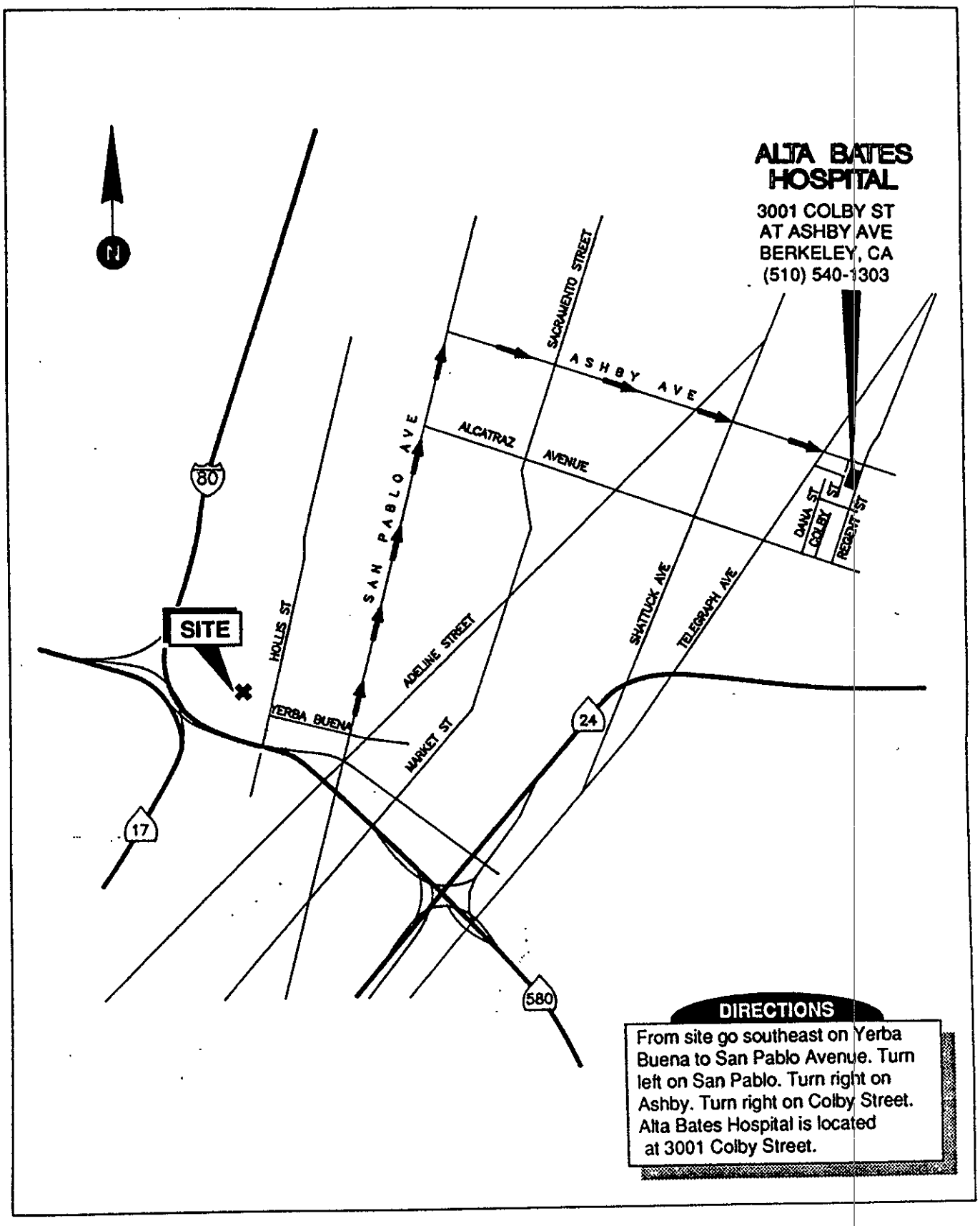


Figure 3 : HOSPITAL ROUTE MAP

Health and Safety Plan for Soil Remediation Activities Yerba Buena Project Site Oakland and Emeryville, California

May 8, 1991
LF-1649.03

LEVINE·FRICKE

LEVINE·FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

May 8, 1991 LF 1649.03

Mr. Dennis Byrne
Alameda County Health Care Services Agency
80 Swan Way, Suite 200
Oakland, California 94621

Subject: Health and Safety Plan for Soil Remediation
Yerba Buena Project Site
Oakland and Emeryville, California

Dear Mr. Byrne:

On behalf of Catellus Development Corporation, we are enclosing a copy of the Health and Safety Plan for soil remediation activities to be conducted at the Yerba Buena Project Site, located in Oakland and Emeryville, California. If the HSP meets with your approval, soil remediation activities will be initiated in June or July 1991 (assuming availability of the excavation subcontractors).

Please do not hesitate to call me, Cindy Barclay, or Peng Leong with any comments or questions.

Sincerely,

Amanda Spencer
Senior Project Hydrogeologist

cc (w/ enclosure): Ric Notini, Catellus
Pat Cashman, Catellus
Don Marini, Catellus

1900 Powell Street, 12th
Emeryville, California
Fax

CONTENTS

CONTENTS, continued

May 8, 1991 LF 1649.03

**HEALTH AND SAFETY PLAN FOR
SOIL REMEDIATION ACTIVITIES
YERBA BUENA PROJECT SITE
OAKLAND AND EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION

This Health and Safety Plan (HSP) addresses the hazards associated with planned field activities for soil remediation at the Yerba Buena Project Site, located in Emeryville and Oakland, California ("the Site"). It presents baseline health and safety requirements for establishing and maintaining a safe working environment during the course of work. The planned field activities at the Site include removing asphalt to access areas, excavating soil, collecting soil samples, and backfilling and regrading the excavations.

In addition to the procedures and safeguards outlined in this HSP, Levine·Fricke and contractor/subcontractor personnel shall follow applicable federal, State and county regulations. In the event of conflicting requirements, the procedures/practices that provide the highest degree of personnel protection shall be implemented. Deviations from this HSP must be approved by the Levine·Fricke Health and Safety Director before implementation.

If site conditions encountered are found to differ substantially from those anticipated, or if work plan specifications change, the Levine·Fricke Health and Safety Director shall be informed immediately and appropriate changes shall be made to this HSP.

At a minimum, all contractor/subcontractor personnel working on site must:

1. Have read and understood the requirements of this HSP.

2. Have completed all training requirements in 29 Code of Federal Regulations (CFR) 1910.120.

3. Provide their own health and safety equipment as indicated in this HSP, and comply with the minimum requirements established by this HSP. If the contractor/subcontractor has prepared his/her own HSP, it must minimally meet requirements contained herein and all applicable federal, State, and local health and safety requirements.

This HSP shall be approved by the Levine•Fricke Health and Safety Director, the Levine•Fricke Project Manager, and a Levine•Fricke Corporate Officer.

A copy of this HSP shall be kept on site, easily accessible to all employees and government inspectors, and another copy shall be kept in Levine•Fricke's files during the course of the project.

This HSP was prepared using the following documents:

- 29 CFR 1910 -- Occupational Safety and Health Standards, 1990.
- 29 CFR 1926 -- Safety and Health Regulations for Construction.
- 29 CFR 1910.1000 -- OSHA Air Contaminants - Permissible Exposure Limits, 1990.
- Title 8, California Code of Regulations, Occupational Health and Safety Standards.
- American Conference of Governmental Industrial Hygienists (ACGIH), 1988. Threshold Limit Values and Biological Exposure Indices for 1990 - 1991. Cincinnati, Ohio.
- California Department of Health Services (DHS), Toxic Substances Control Division (TSCD), Technical and Support Unit, Region 3, Los Angeles, California, August 1988. Site Safety Plan Guidance Document.
- National Institute for Occupational Safety and Health (NIOSH); Occupational Safety and Health Administration (OSHA); U.S. Coast Guard (USCG); U.S. Environmental Protection Agency (EPA), October 1985. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities. Washington D.C.: U.S. Government Printing Office.
- NIOSH/OSHA, 1981. Occupational Health Guidelines for Chemical Hazards.
- Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, California, June 1986. Site Safety Plan Format.

- Sax, N. Irving, 1984, Dangerous Properties of Materials, 6th edition, Van Nostrand Reinhold Company, Inc., New York, New York.

- U.S. EPA, Office of Emergency and Remedial Response, Hazardous Response Support Division, November 1984. Standard Operating Safety Guides.

2.0 SITE CHARACTERISTICS

Site Name: Yerba Buena Project Site

Site Description

The Yerba Buena Project Site covers an area of approximately 51 acres in Emeryville and Oakland, California (see Figure 1). The Site has been used since the early 1900s for a variety of industrial and commercial uses. The layout of the Site is presented in Figure 2. As Figure 2 shows, the Site has been divided into four quadrants (Areas A, B, C, and D) to aid in the organization of the sampling and analysis program previously conducted at the Site. The site remedial activities will be conducted in Areas A, B (excluding the portion formerly occupied by Ransome Construction), and C.

History of Site Investigations

Between September 1989 and December 1990, Levine·Fricke conducted three phases of environmental investigation at the Site. Detailed presentations of the investigation and results are given in Levine·Fricke's Phase I and II Investigation report ("Phase I & II Environmental Investigation, Yerba Buena Project Site, Emeryville, California," dated August 15, 1990, and revised October 26, 1990) and Levine·Fricke's Phase III Investigation report ("Phase III Environmental Investigation, Yerba Buena Project Site, Emeryville, California," dated February 6, 1991).

Summary of Results

Results of the Phase I, II, and III investigations at the Site indicated that localized areas of soil have been affected by lead (Area A); lead and zinc (Area C); polychlorinated biphenyl compounds (PCBs, Area B); and total petroleum hydrocarbons (TPH) characterized as oil (Areas A and C). A layer of perched water (to a depth of 4 feet) was also observed in a small (20- by 60-foot) section of Area C and was found to contain elevated concentrations of TPH (between 3 to

11 ppm). Table 1 lists the compounds detected and the maximum concentration detected in soils, as well as the Threshold Limit Values (TLVs), the Permissible Exposure Limits (PELs), and the action level values for the compounds.

3.0 WORK DESCRIPTION

Remediation of chemical-affected soil and perched water will be conducted in Areas A, B, and C. Tasks to be performed at the Site include removing portions of asphalt, excavating soil to depths of approximately 3 to 9 feet using a backhoe, sampling soil from the floors and sidewalls of the excavations, backfilling and regrading the excavations with imported material, and loading the excavated soil directly into licensed hazardous waste trucks, when appropriate, for transport to licensed disposal facilities.

Planned work activities are scheduled to be performed in the following order (some activities may be performed concurrently with one another):

- removing asphalt using a backhoe
- excavating chemical-affected soils from four discrete areas using a backhoe
- loading the excavated soils directly into waiting trucks
- collecting native soil samples from the bottom and sides of the excavation pits with a drive sampler in excavations less than 5 feet deep and by removing soil samples from the backhoe bucket in excavations which are deeper than 5 feet
- backfilling the excavation with imported fill material and regrading the area.

4.0 KEY PERSONNEL AND RESPONSIBILITIES

4.1 Levine·Fricke Project Manager

The Levine·Fricke Project Manager, Ms. Amanda Spencer, Senior Project Hydrogeologist, has the ultimate responsibility for the health and safety of Levine·Fricke personnel on site. As part of her duties, Ms. Spencer shall be responsible for:

1. Keeping the Levine·Fricke Health and Safety Director informed of project developments.

2. Ensuring that on-site Levine·Fricke personnel receive the proper training, and keeping them informed of potential hazards anticipated at the Site and procedures and precautions to be implemented on the job.

3. Keeping subcontractors informed about the expected hazards and appropriate protective measures at the Site. (Subcontractors should also be given a copy of Levine·Fricke's HSP for review.)

4. Ensuring that resources are available to provide a safe and healthy work environment for Levine·Fricke personnel.

4.2 Levine·Fricke Health and Safety Director

Ms. Shari A. Samuels has been designated as the Levine·Fricke Health and Safety Director. Ms. Samuels shall be responsible for:

1. Monitoring the health and safety impacts of this project for on-site Levine·Fricke personnel.

2. Assessing the potential health and safety hazards at the Site.

3. Recommending appropriate safeguards and procedures.

4. Modifying the HSP, when necessary.

5. Approving changes in safeguards used or operating procedures employed at the Site.

The Levine·Fricke Health and Safety Director shall have the authority to:

1. Require the implementation of additional safety precautions or procedures.

2. Order an evacuation of the Site, or portion of the Site, or shut down any operation, if she believes a health or safety hazard exists.

3. Deny unauthorized personnel access to the Site.

4. Require that any worker obtain immediate medical attention.

5. Approve or disallow any proposed modifications to safety precautions or working procedures.

4.3 Site Safety Officer

Ms. Jenifer Carter, Staff Hydrogeologist, has been designated by Levine·Fricke as the Site Safety Officer (SSO). Ms. Carter has fulfilled the 40-hour safety training requirements of the OSHA 29 CFR 1910.120.

The SSO, or a trained designated alternate, will be present at the Site during work activities. The SSO shall be notified of and approve activities in which persons may reasonably expect exposure to affected soils and/or ground water.

The SSO shall be responsible for:

1. Ensuring that on-site Levine·Fricke personnel comply with the requirements of the HSP.

2. Limiting access to the Site.

3. Reporting unusual or potentially hazardous conditions to the Levine·Fricke Health and Safety Director and the Levine·Fricke Project Manager.

4. Reporting injuries, exposures, or illnesses to the Levine·Fricke Health and Safety Director and the Levine·Fricke Project Manager.

5. Communicating proposed changes in work scope or procedures to the Levine·Fricke Health and Safety Director for approval.

6. Recommending to the Levine·Fricke Health and Safety Director and the Levine·Fricke Project Manager additional safety procedures or precautions that might be implemented.

The SSO shall have the authority to:

1. Order an evacuation of the Site, or portion(s) of the Site, or shut down any operation if she believes a health or safety hazard exists.

2. Deny site access to unauthorized personnel.

3. Require that any worker, including the subcontractor's personnel, obtain immediate medical attention.

5.0 HAZARD ANALYSIS

Potential chemical, physical, and general safety hazards associated with the planned field activities outlined in Section 3.0 include the following:

Chemical hazards:
- respiratory (exposure to volatile organic compounds and fugitive dust)
- dermal (contact with soils and water)

Physical hazards:
- excavation instability
- noise
- electric shock
- heavy equipment

Work procedures to protect workers from chemical and physical hazards are discussed in Section 6.0.

5.1 Chemical Hazards

The primary chemical hazard at the Site is exposure to chemical compounds contained in soils or perched water. Site soils are known to contain the following chemicals in isolated areas, with concentrations in parts per million (ppm) up to the value listed:

- PCBs - up to 66 ppm in soils (Area B, in the vicinity of B-26);
- TPH (as oil) - up to 11 ppm in perched water (Area C near LF-9), and up to 17,000 ppm in soil (Areas A and C);
- heavy metals: lead - up to 8,800 ppm, zinc - up to 48,000 ppm (Area C near C-17) and lead - up to 1,400 ppm (Area A near A-5) in soils.

5.1.1 CHEMICAL DESCRIPTIONS

See Appendix A.

5.2 Physical Hazards

The primary potential physical hazards at the Site during the planned activities stem from heavy machinery use and the hazardous nature of excavation work. Potential physical hazards are listed in Section 5.0.

6.0 WORK REQUIREMENTS

6.1 Respiratory Protection

Half-face respirators shall be worn during the excavation of PCB-affected soils in Area B, the excavation of lead-affected soils in Area A, and the excavation of lead- and zinc-affected soils in Area C.

The primary potential route of exposure for chemicals is inhalation. Inhalation hazards arise from the volatilization of light fuel products or the generation of dust. To minimize the generation of airborne dust, control measures such as water spraying will be used as necessary.

Respirators will be kept available during excavation activities and will be equipped with NIOSH-approved high efficiency particulate/organic vapor combination cartridges (such as North 7600).

6.2 Dermal Protection

Unless adequate precautions are taken, chemicals may contact the skin or clothing. Physical contact can be made with the chemicals of concern under the following circumstances:

- excavating chemical-affected soil
- collecting soil samples from excavation pits
- loading excavated soils.

6.2.1 PERSONAL PROTECTIVE EQUIPMENT

Levine·Fricke and contractor/subcontractor personnel will wear the following protective clothing on site:

- hard hats
- steel-toed/steel-shank boots
- inner and outer disposable PVC gloves
- safety glasses
- uncoated Tyvek coveralls (if ground water is encountered in the excavation, Saran-coated Tyvek will be worn).

- half-face air purifying respirators equipped with NIOSH-approved high efficiency particulate/organic vapor combination cartridges.

6.3 Action Levels

The SSO shall impose a temporary stop work and contact the Levine·Fricke Health and Safety Director immediately if the following conditions are observed, or if there is a question about site conditions:

- uncontrolled dust generation

- changes in the general health profile of on-site personnel, including symptoms discussed in Appendix A and headaches, dizziness, breathing difficulties, or irritation to the eyes, nose, throat, or hands.

6.4 Protection Against Physical Hazards

6.4.1 EXCAVATION INSTABILITY

The limits of excavation and method(s) of excavation support proposed by the contractor shall be approved by the SSO before the excavation begins. Workers will not enter unsupported excavations deeper than 5 feet and steeper than 1:1.5 (horizontal to vertical). Unsupported excavations deeper than 5 feet shall be properly shored or sloped prior to worker entry.

6.4.2 NOISE

Noise results primarily from the use of heavy equipment during the excavation activities. Workers will wear ear plugs when operating heavy machinery to avoid noise that may exceed the 85 decibel TLV established by the ACGIH. However, based on previous field experience, expected noise levels should not exceed 85 decibels.

6.4.3 ELECTRIC SHOCK

All electrical equipment to be used during field activities will be suitably grounded and insulated.

6.4.4 HEAT STRESS

The potential for heat stress will be minimized by beginning work early in the day and taking breaks midday, when temperatures normally peak. Each worker will bring his/her

own supply of liquid to drink throughout the work day. The duration and number of rest breaks will be assessed according to temperature, humidity, and work load. Workers will be observed for symptoms of heat stress, such as increased pulse rate, high body temperature, and hot, dry, red skin.

6.4.5 HEAVY EQUIPMENT

All relevant requirements pursuant to 29 CFR 1926.602 and Subpart W, Rollover Protective Structures, Overhead Protection, shall be observed during the course of trenching and earthmoving activities. These requirements include, but are not limited to, the use of seat belts for all earthmoving equipment equipped with roll-over protection structures (ROPS) or adequate canopy protection; the installation and proper functioning of service braking systems capable of stopping and holding the equipment fully loaded; the installation and functioning of audible alarms, prevention of obstructed views to the rear from the driver's seat; and the requirement for audible alarms on vehicles that have obstructed views to the rear when using reverse gear.

All field personnel not directly involved in the excavation work will be kept at safe distances from areas where heavy equipment is in use. Unauthorized visitors will not be permitted near areas where heavy equipment is in use regardless of whether the area has been designated as an exclusion zone (see Section 6.5).

6.4.6 GENERAL SAFETY

All personnel will wear approved head protection while working around heavy equipment in the site area. Fire hydrants and electrical and underground lines and pipes will be identified before trenching operations begin. Two 10-pound fire extinguishers will be kept on site near the exclusion zone.

All contractor and subcontractor employees shall observe the health and safety requirements contained in 29 CFR 1910.120 and 29 CFR 1910.135, including standard industry operating procedures contained in 29 CFR 1926 Subpart C.

6.5 Work Area Definition

An exclusion zone will be delineated using caution tape or equivalent material to secure the work area from unauthorized entry. No smoking will be permitted in the exclusion zone.

6.6 Entry Procedures

At a minimum, all visitors entering the work area must wear the same protective clothing and equipment as that worn by Levine·Fricke and contractor/subcontractor personnel. Permission to enter the work area must be obtained from at least one of the personnel named in Section 4.0, Site Safety Responsibilities. Each visitor's name and purpose of visit will be recorded in the field notes.

6.7 Decontamination Procedures

Disposable gloves, coveralls, and other disposable clothing or equipment worn by Levine·Fricke and subcontractor personnel will be placed in a suitable disposal container on site at the end of each work day. Protective clothing and equipment will be replaced if their protective function is compromised through holes or tears. New air-purifying cartridges (combination organic vapor and dust and fume) will be placed in the respirators used by Levine·Fricke personnel at the beginning of each field day. Used respirator cartridges will be placed in a suitable disposal container on site at the end of each work day. Equipment that comes in contact with on-site soils or ground water will be cleaned with Alconox, a laboratory-grade detergent, and water before removal from the site area.

6.7.1 DECONTAMINATION PROCEDURES UNDER LEVEL C RESPIRATORY PROTECTION

Personnel

Under Level C respiratory protection, decontamination will be required before personnel leave the Site. A six-station decontamination zone will be located upwind from the work zone. The six stations will be:

Station 1: Boot and glove wash (Alconox or TSP)
Station 2: Boot and glove rinse
Station 3: Glove and coverall removal
Station 4: Air purifying respirator (APR) removal
Station 5: Hand and face wash (hand soap)
Station 6: Hand and face rinse

All personnel will be required to wash their hands and faces before they leave the Site at the end of the work day. In addition, no drinking, eating, or smoking will be allowed in the work area, and personnel will wash their hands before

conducting these activities on their breaks. It is recommended that personnel shower at the end of the work day upon reaching home and before eating the next meal.

All disposable protective equipment shall be left on site and bagged for appropriate disposal. Boots shall be washed with Alconox or TSP and rinsed before they are removed from the Site.

The following decontamination equipment will be present in the decontamination area:

- Two tubs for boot wash and rinse
- Plastic sheet for ground cover under decontamination zone
- Alconox or TSP
- Two brushes with handles for boot wash and rinse
- Small table to support face/hand wash/rinse basins
- Wash basins for personnel
- Rinse basins for personnel
- Plastic garbage bags for used protective clothing disposal
- Steam-cleaning equipment

Equipment

Heavy construction equipment or vehicles that have been in contact with potentially contaminated soil shall be steam cleaned before they move off site. Other equipment shall be cleaned with Alconox or TSP and rinsed before it is taken off site.

7.0 EMERGENCY PROCEDURES

7.1 General Injury

- Step 1: Use on-site first aid kit, if appropriate.
- Step 2: Use off-site help and/or assistance if appropriate.
- Step 3: Notify SSO, Project Manager, and Health and Safety Director.

7.2 Specific Treatments

- Eye Exposure: flush eye with eye wash, call ambulance.
- Skin Exposure: wash immediately with soap and water; call ambulance if necessary.

- Fire (localized): use fire extinguisher and activate alarm system if necessary.
- Fire (uncontrolled): call Fire Department.
- Chemical Spill: call Fire Department and National Response Center for Toxic Chemical and Oil Spills.
- Inhalation: call Fire Department if potential for additional explosions or fire danger exists.
- Swallowing: call ambulance.

7.3 Emergency Phone Numbers

7.3.1 MEDICAL/GENERAL SERVICES

Police Department	911
Fire Department	911
Ambulance	911

7.3.2 HOSPITAL

Alta Bates Hospital (415) 540-1303
3001 Colby at Ashby
Berkeley, California

Figure 1 shows the route from the Site to the Hospital and presents written directions for the route.

A Levine·Fricke mobile phone will be kept on site during all working hours.

7.3.3 HAZARDOUS MATERIALS RESPONSE/REPORTING

National Emergency Response Center	(800) 424-8802
California State Office of Emergency Services	(800) 852-7550
Regional Water Quality Control Board	(415) 464-1255

7.4 Accident Reporting Procedures

In the event of an emergency, contact the following:

Levine·Fricke:	(415) 652-4500
Shari A. Samuels	(Health & Safety Director)
Amanda Spencer	(Project Manager)
Jenifer Carter	(Site Safety Officer)

If an exposure or injury occurs, work shall be temporarily halted until the SSO, in consultation with the Health and Safety Director, decides it is safe to continue work.

8.0 DOCUMENTATION

The SSO will record field observations of health and safety procedures by workers conducting the planned activities outlined in Section 3.0, including necessary deviations from the recommended health and safety procedures.

9.0 MEDICAL MONITORING

Appropriate medical monitoring of Levine·Fricke personnel will be required to:

- Meet requirements of 29 CFR 1910.120 (f)
- Meet requirements for respirator use
- Meet other legal requirements.

A signed physician's statement qualifying each individual for the work to be performed will be required as part of the medical monitoring program.

10.0 TRAINING PROGRAM

1. The Levine·Fricke SSO shall have fulfilled all appropriate training requirements indicated by 29 CFR 1910.120 (e), including the 40-hour training requirement and required refresher courses.

2. A tailgate session to discuss this HSP will be held before field activities begin. All Levine·Fricke personnel and contractor/subcontractor employees shall receive, at a minimum, the following information:

    - The names of personnel and alternates responsible for site safety and health
    - Safety, health, and other hazards at the Site
    - Instruction to use personal protective equipment
    - Action levels

- Employee work practices to minimize risks from on-site hazards
- Instruction for safe use of engineering controls and equipment on site
- Site control measures
- Emergency plans
- Proposition 65 warnings.

11.0 PROPOSITION 65

Under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), individuals who may be exposed in the work place to chemicals that may cause cancer or birth defects must be warned of such hazards pursuant to California Health and Safety Code (HSC) Section 25249.6.

11.1 Reproductive Toxins

Chemicals known to the State of California to cause reproductive toxicity, as listed in Title 22, California Code of Regulations (CCR) Section 12000, that may be present at the Site include lead.

11.2 Carcinogens

Chemicals known to the State of California to cause cancer, as listed in Title 22, CCR Section 12000 (b), that may be present at the Site include PCBs.

11.3 Warnings

Pursuant to HSC Section 25249.6 and CCR Sections 12601(c)(3)(A) and 12601(c)(3)(B), the following warning must be made:

"This area contains chemicals known to the State of California to cause reproductive toxicity and chemicals known to the State of California to cause cancer."

12.0 SIGNATURES

12.1 Levine·Fricke Personnel

This HSP for the soil excavation project to be conducted at the Yerba Buena Project Site, Emeryville and Oakland, California, is approved by the following Levine·Fricke personnel:

Shari A. Samuels
Health and Safety Director

5-8-91
Date

Glenn M. Leong
Quality Assurance Signature

5-8-91
Date

Amanda Spencer
Project Manager

5/8/91
Date

12.2 Contractor and Subcontractors

Contractor and Subcontractor Agreement:

1. Contractor certifies that the following personnel to be employed on the soil excavation project in Emeryville and Oakland, California, have met the requirements of the OSHA Hazardous Waste Operations and Emergency Response Standard 29 CFR 1910.120 and other applicable OSHA Standards.

2. Contractor certifies that in addition to meeting the OSHA requirements, it has received a copy of this HSP, and will ensure that its employees are informed and will comply with both OSHA requirements and the guidelines in this HSP.

3. Contractor further certifies that it has read, understands and will comply with all provisions of this HSP, and it will take full responsibility for the health and safety of its employees.

Contractor	Signature	Date

TABLE 1

EXPOSURE LIMITS, ACTION LEVELS, AND
HIGHEST DETECTED CONCENTRATIONS OF SELECTED CHEMICALS
YERBA BUENA PROJECT SITE, EMERYVILLE AND OAKLAND, CALIFORNIA
(Concentrations expressed in mg/kg unless otherwise noted)

Chemical	Soil	TLV * mg/m3	PEL ** mg/m3
TPH (characterized as oil)	17,000		
polychlorinated biphenyls	66	0.5	0.5
lead	8,800	0.15	0.05***
zinc	48,000	10	5

* - American Conference of Governmental Industrial Hygenists, Threshold Limit Value and Biological Exposure Indices for 1990 - 1991.

** - 29 CFR 1910.1000.

*** - 29 CFR 1910.1025.

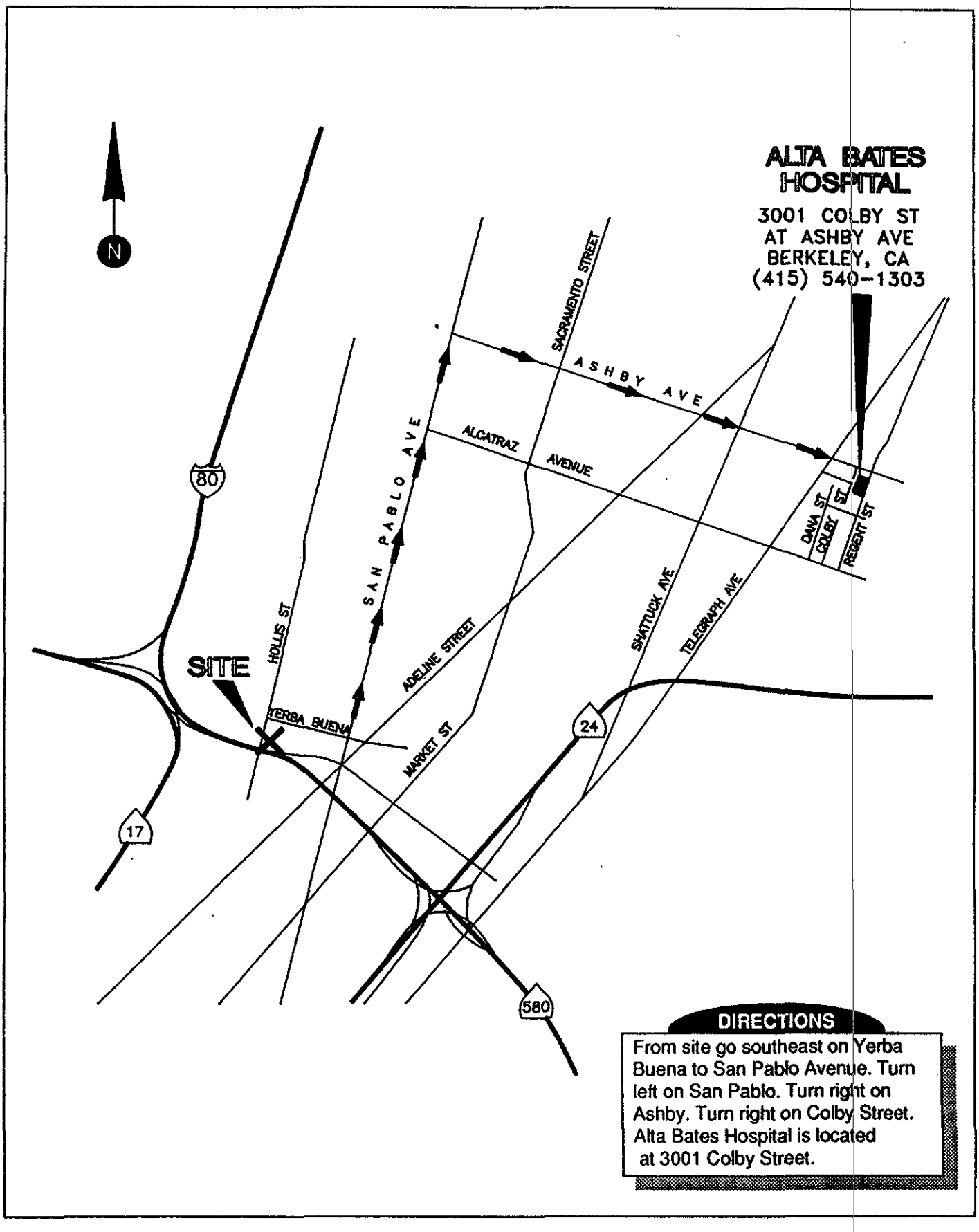
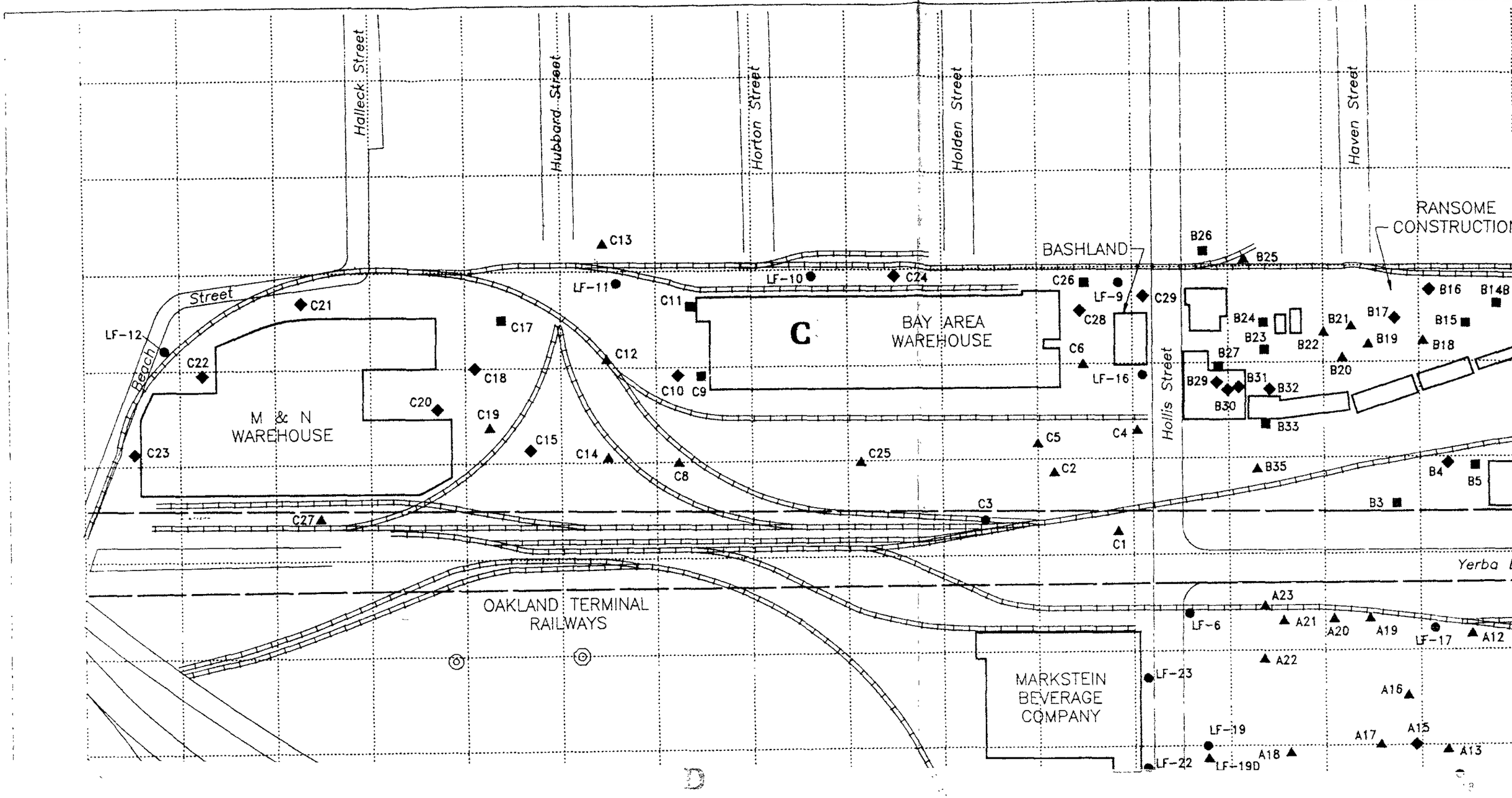


Figure 1 : SITE LOCATION AND HOSPITAL ROUTE MAP


Halleck Street
Hubbard Street
Horton Street
Holden Street
Haven Street
RANSOME CONSTRUCTION
BASHLAND
Beach Street
C
BAY AREA WAREHOUSE
M & N WAREHOUSE
OAKLAND TERMINAL RAILWAYS
MARKSTEIN BEVERAGE COMPANY
Hollis Street
Yerba
LF-12
LF-11
LF-10
LF-9
LF-16
LF-6
LF-17
LF-23
LF-19
LF-22
LF-19D
C1
C2
C3
C4
C5
C6
C8
C9
C10
C11
C12
C13
C14
C15
C17
C18
C19
C20
C21
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C25
C26
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C28
C29
B3
B4
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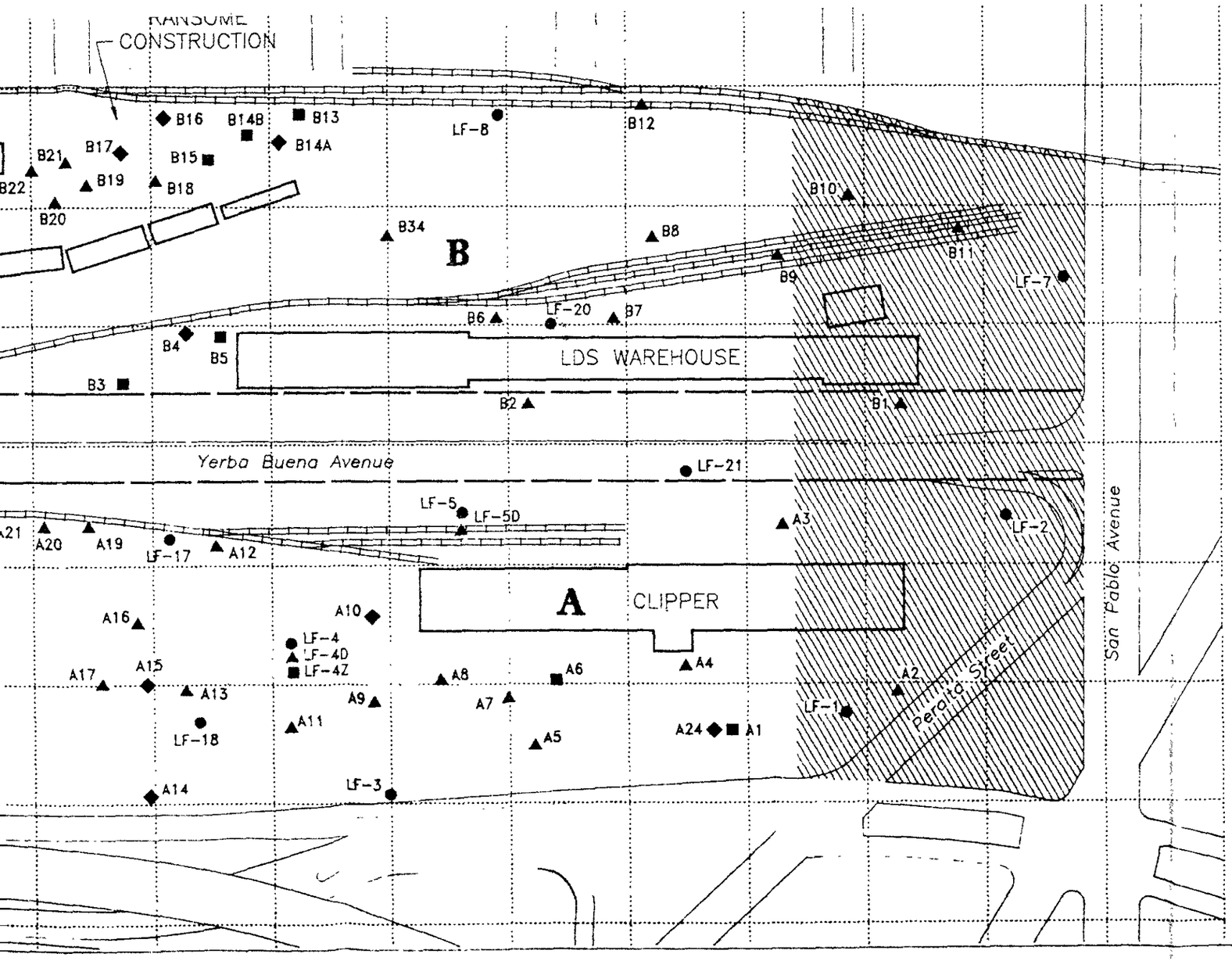

SAMPLING LOCATION (6 TO 18 FEET)

PHASE I INVESTIGATION DEEPER SOIL SAMPLING LOCATION (13 TO 18 FEET) AND GRAB GROUND-WATER SAMPLE LOCATION

SUBJECT AREA

0 150 300 FEET

Figure 2 :

SITE PLAN SHOWING
CURRENT TENANTS OR FORMER TENANTS AND
PHASE I SAMPLING LOCATIONS
YERBA BUENA PROJECT SITE

Project No. 1649

LEVINE•FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

APPENDIX A

CHEMICAL DESCRIPTIONS

APPENDIX A

CHEMICAL DESCRIPTIONS

Lead

Lead (inorganic) is a bluish-white, silver, or grey odorless solid.

Short-term exposure to lead can cause decreased appetite, insomnia, headache, muscle and joint pain, colic, and constipation.

The PEL for lead is 0.05 mg/m^3.

Motor Oil

Motor lubrication oils are composed of aliphatic, olefinic, naphthenic (cycloparaffinic), and aromatic hydrocarbons, as well as additives depending on specific uses. Additives include antioxidants, bearing protectors, wear resistors, dispersants, detergents, viscosity index improvers, and antifoaming and rust-resisting agents.

Oral and dermal toxicities for motor oil are very low due to their low vapor pressure and high viscosity. Inhalation only presents a problem if misting occurs. Skin irritation may occur in hypersensitive individuals after frequent and prolonged skin contact, mainly owing to the additives.

The PEL TWA for oil mist is 5 mg/m^3 and the PEL STEL is 10 mg/m^3, as identified in Volume 2B of Patty's Industrial Hygiene and Toxicology, which follows ACGIH (1990-1991) TLVs and BEIs for 1988-1989.

Polychlorinated Biphenyls (PCBs)

PCBs are pale yellow viscous liquids with a mild hydrocarbon odor.

Exposure to PCBs may cause irritation of the eyes, nose, and throat and an acnelike skin rash. It may also injure the liver, resulting in such effects as fatigue, dark urine, and yellow jaundice. Skin irritation may result from repeated skin contact.

The PEL for PCBs is 0.5 mg/m^3.

October 28, 1991 LF 1649.07

ADDENDUM TO

HEALTH AND SAFETY PLAN FOR SOIL REMEDIATION ACTIVITIES YERBA BUENA PROJECT SITE OAKLAND AND EMERYVILLE, CALIFORNIA (Dated May 8, 1991)

1.0 INTRODUCTION

The following text is an addendum to the Health and Safety Plan entitled: "Health and Safety Plan for Soil Remediation Activities, Yerba Buena Project Site, Oakland and Emeryville, California", dated May 8, 1991 ("Site HSP"). This addendum addresses additional excavation work to remediate petroleum-affected soil at the former Ransome Property, located in the north-central portion of the Yerba Buena Project Site.

At the request of Catellus Development Corporation, Levine·Fricke is conducting remedial work at the former Ransome Property as part of the Yerba Buena Project Site work. The majority of the safety procedures presented in the Site HSP also apply to the former Ransome Property because it is located within the Yerba Buena Project Site, and the work to be conducted at the two sites is similar. This addendum also addresses work procedures for chemicals unique to the former Ransome Property.

2.0 SITE CHARACTERISTICS

The former Ransome Property was reportedly occupied by the Ransome Company (an asphalt manufacturer and paving company) from 1938 to 1990. The site was primarily used for storage of equipment and materials used in the manufacture, transport and placement of asphaltic concrete.

Soil sampling conducted at the former Ransome Property has indicated the presence of the following chemical compounds: total petroleum hydrocarbons as diesel (TPH[d]), oil (TPH[o]), and gasoline (TPH[g]); and the gasoline constituents of benzene, toluene, ethylbenzene and xylene (BTEX).

3.0 WORK DESCRIPTION

The field work to be conducted at the former Ransome Property consists of the following activities:

- excavating petroleum-affected soil
- collecting excavation floor and sidewall soil samples
- backfilling the excavation and regrading the area
- disposing petroleum-affected soil off site.

Section 3 of the Site HSP contains a detailed description of these activities.

4.0 HAZARD ANALYSIS

Highest Detected Concentrations

As discussed above, concentrations of TPH(d), TPH(g), TPH(o) and BTEX have been detected in soil samples from the former Ransome Property. A list of the highest detected concentrations of these compounds at the former Ransome Property is presented below.

Chemical Compound	Highest Detected Concentration
TPH(g)	640 parts per million (ppm)
TPH(d)	1400 ppm
TPH(o)	6700 ppm
benzene	3.3 ppm
toluene	8.8 ppm
ethylbenzene	17.0 ppm
total xylenes	76.0 ppm

Chemical Descriptions

The Site HSP contains a chemical description for TPH(o). Attachment 1 contains chemical descriptions for TPH(g), TPH(d) and BTEX.

5.0 WORK REQUIREMENTS

Field operations will be initiated at Level D. The primary route of potential exposure for chemicals is inhalation. Inhalation hazards due to volatilization will be monitored using a photo-ionization detector (PID) to measure concentrations of volatile organic compounds (VOCs) in the breathing zone. If ambient concentrations in the breathing zone reach 25 ppm or greater, workers will don half-facepiece air-purifying respirators. Also, Sensidyne-brand low-range benzene detector tubes (0.25 to 12 ppm) will be used to detect the presence of benzene. If benzene is detected, a temporary stop work will take place, and the area will be ventilated and monitored until no benzene is detected in the breathing zone.

Section 6 of the Site HSP presents work procedures for dermal protection, protection against physical hazards, work area definition and entry, and decontamination. Section 7 of the Site HSP presents emergency procedures.

6.0 PROPOSITION 65

Under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), individuals who may be exposed in the work place to chemicals that may cause cancer or birth defects must be warned of such hazards pursuant to California Health and Safety Code (HSC) Section 25249.6. At the former Ransome Property, the chemicals that may cause cancer or reproductive abnormalities, and their respective warnings, are listed below.

6.1 Carcinogens

Of the chemicals of concern at the former Ransome Property, benzene is known to the State of California to cause cancer, as listed in Title 22, California Code of Regulations (CCR) Section 12000(b).

6.2 Warnings

Pursuant to HSC Section 25249.6 and CCR Sections 12601(c)(3)(A) and 12601(c)(3)(B), the following warning must be made:

"This area contains chemicals known to the State of California to cause cancer."

7.0 SIGNATURES

7.1 Levine·Fricke Personnel

This Addendum to the Site HSP for the Yerba Buena Project Site, Oakland and Emeryville, California is approved by the following Levine·Fricke personnel:

Shari A. Samuels
Health and Safety Director
Date 10/28/91

Amanda L. Spencer
Project Manager
Date 10/28/91

Thomas M. Johnson
Quality Assurance Reviewer
Date 10/28/91

7.2 Contractor and Subcontractors

Contractor and Subcontractor Agreement:

1. Contractor certifies that the following personnel to be employed on the Yerba Buena Site have met the requirements of the OSHA Hazardous Waste Operator Standard 29 CFR 1910.120 and other applicable OSHA Standards.

2. Contractors certifies that in addition to meeting the OSHA requirements, it has received a copy of this Addendum and the Site HSP, and will ensure that its employees are informed and will comply with both OSHA requirements and the guidelines in the May 8, 1991 Site HSP and this Addendum.

3. Contractor further certifies that it has read, understands and will comply with all provisions of this Addendum to the Site HSP and the Site HSP, and it will take full responsibility for the health and safety of its employees.

Contractor	Signature	Date

APPENDIX A

CHEMICAL DESCRIPTIONS

The following chemical descriptions are presented for the chemicals of concern for planned field activities at the site. Each chemical description includes physical and odor recognition characteristics, effects of acute exposures, and the permissible exposure limit (PEL) time-weighted average.

Benzene

Benzene is a clear colorless liquid.

Exposure to high concentrations (3,000 ppm) may result in acute poisoning, characterized by the narcotic action of benzene on the central nervous system. Chronic poisoning occurs most commonly through inhalation and dermal absorption. Benzene is also a recognized carcinogen.

The PEL for benzene is 1 ppm in air.

Ethylbenzene

Ethylbenzene is a clear, colorless liquid.

Exposure to high concentrations of ethylbenzene vapor may result in irritation of the skin and mucous membranes, dizziness, irritation of the nose and throat and a sense of constriction of the chest.

The PEL for ethylbenzene is 100 ppm in air.

Toluene

Toluene is a colorless liquid with a benzol-like odor.

Inhalation of high vapor concentrations may cause impairment of coordination and reaction time, headaches, nausea, eye irritation, loss of appetite, a bad taste, and lassitude.

The PEL for toluene is 100 ppm in air.

Xylenes

Xylenes are clear, colorless liquids.

Exposure to high concentrations of xylene vapor may result in eye and skin irritation. Eye irritation may occur at concentrations of about 200 ppm.

The PEL for total xylene is 100 ppm in air.

Gasoline

Gasoline is produced from the light distillates during petroleum fractionation, with its major components including paraffins, olefins, naphthenes, aromatics, and recently ethanol. Gasoline also contains various functional additives as required for different uses, such as antiknock fluids, antioxidants, metal deactivators, corrosion inhibitors, anti-icing agents, preingition preventors, upper-cylinder lubricants, dyes, and decolorizers. Lead additives in particular were widely used in gasoline until the introduction of vehicle catalytic converters.

Mild cases of gasoline ingestion can cause inebriation, vomiting, vertigo, drowsiness, confusion, and fever. Aspiration into the lungs and secondary pneumonia may occur unless prevented. Gasoline can cause hyperemia of the conjunctiva and other eye disturbances. Inhalation of gasoline during bulk handling operations produced no physiological effects. Gasoline is a skin irritant and a possible allergen. Repeated or chronic dermal contact can result in drying of the skin, lesions, and other dermatologic conditions.

The TWA of the PEL for gasoline is 300 ppm and the STEL is 500 ppm.

Diesel Fuel

Diesel fuel is a gas oil fraction available in various grades as required by different engines. Composition of diesel varies in ratios of predominantly aliphatic, olefinic, cycloparaffinic, and aromatic hydrocarbons, and additives.

Ingestion of diesel can lead to systemic effects such as gastrointestinal irritation, vomiting, diarrhea, and in severe cases drowsiness and central nervous system depression, progressing to coma and death. Aspiration of diesel fuel can cause hemorrhaging and pulmonary edema, progressing to pneumonitis and renal involvement.

Motor Oil

Motor lubrication oils are composed of aliphatic, olefinic, naphthenic (cycloparaffinic), and aromatic hydrocarbons, as well as additives depending on specific uses. Additives include antioxidants, bearing protectors, wear resistors,

dispersants, detergents, viscosity index improvers, and antifoaming and rust-resisting agents.

Oral and dermal toxicities for motor oil are very low due to their low vapor pressure and high viscosity. Inhalation only presents a problem if misting occurs. Skin irritation may occur in hypersensitive individuals after frequent and prolonged skin contact, mainly owing to the additives.

The TWA of the PEL for oil mist is 5 mg/m^3 and the STEL is 10 mg/m^3, as identified in Volume 2B of Patty's Industrial Hygiene and Toxicology, which follows ACGIH (1988) TLVs and BEIs for 1988-1989.