HEALTH AND SAFETY PLAN FOR UST SITES

APRIL, 1991

PREPARED BY:

APPLIED ENVIRONMENTAL SOLUTIONS

775 MONTAGUE EXPWY

MILPITAS, CA 95035

REVIEWED AND APPROVED BY:

	NAME	DATE
Project Manager	Tim Whalen	September 16, 1991
AES Health and Safety Officer	Bob Whitman	September 16, 1991

HEALTH AND SAFETY PLAN

FOR

DUBLIN HONDA

7099 AMADOR PLAZA RD.

DUBLIN, CA. 94568

PREPARED BY

APPLIED ENVIRONMENTAL SOLUTIONS

MILPITAS, CA 95035

SEPTEMBER, 1991

EMERGENCY CONTACTS

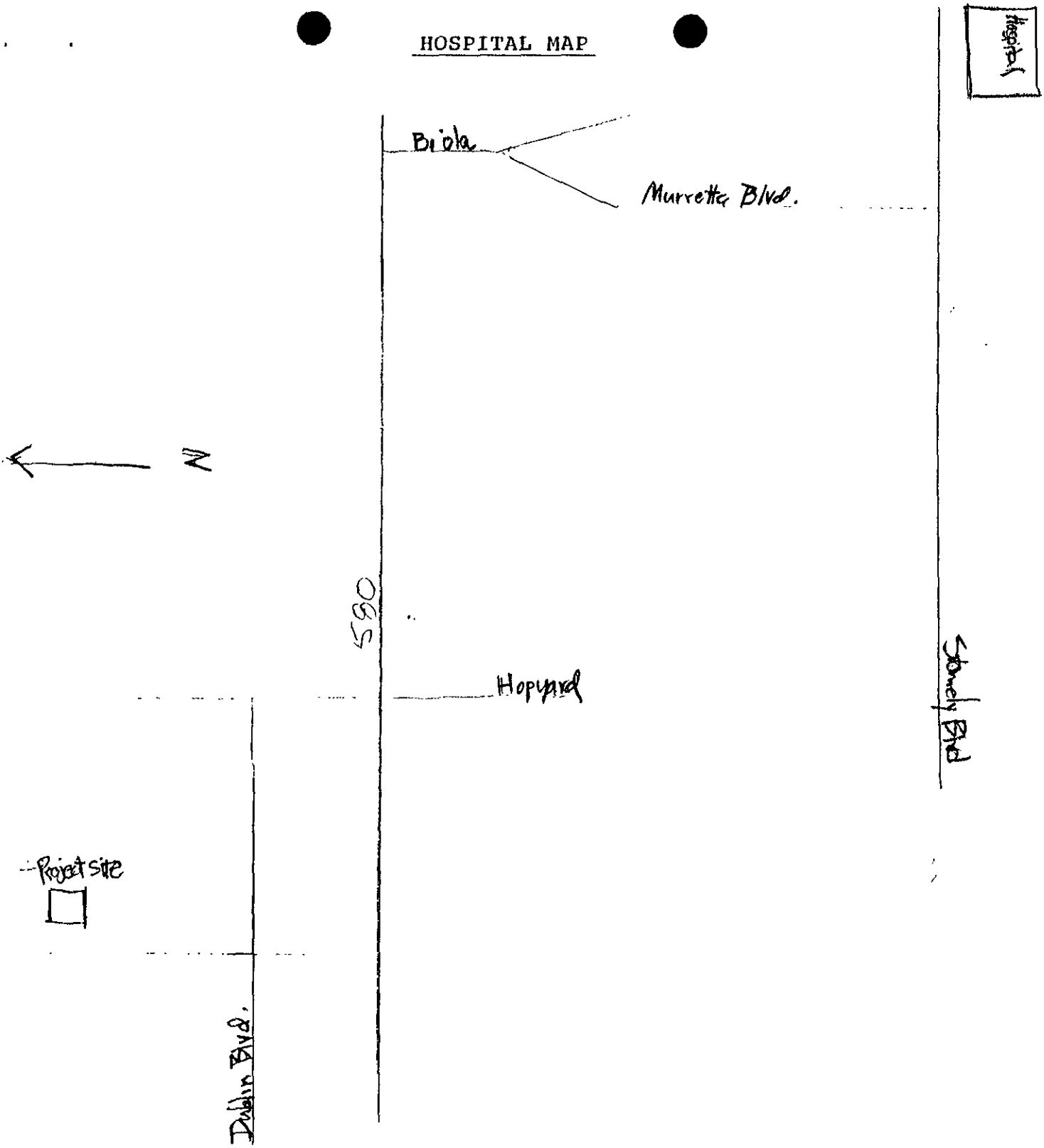
In the event of any situation or unplanned occurrence requiring assistance, the appropriate contact(s) should be made from the list below. For emergency situations, contact should first be made with the field team leader (or designee), who will notify emergency personnel, who will then contact the appropriate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

Contingency Contacts	Phone Number
Nearest phone located on-site	(501) 828-4638
Fire Department	911
Police	911
County Sheriff	911
Poison Control	911

Medical Emergency

Hospital Name	Valley Memorial
Hospital Phone No.	(501) 447-7000
Hospital Address	1111 E. Stanely, Lvrmr.
Travel Time from Site	15 min
Map to Hospital	(see next page)
Ambulance Service	911
Route to Hospital	(see map)

HOSPITAL MAP



AES CONTACTS

AES Project Manager	Brian D. Reddig - San Jose
	Telephone: Work (408)957-7700
	Home (408)264-9180
AES Technical Coordinator:	Candice L. Soles - San Jose
	Telephone: Work (408)957-7700
	Home (408)292-5464
AES Office Health & Safety Representative	Robert J. Whitman - San Jose
	Telephone: Work (408)957-7700
	Home (408)997-3239
Corporate Health & Safety Manager:	Robert J. Whitman
	Telephone: Work (408)957-7700

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SECTION 1

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 tank removal and soil sampling project at Dublin Honda, Dublin, 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 AES personnel will abide by this plan. Any supplement 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

This section describes the characteristics of the site, previous environmental work performed, and a list of the possible chemical hazards.

SCOPE OF WORK

This section describes the work tasks that will be involved with completing the project.

PROJECT TEAM ORGANIZATION

The AES Project Manager and Technical Coordinator will be responsible for directing all field activities, tank removal preparation, tank removal procedures, soil sampling procedures, and ensuring that all activities are conducted according to federal, state and local regulations.

Any subcontracted workers will conduct their operations according to the directions of the Project Manager and Technical Coordinator.

SECTION 2

RISK ANALYSIS

2.1 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 AES. These MSDS will be available on-site and at the AES offices involved.

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

A GasTech Model 1314 Hydrocarbon Surveyor will be used to monitor for 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 Visquene plastic.

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 of 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, the will be removed from the site and if the problem persists or is severe, they will be taken to the nearest medical facility.

2.2 PHYSICAL HAZARDS

2.2.1 Explosion

Gasoline vapors can be highly explosive, having a flash point of about -40 F, and are considered to be a fire hazard. Tank conditions will be monitored prior to tank removal. If LEL or oxygen levels exceed 10% or 25%, respectively, the removal process will be discontinued until conditions are made acceptable.

2.2.2 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 70 F of 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 possibly 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 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

3.1 SITE-SPECIFIC TRAINING

The Site Safety Officer will be responsible for developing a site-specific occupational hazard training program and providing training to all AES 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.

3.2 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 cover-alls 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 following conditions are met:

- If the concentration of benzene in the breathing zone equals or exceeds 1 part per million (ppm)
- If the concentration of organic compounds other than benzene exceeds 50 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 50 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 AES Health and 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

4.1 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.

4.1.1 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 the exclusions zone will be required to use the specified level of protection. No food, drink, or smoking will be allowed in the exclusion or decontamination zones.

4.1.2 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, and will include the personnel and equipment necessary for decontamination of equipment and personnel (discussed below). Personnel and equipment in the exclusion zone must pass through this zone before entering the support zone. This zone should always be located upwind of the exclusion zone.

4.1.3 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.

4.2 DECONTAMINATION

Due to the low level of contaminants expected, any water used in decontamination procedures will be disposed of on-site.

4.2.1 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 encouraged 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 included 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 alconox/water solution.

Necessary equipment includes:

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

Station 3: Suit/Safety Boot and Outer Glove Rinse

Rinse off alconox/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

LISTING OF POSSIBLE HAZARDOUS CHEMICALS 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 nearest AES 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

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 to stabilize. Then, using a small jeweler's screwdriver, adjust the "gas span" pot 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 if necessary.

7. Combustible calibration complete.

GasTech Model #1314 uses a 2 volt lead gel cell battery. This battery should be as use dictates. The battery cannot be overcharged.

APPENDIX D

EMPLOYEE TRAINING AND INFORMATION

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The project manager is responsible for the employee training program. He/She will ensure that all elements specified below are carries out.

Prior to starting work, each new employee of AES 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 AES
- 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 owner's 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.