

**HEALTH AND SAFETY PLAN**

**FOR**

**PORT OF OAKLAND**

**370 8TH AVENUE**

**OAKLAND, CA.**

**PREPARED BY:**

**ENVIRONMENTAL INVESTIGATION AND ACTION, INC.**

**HAYWARD, CA**

**AUGUST, 1994**

**EMERGENCY CONTACTS:**

In the event of any situation or unplanned occurrence requiring assistance, the appropriate contact(s) should be made from the list below. For emergency situations, contact should first be made with the field team leader (or designee), who will notify emergency personnel, who will then contact the appropriate response teams. The emergency contacts list must be kept in an easily accessible location at the site.

<u>Contingency Contacts</u>	<u>Phone Number</u>
Nearest phone located at site	MOBILE (510) <u>914 - 0888</u>
Fire Department	911
Police	911
County Sheriff	911
Poison Control	911

Medical Emergency

Hospital Name	Highland General Hospital
Hospital Phone Number	(510) 264-9081
Hospital Address	1411 E. 31st St
Ambulance Service	911
Travel time from site	Approx 10 to 12 minutes
Map to Hospital (see next page)	
Route to Hospital:	8th Ave to 14th Ave, <del>West</del> <sup>East</sup> on 14th, then go <del>East</del> <sup>West</sup> on 31st.



R. R. C. Memorial State Beach

Henry St (E)	K-50	John St (E)	J-44
Henry St (W)	K-49	John St (W)	J-43
Howard St (E)	K-48	Jackson St (E)	J-42
Howard St (W)	K-47	Jackson St (W)	J-41
Hyde St (E)	K-46	Jefferson St (E)	J-40
Hyde St (W)	K-45	Jefferson St (W)	J-39
Irving St (E)	K-44	Kimberly St (E)	J-38
Irving St (W)	K-43	Kimberly St (W)	J-37
Jackson St (E)	K-42	Lincoln St (E)	J-36
Jackson St (W)	K-41	Lincoln St (W)	J-35
John St (E)	K-40	Madison St (E)	J-34
John St (W)	K-39	Madison St (W)	J-33
Johnson St (E)	K-38	Marshall St (E)	J-32
Johnson St (W)	K-37	Marshall St (W)	J-31
Jonathan St (E)	K-36	McClure St (E)	J-30
Jonathan St (W)	K-35	McClure St (W)	J-29
Joseph St (E)	K-34	McClure St (W)	J-28
Joseph St (W)	K-33	McClure St (E)	J-27
Justin St (E)	K-32	McClure St (W)	J-26
Justin St (W)	K-31	McClure St (E)	J-25
Kearney St (E)	K-30	McClure St (W)	J-24
Kearney St (W)	K-29	McClure St (E)	J-23
Keith St (E)	K-28	McClure St (W)	J-22
Keith St (W)	K-27	McClure St (E)	J-21
Kelly St (E)	K-26	McClure St (W)	J-20
Kelly St (W)	K-25	McClure St (E)	J-19
Kennedy St (E)	K-24	McClure St (W)	J-18
Kennedy St (W)	K-23	McClure St (E)	J-17
Kerr St (E)	K-22	McClure St (W)	J-16
Kerr St (W)	K-21	McClure St (E)	J-15
Ketchikan St (E)	K-20	McClure St (W)	J-14
Ketchikan St (W)	K-19	McClure St (E)	J-13
Kew-Forest St (E)	K-18	McClure St (W)	J-12
Kew-Forest St (W)	K-17	McClure St (E)	J-11
Kilgus St (E)	K-16	McClure St (W)	J-10
Kilgus St (W)	K-15	McClure St (E)	J-9
Kilmer St (E)	K-14	McClure St (W)	J-8
Kilmer St (W)	K-13	McClure St (E)	J-7
Kilpatrick St (E)	K-12	McClure St (W)	J-6
Kilpatrick St (W)	K-11	McClure St (E)	J-5
Kilpatrick St (E)	K-10	McClure St (W)	J-4
Kilpatrick St (W)	K-9	McClure St (E)	J-3
Kilpatrick St (E)	K-8	McClure St (W)	J-2
Kilpatrick St (W)	K-7	McClure St (E)	J-1
Kilpatrick St (E)	K-6	McClure St (W)	J-0
Kilpatrick St (W)	K-5	McClure St (E)	J-0
Kilpatrick St (E)	K-4	McClure St (W)	J-0
Kilpatrick St (W)	K-3	McClure St (E)	J-0
Kilpatrick St (E)	K-2	McClure St (W)	J-0
Kilpatrick St (W)	K-1	McClure St (E)	J-0
Kilpatrick St (E)	K-0	McClure St (W)	J-0
Kilpatrick St (W)	K-0	McClure St (E)	J-0

**EIA CONTACTS**

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## **INTRODUCTION**

### **PURPOSE AND POLICY**

The purpose of this safety plan is to establish personnel protection standards and mandatory safety practices and procedures for all work conducted for the underground fuel tank removal project at 370 8th Avenue, Oakland, CA. The plan assigns responsibility, establishes standard operating procedures, and provides for contingencies that may arise while operations are being conducted at UST sites.

The provisions of the plan are mandatory for all field, on site personnel. All EIA personnel will abide by this plan. Any supplemental plans used by subcontractors shall, at least conform to this plan. All personnel who engage in project activities must be familiar with this plan and comply with its requirements.

### **SITE DESCRIPTION AND HISTORY**

The site is owned by the Port of Oakland, at 370 8th Avenue, CA. EIA has been contracted to remove (1) 2,000 gallon underground storage fuel tank (UST).

### **SCOPE OF WORK**

The field tasks to be performed include: Provide and Install shoring. Removal & disposal of (1) 2,000 gallon tank, and associated piping.

### **PROJECT TEAM ORGANIZATION**

The EIA project manager and Technical Coordinator will be responsible for directing all field activities, include locating underground utilities, excavating the tank, devolitalizing and safely removing the tank, disposing of the tank, backfilling and compacting the excavation, resurfacing of the site, and ensuring that all activities are conducted according to federal, state and local regulations. Any subcontracted company will conduct their operations according to the directions of the Project Manager and Technical Coordinator.

## **SECTION 2**

### **RISK ANALYSIS**

#### **CHEMICAL HAZARDS**

A number of products containing hazardous chemicals may be encountered at UST sites. Detailed information on the nature of these hazards may be found on the Material Safety Data Sheets (MSDS) provided by EIA. These MSDS will be available on site and at the EIA offices involved.

The chemicals of primary concern will be those originating from leaded and unleaded gasoline, diesel fuel and waste oil. These chemicals include Total Petroleum Hydrocarbons, Benzene, Ethylbenzene, Toluene, and Xylenes, Lead, and various Chlorinated Halocarbons.

A GasTech Model 1314 Hydrocarbon Surveyor will be used to monitor the presence of petroleum hydrocarbon vapors present in the air. The calibration and maintenance methods are included in Appendix C.

Appropriate equipment will be on site to contain a possible chemical spill. This equipment includes a chemical absorbing compound (Spill Tamer) and thick plastic sheeting.

Although proper monitoring for the presence of chemicals will be routinely conducted and appropriate protective equipment used, the possibility of exposure to hazardous chemicals may exist. The signs or symptoms of exposure to hazardous chemicals includes behavioral changes, breathing difficulties, changes in skin color, coughing, dizziness, fatigue, respiratory irritation, headache, nausea, or light headedness. If these symptoms are present in any on site personnel, they will be removed from the site and if the problem persists, or is severe, they will be taken to the nearest medical facility.

## **PHYSICAL HAZARDS**

### **Explosion**

Gasoline vapors can be highly explosive, having a flash point of about -40F, and are considered to be a fire hazard.

### **Heat Stress**

The use of protective equipment, if required, may create heat stress. Monitoring of personnel wearing personal protective clothing should commence when the ambient temperature is 70F or above. Monitoring frequency should increase as the ambient temperature increases or as slow recovery rates are observed.

Heat stress monitoring should be performed by a person with a current first aid certification who is trained to recognize heat stress symptoms. For monitoring the body's recuperative abilities to excess heat, the following techniques will be used. Other methods for determining heat stress monitoring, such as the wet bulb globe temperature (WBGT) Index from American Conference of Governmental Industrial Hygienist (ACGIH) TLV Booklet can be used.

To monitor the worker, measure:

Heart rate. Count the radial pulse during a 30 second period as early as possible in the rest period.

Early symptoms of heat stress include clammy skin, confusion, dizziness, fainting, fatigue, rashes, cramps, and nausea, which may lead to impaired functional ability, putting a worker and his co-workers at risk. Continued heat stress may lead to heat stroke and possible death. Avoiding over protection, careful training and frequent monitoring of personnel who wear protective clothing, judicious scheduling of work and rest periods, and frequent replacement of fluids can protect against the threat of suffering heat stress. If symptoms of heat stress are noted, the affected personnel will be properly treated at the site. If symptoms persist, they will be brought to the nearest medical facility for observation and treatment.

### SECTION 3 PERSONNEL PROTECTION AND MONITORING

#### Site-specific training

The Site Safety Officer will be responsible for developing a site specific occupational hazard training program and providing training to all EIA personnel that are to work at site facility. This training will consist of the following topics:

- Names of personnel responsible for site safety and health
- Safety, health, and other hazards at the site
- Proper use of personal protective equipment
- Work practices by which the employee can minimize risk from hazards
- Safe use of engineering controls and equipment on the site
- Acute effects of compounds at the site
- Decontamination procedures

#### PERSONAL PROTECTIVE EQUIPMENT AND ACTION LEVELS

Level D protection will be worn for initial entry on site and initially for all activities. Level D protection will consist of :

- Standard work clothes (Tyvek coveralls optional if there is a possibility of contact with contaminated soils).
- Safety boots
- Safety glasses or goggles (must be worn if contact with contaminated liquid is possible or during jack hammering).
- Neoprene gloves (must be worn during all sampling activities).
- Hard hat
- Splash protection should be worn if contact with contaminated liquid is possible.

The level of personal protection will be upgraded to level C if any of the following conditions are met:

- If the concentration of benzene in the breathing zone equals or exceeds 0.1 parts per million (ppm).
- If the concentration of organic compounds other than benzene exceeds 100 ppm.

In the event that the concentration of benzene exceeds 100 ppm, personnel will move away from the area until readings subside to a level below 0.1 ppm. In the unlikely event that the concentrations of total volatile organic compounds (other than benzene) exceed 1,000 ppm, personnel will back off from the area and consult the EIA Health Safety Office.

Level C protection will consist of :

- Standard work clothes
- Full face air purifying respirator
- Combination dust/organic vapor cartridges
- Tyvek coveralls
- PVC inner and neoprene outer gloves

#### SECTION 4 WORK ZONES AND DECONTAMINATION

##### Site work zones

To reduce the spread of hazardous materials by workers from the contaminated areas to the clean areas, zones will be delineated at the UST facility. The flow of personnel between the zones should be controlled. The establishment of the work zones will help ensure that: personnel are properly protected against the hazards present where they are working; work activities and contaminations are confined to the appropriate areas; and, personnel can be located and evacuated in an emergency.

##### Exclusion Zone

Exclusion zones will be established at the UST facility for all drilling activities; unprotected onlookers should be located 50 feet upwind of drilling activities. In the event that volatile organics are detected in the breathing zone, all personnel within the exclusion zone must do Level C protection as discussed under "Personal Protective Equipment and Action Levels."

All personnel within exclusion zones will be required to use the specified level of protection. No food, drink, or smoking will be allowed in the exclusion or decontamination zones.



## Decontamination Zone

Should it be necessary to establish an exclusion zone, the decontamination zone will be utilized. This zone will be established between the exclusion zone and the support zone (discussed below), and will include the personnel and equipment necessary for decontamination of equipment and personnel. Personnel and equipment in the exclusion zone must pass through the decontamination zone before entering the support zone. The decontamination zone should always be located upwind of the exclusion zone.

## Support Zone

The support zone will include the remaining areas of the job site. Break areas, operational direction and support facilities (to include supplies, equipment storage and maintenance areas) will be located in this area. No equipment or personnel will be permitted to enter the clean zone from the exclusion zone without passing through the personnel or equipment decontamination station. Eating, smoking, and drinking will be allowed only in this area.

## Decontamination

Water used in decontamination procedures will be collected and stored on site, pending receipt of analytical results, in labeled 55 gallon drums.

## Decontamination of Personnel

Minimal decontamination will be necessary if only Level D protection is used. Boots worn on site should be washed and removed; disposable gloves used during sampling activities should be removed and bagged; and, personnel should be encourage to remove clothing and shower as soon as is practical at the end of the day. All clothing should be machine washed. All personnel will wash hands and face prior to eating and before and after using the restroom.

Decontamination will be necessary if Level C protection is used. The following OSHA specified procedures include steps necessary for complete decontamination prior to entry into the support zone, and steps necessary if a worker only needs to change a respirator or respirator canister.

Modification can be made to the twelve station decontamination process depending on the extent of contamination.

### **Station 1: Segregated Equipment Drop**

Deposit equipment used on the site (tools, sampling devices and containers, monitoring instruments, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Each will be contaminated to a different degree. Segregation at the drop reduces the probability of cross contamination.

### **Station 2: Suit/Safety Boot and Outer Glove Wash**

Thoroughly wash safety boots and outer gloves. Scrub with a long handle, soft bristle scrub brush and copious amounts of detergent/water solution.

Necessary equipment includes:

1. Wash tub (30 gallon or large enough for person to stand in)
2. Detergent/water solution
3. Long handle soft bristle scrub brushes

### **Station 3: Suit/Safety boot and Outer Glove Rinse**

Rinse off detergent/water solution using copious amounts of water. Repeat as many times as necessary.

Necessary equipment includes:

1. Wash tub (30 gallon or large enough for person to stand in)
2. Spray unit
3. Water
4. Long handle, soft bristle scrub brushes

## APPENDIX A

### LIST OF POSSIBLE HAZARDOUS CHEMICALS AT UST SITES

(This list identifies the hazardous chemicals which are encountered at terminals. Some of the chemicals listed may not be present at this site at any given time, and other chemicals which will be present will be added to this list, as appropriate, in the spaces provided.)

#### FUELS

- Premium Unleaded Gasoline
- Unleaded Gasoline
- Leaded Gasoline
- Diesel Fuel
- Waste Oil

## **APPENDIX B**

### **MSDS CHEMICALS FOUND AT UST FACILITIES**

#### **MATERIAL SAFETY DATA SHEETS (MSDS)**

The project manager will be responsible for obtaining and maintaining the material Safety Data Sheet system for hazardous chemicals brought into the UST facility. the project manager will review incoming data sheets for new and significant health/safety information, and will see that any new information is provided to the affected employees.

Copies of MSDS for all hazardous chemicals will be kept at the job site and at the EIA office. MSDS for substances in their work area will be available to all employees for review during each work shift. If MSDS are not available, or if new chemicals do not have MSDS, notify the Project Manager.

## APPENDIX C

### AIR MONITORING EQUIPMENT CALIBRATION AND MAINTENANCE

#### INTRODUCTION

All monitoring instruments must be calibrated and maintained periodically. The limitations and possible sources of errors for each instrument must be understood by the operator. It is important that the operator ensures that the instrument responds properly to the substances it was designed to monitor. Below are the calibration and maintenance procedures for the GasTech Model 1314 combustible gas indicator.

#### GASTECH MODEL 1314 COMBUSTIBLE GAS INDICATOR

The combustible gas indicator must be calibrated each week. The procedure for calibrating the combustible gas indicator is listed below:

1. Attach the 0.5 liter per minute fixed flow rate regulator to the calibration gas cylinder.
2. Attach a sample line from the regulator to the balloon inlet. Attach another sample line from the balloon outlet to the sample draw intake on the instrument.
3. Fill the balloon with calibration gas and allow the sample draw prompt to draw it over the sensors. **DO NOT OVER INFLATE BALLOON!** Feed more gas into the balloon as needed to keep it partially inflated.
4. Wait for the reading stabilize. Then, using a small jewelers screwdriver, adjust the "gas span" control to obtain a steady reading which corresponds to the calibration gas concentration that is printed on the label of the calibration gas cylinder (Normally 50% LEL).
5. Remove calibration lines.
6. Let the instrument run for one full minute to flush any excess calibration gas and check readings. the combustible sensor should now be ready 000% LEL (+ 001% LEL), in fresh air. Repeat calibration procedures as necessary.
7. Combustible calibration complete.

GasTech Model #1314 uses a 9 volt Ni/Cad battery. this battery should be recharged as use dictates. The battery cannot be overcharged.

## **APPENDIX D**

### **EMPLOYEE TRAINING AND INFORMATION**

The EIA company president is responsible for the employee training program, and will ensure that all elements specified below are carried out.

Prior to starting work, each new employee of EIA will attend a health and safety orientation and will receive information and training on the following:

- An overview of the requirements contained in the OSHA Hazard Communication Standard, 29 CFR 1919.1200
- Location and availability of the written program
- Chemicals normally used by EIA
- Physical and health effects of the listed hazardous chemicals
- Methods and observation techniques to determine the presence or release of hazardous chemicals in the work area
- How to lessen or prevent exposure to the hazardous chemicals through use of work practices and personal protective equipment
- Emergency procedures to follow if exposed to hazardous chemicals
- How to read labels and review MSDS to obtain appropriate hazard information
- Location of MSDS files and hazardous chemical list
- The owners program for hazard communication, MSDS, labeling, and work authorization. A thorough understanding of these systems is necessary.

After attending the training class, each employee will sign a form to verify they attended the training, received the written materials, and understood the hazard communication program.

## **ATTACHMENT 1**

### **OUTLINE FOR A WRITTEN HAZARD COMMUNICATION PROGRAM**

#### **GENERAL INFORMATION**

To comply with the OSHA Hazard Communication Standard (29 CFR 1910, 1200), the following written Hazard Communication Program has been established by EIA while performing work for the UST facility. The written program will be available in the EIA office for review by any interested employee or owner representatives of OSHA compliance officers.

#### **CONTAINER LABELING**

The project manager or field team leader will verify that all containers received for use in the UST facility will:

- Be clearly labeled as to the contents**
- Note the appropriate hazard warning**
- List the name and address of the manufacturer**

The project manager in each area will ensure that all secondary containers are labeled with either a copy of the original manufacturers label or an alternative label with similar information meeting the requirement. For help with labeling, please contact the project manager. (If alternative methods for labeling fixed containers are used, add a description of the system used).