PES Environmental, Inc.
Engineering & Environmental Services

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July 7, 1994

241.0102.006

STID 1184

Ms. Susan L. Hugo
Senior Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California

HEALTH AND SAFETY PLAN ADDENDUM #1
MONITORING WELL INSTALLATION
POWELL STREET PLAZA AND SHELLMOUND III SITES
EMERYVILLE, CALIFORNIA

Dear Ms. Hugo:

Per your request, enclosed is a copy of the Health and Safety Plan (HSP) prepared for activities on the Powell Street Plaza and Shellmound III Sites. In addition to the tasks described in the HSP, we plan to install, develop and sample one monitoring well along the access road west of Highway, as described in the Work Plan for this project (PES, June 29, 1994). All applicable procedures described in the HSP will be followed.

We trust this is the information you require at this time. Please call if you have any questions or comments.

Very truly yours,

PES ENVIRONMENTAL, INC.

Jane H. Gill

Jane H Gill
Senior Staff Geologist

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PES Environmental, Inc.
Engineering & Environmental Services

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HAZMAT
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March 2, 1993

A Report Prepared for:

Mr. Thomas Gram
5800 Shellmound, Suite 210
Emeryville, California 94608

HEALTH AND SAFETY PLAN
PRODUCT REMOVAL
AND WATER-LEVEL INVESTIGATION
POWELL STREET PLAZA
EMERYVILLE, CALIFORNIA

by:

Jane H. Gill
Staff Geologist

Robert S. Creps, P. E
Associate Engineer

241.01.001

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TABLE OF CONTENTS

TABLE OF CONTENTS
Cont.

1.0 INTRODUCTION

This Health and Safety Plan (HSP) contains health and safety requirements for the planned field activities at the Powell Street Plaza site (Plate 1) on Shellmound Street in Emeryville, California (Site). The planned field activities, outlined in Section 3.0, include manual bailing of free-phase hydrocarbon product from on-site monitoring wells. In addition to the procedures and safeguards outlined in this HSP, all PES personnel and subcontractor employees shall follow applicable Federal, State, and local regulations. In the event of conflicting requirements, the procedures/practices that provide the highest degree of personnel protection shall be implemented.

If work plan specifications change during or after the preparation of the HSP, or if site conditions differ from those anticipated, the PES Health and Safety Officer shall be informed immediately and appropriate changes shall be made to this HSP.

At a minimum, all PES personnel and subcontractor employees who will be working onsite must:

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

2. Have completed all training and medical monitoring requirements in Title 29 of the Code of Federal Regulations (29 CFR) Section 1910.120.

This HSP shall be read and approved by the PES Health and Safety Officer, the PES Project Manager, and a PES Corporate Officer.

A copy of this HSP shall be kept on site, easily accessible to all employees and government inspectors, and in PES files.

This HSP was prepared using the following documents:

- 29 CFR 1910 Occupational Safety and Health Standards.

- Title 8, California Code of Regulations, Occupational Health and Safety Standards.

- *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (October 1985). Prepared by: 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). Washington, D.C., U.S. Government Printing Office.

- *Site Safety Plan Format* (June, 1986). California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region.

- Sax's Dangerous Properties of Industrial Materials, by Richard L. Lewis, Sr., Eighth Edition. Van Nostrand Reinhold, New York, 1992.

2.0 SITE CHARACTERISTICS

2.1 Site Description

The proposed activities will be conducted on the central and southern portions of the Powell Street Plaza Site (formerly the Pacific Intermountain Express [P.I.E.] Trucking facility). The property is located at the intersection of Powell Street and Shellmound Street in Emeryville, California (Plate 1). The Site is on level land and the areas of concern encompass approximately 8 acres. Fifteen monitoring wells are currently present on the Site.

2.2 Site History and Conditions

Detailed information on the site history, project background, and potential onsite and off-site petroleum hydrocarbon sources is presented in reports by Alton Geoscience (1988), Tenera (1989a) and PES (1991c). For the purposes of this report, the following brief summary of the site is provided.

The Powell Street Plaza is a retail business shopping center constructed in the late 1980s on the site of the former P.I.E. Trucking facility. Seven underground storage tanks (USTs) formerly containing gasoline, diesel fuel, and waste oil were excavated from the southern portion of the Site prior to construction of the shopping center. Approximately 7000 cubic yards of contaminated soil was removed and treated on site in 1987, and a total of 18 monitoring wells were installed to assess groundwater contamination at the site and the adjacent property to the south, known as the Shellmound III site. Floating hydrocarbon product was found in monitoring wells on the southern half of the site, and a groundwater extraction and treatment system was installed and operated from 1989 to 1990. Free product was found in monitoring wells during the last monitoring event in July 1992, with thicknesses ranging from approximately 0.2 to 1.4 feet.

3.0 WORK DESCRIPTION

Tasks to be performed at the Site are described in detail in the Proposed Scope of Work for this project (PES, 1992), and include measuring water-levels and product thickness, and manually removing free product from the monitoring wells with a bailer. In general, only one person (the OHSC as described in Section 4.2.2) will be required on site to perform most work. Recovered product will be contained in labelled 55-gallon drums stored at the former biotreatment compound on the southwestern portion of the site. The compound is surrounded by a block wall and chain-link fencing. Chained and padlocked temporary fencing will be established at the entrance to the storage area. It is estimated that

approximately 100 gallons of product, filling up to 2 drums, may be recovered during this task; however, the actual volume of product is unknown and its determination is one objective of the scope of work.

4.0 SITE SAFETY RESPONSIBILITIES

4.1 Safety Personnel

Name	Responsibility
Robert S. Creps, P. E.	Project Manager
Paul Lohman	Onsite Health and Safety Coordinator
James Wilson	PES Health and Safety Officer (HSO)

4.2 PES Personnel and Responsibilities

4.2.1 PES Project Manager

The PES Project Manager, Robert S. Creps, has the ultimate responsibility for the health and safety of PES personnel on site. As part of his duties, Mr. Creps will be responsible for:

1. Informing the PES Health and Safety Officer of developments on the project;

2. Verifying that all PES personnel: (i) receive proper training, (ii) are informed of the potential hazards anticipated on the Site, and (iii) are informed of procedures and precautions to be implemented on the job; and

3. Ensuring that all necessary resources are available to provide a safe and healthy work environment for PES personnel and the general public.

4.2.2 Onsite Health and Safety Coordinator

The Onsite Health and Safety Coordinator (OHSC) has been designated by PES as Paul Lohman. Mr. Lohman, a Staff Engineer at PES, has completed 40 hours of comprehensive health and safety training, which meets the requirements of 29 CFR 1910.120. In addition, Mr. Lohman has recently completed the annual 8-hour update training and 8-hour supervisory training.

The OHSC, or a trained designated alternate, will be present at the Site during work activities. The OHSC shall be notified of and approve activities in which persons may be reasonably expected to be exposed to contaminated soils, groundwater and/or free product.

The OHSC shall be responsible for:

1. Implementing the HSP;
2. Limiting uncontrolled access to working areas at the Site;
3. Reporting unusual or potentially hazardous conditions to the PES Project Manager;
4. Reporting injuries, exposures, or illnesses to the PES Project Manager;
5. Communicating proposed changes in work scope or procedures to the PES Project Manager for approval; and
6. Recommending to the PES Project Manager additional safety procedures or precautions that might be implemented.

The OHSC shall have the authority to:

1. Require: (i) temporary stop work procedures and/or order an evacuation of the Site or portion(s) of the Site, or (ii) shut down any operation if the OHSC believes a safety hazard exists;
2. Deny access to work areas to unauthorized personnel; and
3. Require that any worker obtain immediate medical attention.

4.2.3 PES Health and Safety Officer

The PES Health and Safety Officer has been designated as James Wilson. Mr. Wilson will be responsible for:

1. Monitoring the health and safety effects of this project on all PES personnel;
2. Assessing the potential safety hazards existing on site;
3. Recommending appropriate safeguards and procedures;
4. Modifying the HSP, when necessary; and
5. Approving any changes in safeguards used or operating procedures employed on site.

The PES Health and Safety Officer will have the authority to:

1. Require that additional safety precautions or procedures be implemented;

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

3. Deny access to the Site to unauthorized personnel;

4. Require that any worker obtain immediate medical attention; and

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

5.0 HAZARD ANALYSIS

Petroleum hydrocarbons and constituents, including benzene, toluene, ethylbenzene, and xylenes, have been detected in soils and groundwater at the Site. Pertinent properties of these substances and/or components are as follows:

- Diesel Fuel LEL/UEL = 0.6-1.3/6-7.5 percent
  TLV (TWA)/IDLH = none established
  Hazard Properties = ignitable, toxic
  Exposure Routes = inhalation, skin absorption, and ingestion
  Target Organs = Respiratory system, skin, gastrointestinal tract
  Effects of Overexposure = Dermatitis; mildly toxic by ingestion

- Gasoline LEL/UEL = 1.4/7.6 percent
  TLV(TWA)/IDLH = 300/900 ppm
  Hazard Properties = ignitable, toxic, volatile
  Exposure Routes = inhalation, skin absorption, and ingestion
  Target Organs = Respiratory system, skin, central nervous system, eyes, gastrointestinal tract
  Effects of overexposure = eye irritation; hallucinations, dermatitis, blistering of skin, depression; pneumonitis, pulmonary edema

- Benzene LEL/UEL = 1.3/7.1 percent
  TLV(TWA)/IDLH = 1/3,000 ppm. Carcinogen
  Hazard Properties = ignitable, toxic, volatile
  Exposure Routes = inhalation, skin absorption, and ingestion
  Target Organs = Blood, central nervous system, skin, bone marrow, eyes, respiratory system

Effects of overexposure = Giddiness, headache, nausea, staggered gait; fatigue, anorexia, lassitude: dermatitis, eye, nose and throat irritation; confirmed human carcinogen, producing myeloid leukemia, Hodgkin's disease, and lymphomas by inhalation

- Toluene LEL/UEL = 1.3/7.1 percent
  TLV(TWA)/IDLH = 100/2,000 ppm
  Hazard Properties = ignitable, toxic, volatile
  Exposure Routes = inhalation, skin absorption, and ingestion
  Target Organs = Central nervous system, liver, kidneys, skin
  Effects of Overexposure = Fatigue, weakness; confusion, euphoria, dizziness, headache; dilated pupils, watering eyes;nervousness, muscle fatigue, insomnia; paresthesia; dermatitis

- Ethylbenzene LEL/UEL = 1.0/6.7 percent
  TLV(TWA)/IDLH = 100/2,000 ppm
  Hazard Properties = ignitable, toxic, volatile
  Exposure Routes = inhalation, skin absorption, and ingestion
  Target Organs = Eyes, upper respiratory system, skin, central nervous system
  Effects of Overexposure = Irritated eyes and mucous membranes; headache; dermatitis; narcosis; coma

- Xylenes LEL/UEL = 1.0/7.0 percent
  TLV(TWA)/IDLH = 100/10,000 ppm
  Hazard Properties = ignitable, toxic, volatile
  Exposure Routes = inhalation, skin absorption, and ingestion
  Target Organs = Central nervous system, eyes, gastrointestinal tract, blood, liver, kidneys, skin
  Effects of Overexposure = Dizziness, excitement, drowsiness, incoherence, staggering gait; irritated eyes, nose and throat; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis

Potential chemical, physical and general safety hazards during site activities are listed in the following sections.

5.1 Chemical Hazards

The primary potential chemical hazards at the Site are exposure to chemical compounds from the petroleum hydrocarbons bailed from the monitoring wells.

Overexposure of skin to petroleum hydrocarbons may result in dermatitis. Contact may irritate eyes. Inhalation of large amounts of petroleum hydrocarbons may cause central nervous system depression or suffocation. Hydrocarbons may be ignited by heat, sparks or flame, and fire may produce irritating or poisonous gases.

Benzene is the most toxic chemical found at the site and is a known human carcinogen. Benzene is a human poison by inhalation, is moderately toxic by ingestion and subcutaneous routes, and is a severe eye and moderate skin irritant. Poisoning most commonly occurs via inhalation of benzene vapor.

5.2 Physical Hazards

The potential physical hazards at the Site during the planned activities stem from a possible fire or explosion hazard, exposure to traffic hazards, tripping, heat stress, and the possibility of muscle strain from removing well covers, bailing, and lifting containers of recovered product. Work procedures to protect workers and the general public from chemical and physical hazards are discussed in Section 6.0

6.0 WORK REQUIREMENTS

6.1 Respiratory Protection

The primary potential route of entry for chemicals is inhalation. Inhalation hazards due to volatilization of the petroleum compounds will be monitored using a photo-ionization detector (PID) to measure concentrations of organic chemicals in the breathing zone. If ambient air concentrations of volatile organic chemicals (VOCs) in the breathing zone exceed action levels discussed below, then a temporary stop-work order shall go into effect and personnel in the exclusion zone will stop work and secure the site. The OHSC shall then call the Project Manager or HSO for further instruction.

The Project Manager of HSO may direct work to continue using respiratory protection; however, no work requiring respiratory protection will be performed during operational hours of businesses at the shopping center when the public may be in the vicinity of the work areas. In such cases, repiratory protection will consist of half-mask air purifying repirators (APR) with organic vapor cartridges.

Air monitoring will be performed on site. Section 7.0, Air Monitoring, discusses the air monitoring procedures to be followed at the Site.

6.2 Dermal Protection

Unless adequate precautions are taken, chemicals may contact the skin or clothing. To protect against such exposures, PES personnel will wear the following protective clothing in the exclusion zone:

- hard hats;
- steel toe/shank chemical resistant boots;
- disposable PVC gloves;
- safety glasses; and
- coveralls.

The required personal protective equipment in the contaminant reduction zone and in the support zone includes:

- normal work clothes;
- steel toe/shank chemical resistant boots.

6.3 Action Level

The OHSC shall impose a temporary stop work and contact the PES Project Manager immediately if any of the following conditions are observed, or if there is a question about site conditions:

1. Ambient air concentrations of VOCs in the breathing zone reach 150 ppm or greater. Although benzene is present at the site, it is a small fraction of gasoline and the action level based on gasoline account for the presence of small amounts of benzene;

2. Indications of heat stress; or

3. Changes in the general health profile of onsite personnel, including headaches, dizziness, breathing difficulties, irritation to the eyes, nose, throat and hands.

PES will halt operations or control emissions, if any, if it appears that passers-by on sidewalks or occupants of nearby buildings are being adversely affected by odors.

6.4 Protection Against Physical Hazards

Fire and Explosion - Smoking will NOT be permitted in work zones at the Site. No onsite project personnel will be allowed to carry cigarette lighters and/or matches.
To minimize explosion hazards, wells will be left open for a few minutes before bailing to allow accumulated vapors to dissipate. Work zones will be set up as described in Section 6.5 to exclude the general public.

Traffic - Hazards related to working in traffic in the parking area and on access roads will necessitate securing the work area. Adequate clearance will be maintained around personnel and equipment, and will be delineated by the use of safety cones.

General Safety - All PES personnel will wear approved head protection while working around heavy equipment in the site area. A fire extinguisher will be kept onsite near the exclusion zone. Personnel will exercise due caution while working on uneven terrain and performing strenuous tasks.

Heat Stress - The potential for heat stress will be minimized by beginning work early in the day and, if necessary, taking breaks mid-day, when temperatures normally peak. Workers will be provided with liquids throughout the work day. The duration and number of rest breaks will be assessed by the temperature, humidity, and work load. Workers will remain alert to symptoms of heat stress such as increased pulse-rate, high body temperature and hot, dry red skin.

6.5 Work Area Definition

These zones will be established to control access to areas of potential contamination: (1) the exclusion zone consisting of the actual work area; and (2) the support zone outside of any areas of contamination.

An exclusion zone will be delineated using safety cones or equivalent material to secure the work area from unauthorized entry by the general public. The exclusion zone will consist of areas where inhalation, oral contact, or dermal contact with product will be possible. The exclusion zone will be of sufficient size to permit unrestricted movement of all personnel and equipment in carrying out the planned activities. During bailing activities, the exclusion zone will include an area within a ten foot radius of the active well. No smoking signs will be posted around the exclusion zone. No unauthorized personnel will be permitted in the exclusion zone.

Also, at the perimeter of this area, personnel will begin the sequential decontamination process required to exit the exclusion zone.

The support zone will consist of the area where the field office is located, usually in the field vehicle. Drinking and eating will be allowed only in designated areas. Drinking and washing water are provided in the support zone. Other sanitation facilities (toilets) are available at restaurant or service stations in the vicinity of the shopping center.

6.6 Entry Procedures

At a minimum, all visitors entering the exclusion zone must wear the protective clothing and equipment indicated herein. Permission to enter the work area must be obtained from at least one of the personnel named in Section 4.0. All visitors, subcontractors and personnel will be required to sign a safety plan acknowledgement sheet to certify that they have read and will comply with the HSP.

All visitor's name and purpose of visit will be recorded in the field notes.

6.7 Decontamination Procedures

6.7.1 Personnel

Decontamination will be required prior to leaving the Site. A decontamination area will be located at an upwind location at which five sequential decontamination steps will be performed. The five stations will be:

Step 1. Boot and glove wash (Alconox or TSP)
Step 2. Boot and glove rinse
Step 3. Glove and coverall removal
Step 4. Hand and face wash (hand soap)
Step 5. Hand and face rinse

All personnel will be required to wash their hands and faces prior to leaving 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 a shower be taken at the end of the work day upon reaching one's residence prior to the next meal.

Rinsate water generated during decontamination will be collected in 55-gallon drums and stored onsite for later disposal.

6.7.2 Equipment

Sampling equipment, and oil/water interface equipment that have been in contact with potentially contaminated soil and/or groundwater shall be cleaned with Alconox or TSP and rinsed prior to taking off site. Wash and rinsate waters generated during decontamination will be collected in 55-gallon drums and stored on site for later disposal.

6.8 Pedestrian and Vehicular Traffic Control

During the field activities, bailing will be conducted on wells located in the parking lot in the Powell Street Plaza. Activities at wells in driveways and those nearest to high pedestrian and vehicular traffic areas will be performed early in the morning, before business hours, to minimize impacts to the general public. Traffic cones will be used to block the parking area surrounding each well during the bailing activities. Once bailing is completed, the cones will be removed to restore access to the parking zone.

7.0 AIR MONITORING

Air monitoring will be conducted in order to determine airborne contamination levels. Prior to bailing, air monitoring will be performed to assess background airborne contaminant levels. Subsequent to establishing background levels, bailing activities will commence. Air

monitoring will be performed in the breathing zone as frequently as practical during field activities. Additional air monitoring at the upwind/downwind edges of the exclusion zone and near bailing locations will occur at the discretion of the OHSC. This ensures that respiratory protection is adequate to protect personnel and the public against the chemicals that are encountered.

7.1 Organic Vapor Meter and Action Levels

During field activities, organic vapor meter (OVM) readings will be obtained to ensure that hydrocarbon vapors do not exceed action levels in the breathing zone. The Datalogger Model 580B will be used. Lower explosive limits (LEL) will not be monitored because action levels based on exposure to organic vapors are much lower.

The following describes the air monitoring required and appropriate action levels.

Monitoring Device	Action Level	Action
OVM	0-100 ppm above background in breathing zone	Temporarily stop work, continue monitoring to assess source and reduction to less than 100 ppm
	> 100 ppm above background in breathing zone	Stop work, contact PES Project Manager or HSO for further direction

7.2 Air Monitoring Log

The OHSC will ensure that all air monitoring data are recorded on daily field logs. Data will include instrument used, wind direction, work process, etc.

7.3 Calibration Requirements

The OVM meter will be calibrated daily prior to use and records will be kept detailing date, calibration, gas type and concentration or other standard, and name of person performing the calibration. The OVM will be calibrated in accordance with the procedures described in the *Instruction Manual, OVM/Datalogger Model 580B*. The manual is dated August 1992 and is published by Thermo Environmental Instruments, Inc., Franklin, Massachusetts.

8.0 RECORDING OF HEALTH AND SAFETY PROCEDURES

The OHSC will record field observations of health and safety procedures followed by workers during the product bailing, including any deviations from the recommended health and safety procedures.

9.0 MEDICAL MONITORING

All PES personnel that use or may come in contact with hazardous materials will undergo compulsory routine medical surveillance. The surveillance includes the following:

- a one-time baseline medical and work history and physical exam, chest X-ray, pulmonary function test, audiogram, visual acuity, complete blood counts, chemistry panel, dermatological examination, and urinalysis;
- annual physical and medical examination; and
- exit physical examination upon termination of their employment.

The comprehensive medical examination for PES personnel is conducted through special arrangement with the Ralph K. Davies Medical Center, Health Check Services, San Francisco, California.

10.0 EMERGENCY PROCEDURES

Prior to performing field activities, the OHSC shall plan emergency egress routes and discuss them with any other personnel that may be conducting field activities. Initial planning includes establishing emergency warning signals and evacuation routes in case of emergency.

10.1 Emergency Services

A tested system shall exist for rapid and clear distress communication. All personnel shall be provided concise and clear directions and accessible transportation to local emergency services. A map outlining directions to the nearest hospital is attached to this plan.

The following emergency equipment shall be present onsite:

- Fire extinguisher; and
- First aid kit.

10.2 Emergency Evacuation From Exclusion And Contamination Reduction Zones

Any personnel requiring emergency medical attention shall be evacuated immediately from the exclusion and contaminant reduction zones. Personnel shall not enter the area to attempt a rescue if their own safety is threatened. The decision whether or not to decontaminate a victim prior to evacuation is based on the type and severity of the illness or injury and the nature of the contaminant. If decontamination does not interfere with essential treatment, it should be performed.

If decontamination can be performed, then wash external clothing and cut it away. If decontamination can not be performed, then:

- Wrap the victim in blankets or plastic to reduce contamination of other personnel;
- Alert emergency and offsite medical personnel to potential contamination and instruct them about the specific decontamination procedures; and
- Send along site personnel familiar with the incident.

10.3 First Aid

Qualified personnel only shall give first aid and stabilize an individual needing assistance. Life support techniques such as CPR and treatment of life threatening problems such as airway obstruction and shock will be given top priority. Professional medical assistance shall be obtained at the earliest possible opportunity.

To provide first-line assistance to field personnel in the case of sickness or injury, the following items will be immediately available:

- First aid kit; and
- Supply of clean water.

10.4 Emergency Actions

If actual or suspected injury occurs, these steps shall be followed:

- Remove the exposed or injured person from immediate danger;
- Render first aid, if necessary. Decontaminate affected personnel after critical first aid is administered; and
- Transport the victim to local hospital.

10.4.1 General Evacuation Plan

In the general case of a large fire, explosion, or toxic vapor release, a site evacuation plan shall be ordered and shall follow these steps:

- Call the fire department;
- All personnel will evacuate in the upwind direction;
- All personnel will assemble in an upwind area and when the situation permits a head count will be taken.

10.5 Emergency Phone Numbers

In the event of an emergency, contact the police and/or fire department. The following list provides the phone numbers for the local fire and police departments. In addition, Plate 1 shows the location and route to emergency services.

Medical/General Services

Fire Department	911	
Police Department	911	
Hospital:	Alta Bates Hospital 2450 Ashby Berkeley, California	(510) 540-0337

ROUTE: North on Shellmound, west on Powell Street, north on Highway 80 to Ashby Avenue. East on Ashby to the corner of Ashby and Telegraph Avenue.

Hazardous Materials Response/Reporting

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

10.6 Accident Reporting Procedures

Immediately contact the following:

Mr. Robert S. Creps PES Environmental, Inc.	(415) 899-1600
Mr. James Wilson PES Environmental, Inc.	(415) 899-1600

11.0 TRAINING PROGRAM

1. The PES OHSC 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. All PES onsite personnel shall have completed the training requirements indicated by the OSHA regulations in 29 CFR 1910.120(e).

3. If more than one person will be working any one day, then a tailgate session will be held prior to commencing field activities to discuss this HSP. All PES 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 for use of personal protective equipment;
   - Employee work practices to minimize risks from onsite hazards;
   - Instruction for safe use of engineering controls and equipment on the Site;
   - Site control measures;
   - Emergency plans; and
   - Proposition 65 warnings.

12.0 PROPOSITION 65 WARNINGS

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 25249.6. At the Site, the chemicals that may cause cancer are listed below.

12.1 Carcinogens

Pursuant to Title 22, California Code of Regulations (CCR) 12000 (b), the chemicals known to the State of California to cause cancer that may be present at the Site are constituents of diesel and gasoline (e.g., benzene).

12.2 Warnings

Pursuant to Section 25249.6 of the California Health and Safety Code and Sections 17601 (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."

13.0 SIGNATURES

This HSP for the Product Removal and Water Level Investigation at Powell Street Plaza site in Emeryville, California is approved by the following PES personnel:

James D Wilson — 3/2/93

James Wilson
PES Health and Safety Officer
and Corporate Office

Date

Robert S. Creps — 3/2/93

Robert S. Creps, P. E.
Associate Engineer
and Project Manager

Date

Paul R Lohman — 3/3/93

Paul Lohman
Staff Engineer
and Onsite Health and Safety Officer

Date

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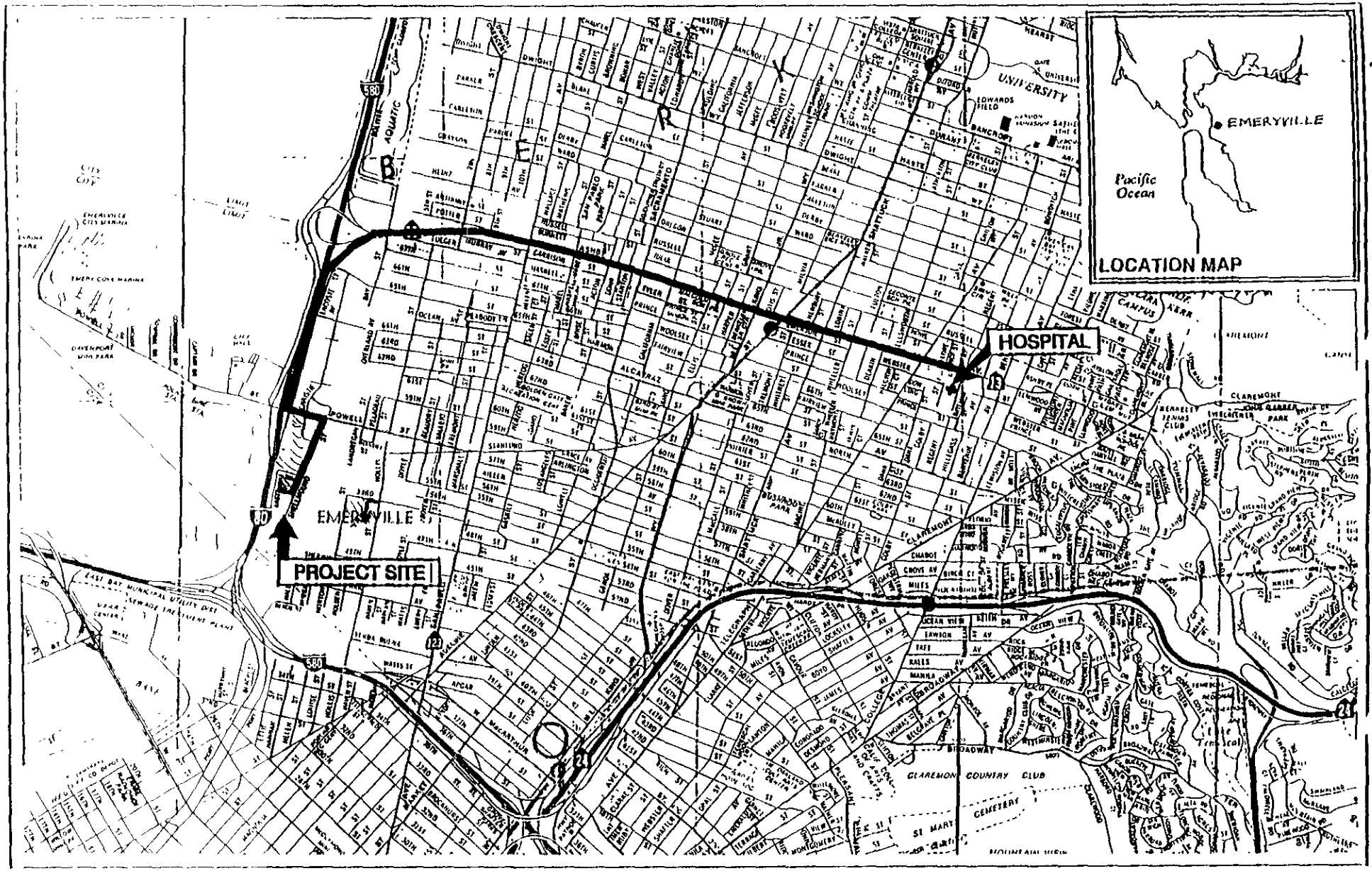
ILLUSTRATIONS



PES Environmental, Inc.
Engineering & Environmental Services

SITE LOCATION AND HOSPITAL ROUTE MAP
SHELLMOUND III SITE
EMERYVILLE, CALIFORNIA

PLATE
1

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
241.01.001		2/93		