ESE
Environmental
Science &
Engineering, Inc.
A CILCORP Company

TO: Alameda County
Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

DATE: April 12, 1994

ATTN: Ms. Eva Chu

JOB NUMBER: 6-94-5228

SUBJECT: Staples Ranch Property, El Charro Road, Pleasanton, California

WE ARE TRANSMITTING THE FOLLOWING:

One copy of a Workplan for Site Investigation dated April 7, 1994, for the subject property. Please feel free to contact the undersigned at (510) 685-4053 with any questions or comments pertaining to this workplan.

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

BY _____
Bart S. Miller
Project Geologist

DIST:
LB
FILE
ORIGINATOR

4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (510) 685-4053 Fax (510) 685-5323

WORKPLAN FOR SITE INVESTIGATION
ALAMEDA COUNTY GENERAL SERVICES AGENCY
STAPLES RANCH PROPERTY
EL CHARRO ROAD
PLEASANTON, CALIFORNIA

(ESE PROJECT #6-94-5228)

PRESENTED TO:

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DIVISION OF HAZARDOUS MATERIALS
DEPARTMENT OF ENVIRONMENTAL HEALTH
80 SWAN WAY, ROOM 350
OAKLAND, CALIFORNIA 94621

PREPARED BY:

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
4090 NELSON AVENUE, SUITE J
CONCORD, CALIFORNIA 94520
(510) 685-4053

APRIL 7, 1994

This workplan has been prepared by Environmental Science and Engineering, Inc. (ESE) for the exclusive use of the Alameda County General Services Agency as it pertains to their site located at the Staples Ranch Property, El Charro Road, Pleasanton, California. This workplan was prepared with that degree of care and skill ordinarily exercised by other geologists and engineers practicing in this field. No other warranty, either express or implied, is made as to professional advice in this workplan.

WORKPLAN PREPARED BY:

Bart S. Miller
Project Geologist

UNDER THE PROFESSIONAL SUPERVISION OF:

Michael E. Quillin
Senior Hydrogeologist
Registered California Geologist No. 5315

April 7, 1993

ESE Project No. 6-94-5228

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WORKPLAN FOR SITE INVESTIGATION AT THE STAPLES RANCH PROPERTY LOCATED AT EL CHARRO ROAD IN PLEASANTON, CALIFORNIA

1.0 INTRODUCTION

This workplan has been prepared by Environmental Science & Engineering, Inc. (ESE) for the Alameda County Health Care Services Agency (HCSA) on behalf of the Alameda County General Services Agency (GSA) as it pertains to the Staples Ranch Property (site) located at El Charro Road, Pleasanton, Alameda County, California (Figure 1 - Location Map). The GSA formerly owned and operated two aboveground storage tanks (ASTs) referred to as AST-1 and AST-5, and one underground storage tank (UST) referred to as UST-2 at the site (Figure 2 - Site Map). Site investigative activities performed during 1993 have indicated the presence of soil impacted with diesel fuel beneath AST-5.

ESE has been retained by the GSA to perform a limited site investigation at the AGT-5 location. The objectives of the work described in this workplan are to:

- Confirm the existence of a petroleum hydrocarbon release at the AST-5 location;
- If confirmed, determine the vertical and lateral extent of petroleum hydrocarbons in soil at the AST-5 location;
- Measure the approximate depth to ground water and determine if petroleum hydrocarbons have migrated through the unsaturated zone to ground water;
- Identify subsurface structures, sediment stratigraphy, and any other potential product migration routes; and

- Provide for the GSA an estimate of the volume of impacted soil for the purpose of approximating costs for different remedial alternatives.

2.0 BACKGROUND

The GSA owned and operated two ASTs (AST-1 and AST-5) of 250-gallon-capacity and one UST (UST-2) of 500-gallon capacity at the site. The ASTs and the UST are of single-wall, carbon steel construction and their installation dates are reportedly unknown. Heating oil was reportedly stored in AST-1 and diesel fuel was reportedly stored in AST-5 and UST-2. The ASTs are presently in good condition based on visual observationswhereas the condition of UST-2 remains unknown. ESE is presently permitting the removal and disposal of AST-1, AST-5, and UST-2. It is anticipated that the ASTs and UST will be removed on or before April 29, 1994.

A Phase 1 Preliminary Site Assessment was performed by Harza Kaldveer Consulting Engineers (Harza Kaldveer) at the site during 1993 (Harza Kaldveer, 1993). Soil samples collected from one soil boring, EB-5, located approximately five feet west of AST-5 (Figure 3 - Site Plan) were reported to contain concentrations of total petroleum hydrocarbons as diesel fuel (TPH-D), ranging from 1.5 to 1,900 parts per million (ppm), to a depth of 40-feet below grade (Figure 3 - Site Plan). The sediments in the unsaturated zone at EB-5 were reported to be comprised of a sequence of clays, silts, and sands. Ground water was reported to occur at a depth of 35-feet below grade. No other soil borings were drilled in the vicinity of AGT-5. Soil samples collected from borings drilled at the other AST and UST locations were reported not to contain detectable concentrations of TPH-D.

3.0 SITE INVESTIGATION

To accomplish the stated objectives of this investigation, ESE will perform a site investigation which includes drilling soil borings, collecting and analyzing soil samples, and preparing a site investigation report.

Prior to beginning work, ESE will obtain all necessary permits for drilling soil borings at the site. In addition, ESE will review the site Health and Safety Plan (HASP) prepared for this investigation with all onsite personnel, subcontractors, and qualified visitors. The HASP is included as Appendix A - Health and Safety Plan. All work to be performed by ESE at the site will be in accordance with Tri-Regional Water Quality Control Board guidelines (RWQCB, 1990) and other applicable State regulations and standards.

3.1 DRILLING AND SAMPLING

ESE will supervise Exploration Geoservices of San Jose, California in drilling and sampling eight soil borings at the AST-5 location in locations based on knowledge of the site and the surrounding area. The first four borings will be drilled at locations approximately 25 feet north, south, east, and west of AST-5 (Figure 3). The locations of the remaining four borings are to be considered tentative and may be modified in the field based on findings from the first four borings. All soil borings will be drilled to a depth of 40-feet below grade or to the first occurrence of ground water, whatever is intersected first.

Soil samples will be collected from all borings at five-foot intervals, lithologic contacts, zones of obvious petroleum hydrocarbon impact, and the soil-ground water interface, if possible. All samples will be logged by an ESE geologist according to the Unified Soil Classification System (USCS) and screened in the field for volatile organic compounds (VOCs) using a photoionization detector (PID). ESE will select two soil samples from each boring (total of 16 samples) for analysis based on the results of field sample logging and screening. All drilling and sampling activities will be conducted in accordance with ESE Standard

only soil samples - No GW
grab samples?

Operating Procedure (SOP) No. 1 for soil borings and soil sampling with hollow-stem augers in unconsolidated formations (Appendix B).

Soil samples will be labeled, placed in a cooler with ice, and transported under chain of custody documentation to McCampbell Analytical (a State-certified laboratory) of Pacheco, California. Each of the soil samples will be analyzed for TPH-D using EPA Method 8015 (modified per CA LUFT) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020 on a five-day turnaround time basis.

All drill cuttings will be placed on and under heavy gauge plastic and left at the site pending receipt of analytical results. Decontamination rinseates will be placed in appropriately labeled, 55-gallon-capacity steel Department of Transportation (DOT)-rated drums and left at the site pending receipt of analytical results. All borings will be backfilled to grade with cement grout.

3.2 REPORT PREPARATION

ESE will prepare a site investigation report in accordance with Tri-Regional Water Quality Control Board guidelines (1990). The report will describe all site investigation field activities performed by ESE, findings, conclusions, and recommendations, if applicable. The report will also include maps, boring logs, schematic cross-sections, and laboratory reports with chain of custody documents. For the purpose of assessing the feasibility of various remedial alternatives, the report will also include a site map with the approximate areal limits of the petroleum hydrocarbon plume and an estimate of the volume of potentially impacted soil.

3.3 ESTIMATED SCHEDULE

ESE proposes the following tentative schedule of activities:

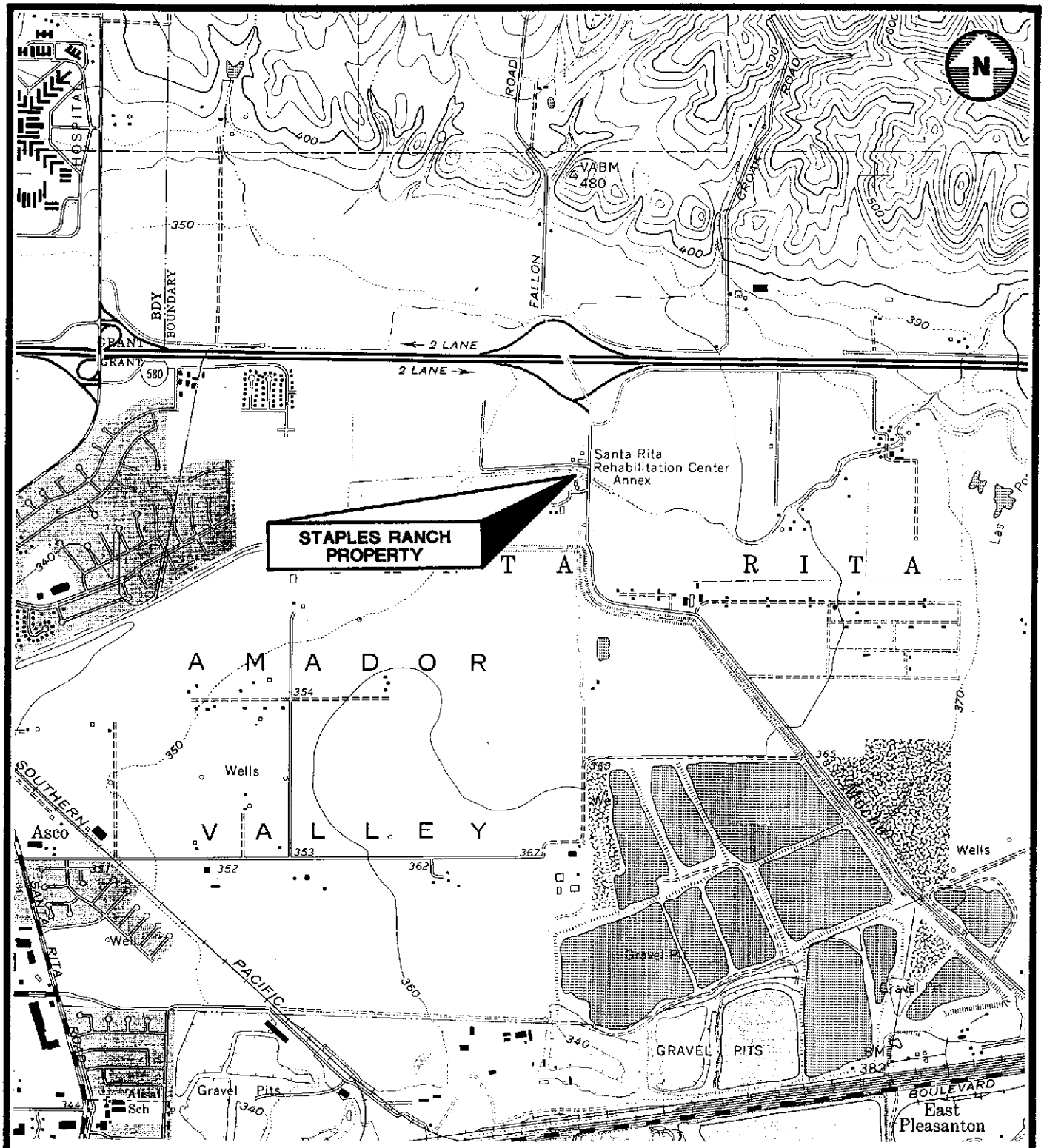
- Week 1 • Perform all investigative field activities and submit samples to laboratory for analysis;
- Week 3 • Receive analytical results from laboratory;
- Week 4-5 • Draft of Site Investigation Report submitted to GSA for review;
- Week 6 • Finalized copy of Site Investigation Report submitted to HCSA.

This proposed schedule is tentative and does not take into consideration any delays associated with significant changes to the scope of work, delays not caused by ESE and its subcontractors, and delays caused by items considered Force Majeure. ESE anticipates commencing work approximately one week after receipt of HCSA approval of this workplan.

4.0 REFERENCES

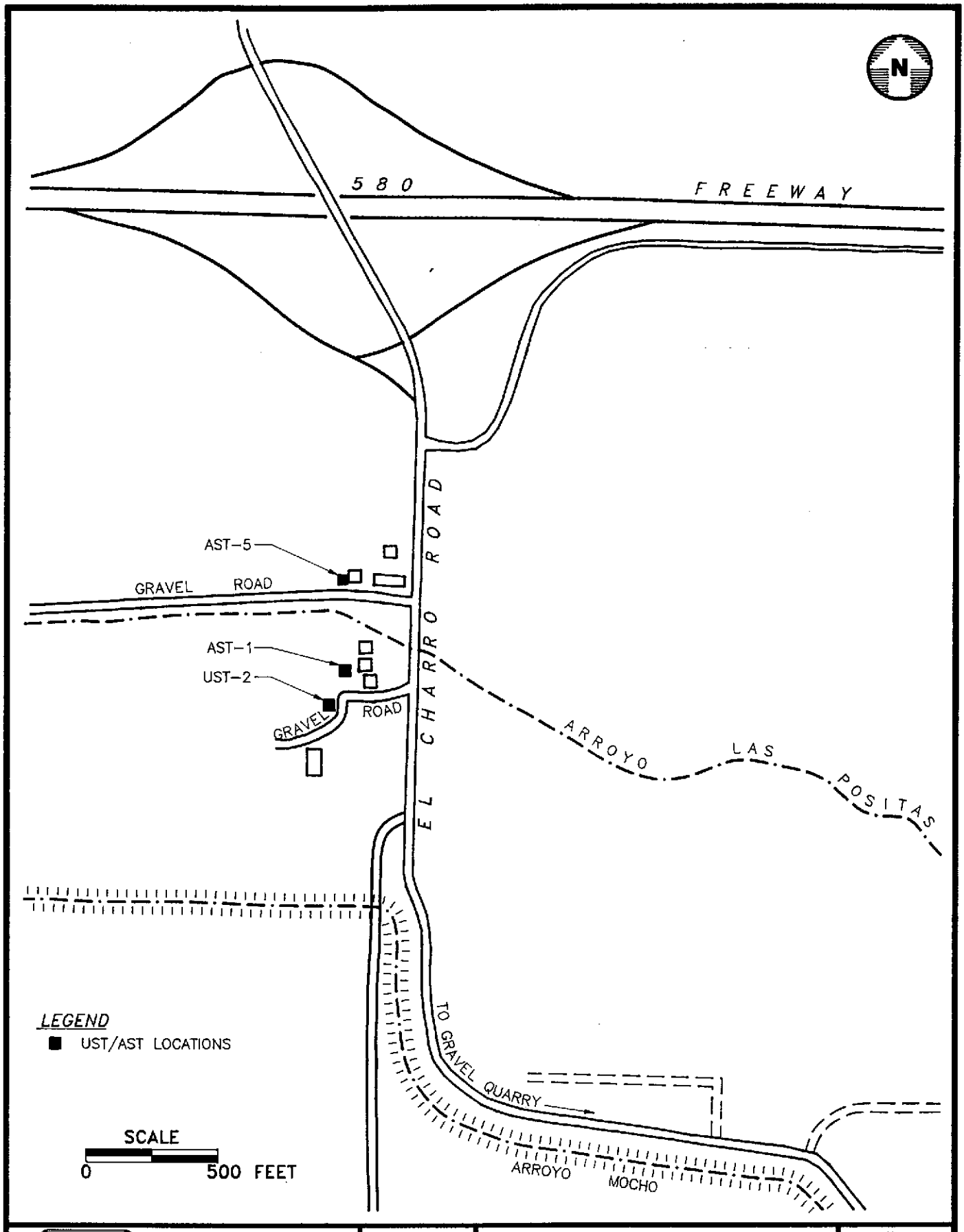
Harza Kaldveer Consulting Engineers, 1993. Unpublished Phase I Preliminary Site Assessment Report For Proposed Community Park Site, Pleasanton, California; November 9, 1993.

RWQCB, 1990. Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites; August 10, 1990.

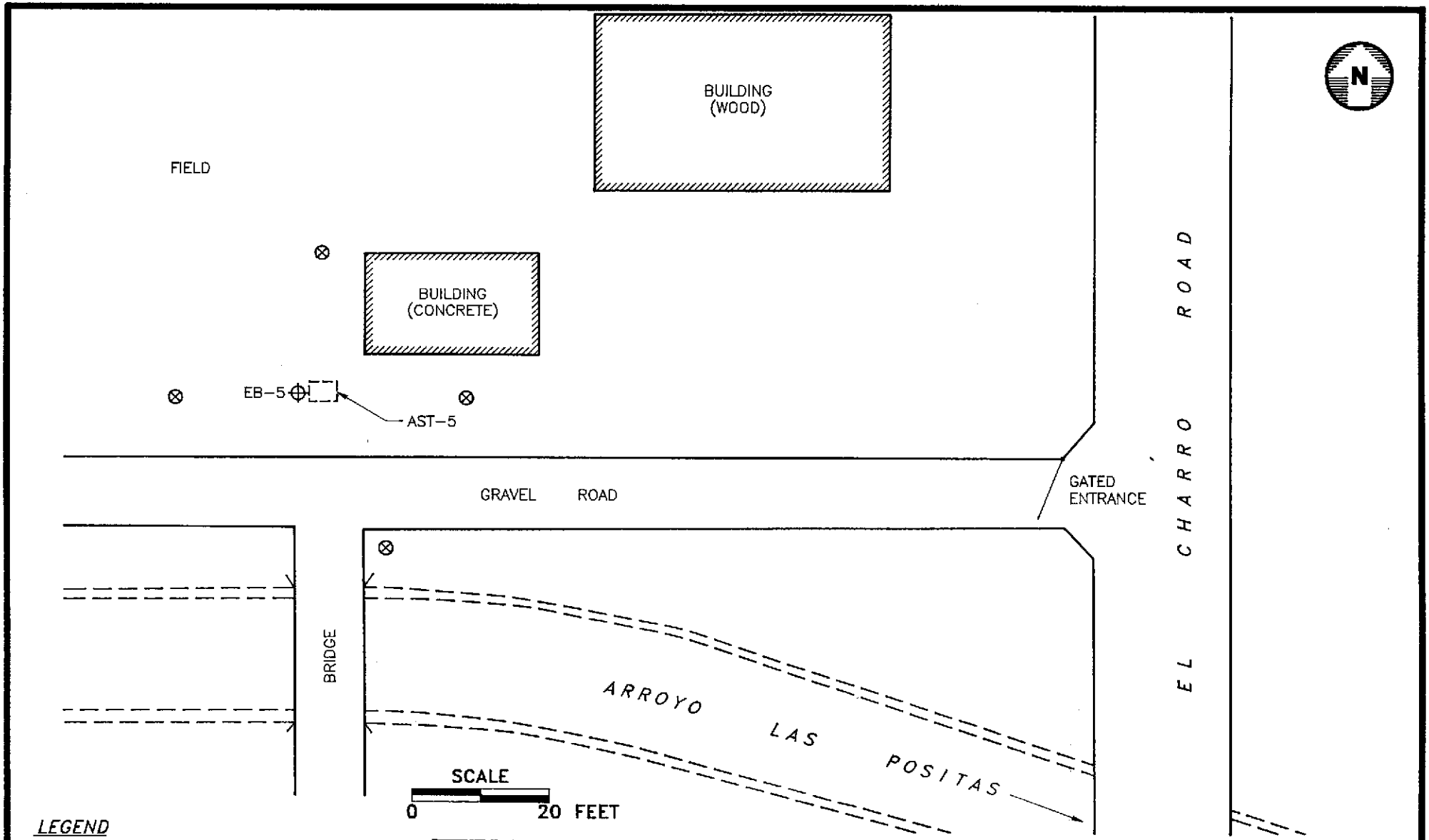


ADAPTED FROM U.S.G.S. LIVERMORE, CALIFORNIA 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP, 1961, PHOTOREVISED 1980.

ESE A CILCORP Company — **Environmental Science & Engineering, Inc.**	DATE 4/94	LOCATION MAP	FIGURE NO. 1
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED	ALAMEDA COUNTY GENERAL SERVICES AGENCY STAPLES RANCH PROPERTY EL CHARRO ROAD, PLEASANTON, CALIFORNIA	PROJ. NO. 6-94-5228
	CAD FILE 52281001		



ESE A CILCORP Company — Environmental Science & Engineering, Inc.	DATE 4/94	SITE MAP	FIGURE NO. 2
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	REVISED	ALAMEDA COUNTY GENERAL SERVICES AGENCY STAPLES RANCH PROPERTY EL CHARRO ROAD, PLEASANTON, CALIFORNIA	PROJ. NO. 6-94-5228
	CAD FILE 52281002		



LEGEND

- ⊕ SOIL BORING LOCATION (MARZA KALDVEER, 1993
- ⊗ PROPOSED SOIL BORING LOCATION (NOTE: Four additional borings to be drilled and sampled at locations selected based on results from the first four borings.)

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Environmental Science & Engineering, Inc.

4090 NELSON AVENUE, SUITE J
CONCORD, CA 94520

DATE 4/94
REVISED
CAD FILE 52281003

SITE PLAN

ALAMEDA COUNTY GENERAL SERVICES AGENCY
STAPLES RANCH PROPERTY
EL CHARRO ROAD, PLEASANTON, CALIFORNIA

FIGURE NO. 3
PROJ. NO. 6-94-5228

APPENDIX A

HEALTH AND SAFETY PLAN (HASP)

HEALTH AND SAFETY PLAN
for
PETROLEUM AND SOLVENT CONTAMINATION SITES

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HEALTH AND SAFETY PLAN
for
PETROLEUM AND SOLVENT CONTAMINATION SITES

(CLIENT: ALAMEDA COUNTY GENERAL SERVIVES AGENCY)

1.0 GENERAL INFORMATION

1.1 INTRODUCTION:

This Health and Safety Plan shall provide the safety and health requirements for general site work taking place under a contract with the Alameda County General Services Agency. This Plan provides the structure for a Site-Specific Health and Safety Plan, and provides information which will apply to all sites in this project. Together, they comprise the Site Safety and Health Plan (HASP). This Health & Safety Plan will be considered complete only with an associated Site-Specific Health and Safety Information for each site.

The purpose of this safety plan is to protect individuals, those working at the site, visitors, and the surrounding populace, and the environment during on site sampling and site characterization activities at petroleum contamination sites. This plan includes preventive and protective measures against health hazards, fire and explosion hazards, and mechanical hazards which may exist or occur during field activities.

1.2 SITE INFORMATION:

The General Information section of each Site-Specific Health and Safety Plan will provide the following information:

1. Name and Location of the Site;
2. Name of Individual Preparing the Plan, and Date of Preparation;
3. Brief Site History;
4. Investigative Objective and Work Plan;
5. Proposed Dates of Investigation, and;
6. Assessment of Overall Worker and Public Health Hazards.

1.3 REGULATORY REQUIREMENTS:

Occupational Safety and Health Administration (OSHA) standards 29 Code of Federal Regulations (CFR) 1910 and 1926 apply to work under this site-specific HASP. Title 8 of California Code of Regulations (General Construction Safety orders and General Safety Orders) must be complied with at California sites.

Additional requirements are contained in Code of Federal Regulations title 40, Protection of the Environment.

2.0 PERSONNEL REQUIREMENTS

2.1 ORGANIZATION:

The overall project organization as described in this document will be shown in the Site-Specific Health and Safety Plan, and will identify and show responsibilities for all key personnel, employees, and subcontractors.

2.2 ENVIRONMENTAL SCIENCE & ENGINEERING HEALTH AND SAFETY POLICY AND RESPONSIBILITY:

It is the policy of the management of Environmental Science & Engineering, Inc. (ESE) and also a contract requirement that a safety plan be implemented at hazardous material contamination sites to protect individuals and the environment. All ESE personnel involved in work on these sites will conform and comply with all aspects of this safety program. Each and every individual is, and therefore must regard and conduct him/herself as, a member of the safety team and adhere to the prescribed site safety plan to ensure his/her own safety as well as that of fellow workers, visitors, and the public.

A key element of this plan is the reliance upon the buddy system for all site activities at all times. This system requires that all activities at the site be conducted using a minimum of 2-person teams.

2.3 PERSONNEL RESPONSIBILITIES:

For each site, the responsibilities of the Project Manager include:

1. Preparing an effective site safety plan for the project;
2. Categorizing and identifying for the project staff the levels of potential exposure and dangerous levels of hazardous materials possibly encountered on site;
3. Ensuring that adequate and appropriate safety training and equipment are available for project personnel; and
4. Arranging for medical examinations for specified project personnel.
5. Ensuring a qualified on-site field person is designated Site Safety Officer (SSO) and is present when work is in progress. Alternates may also be designated as needed, however, the project manager must ensure the designated (SSO) is familiar with the safety plan and his/her responsibilities.
6. Ensuring any subcontractors (i.e. drillers, excavators) get an advance copy of the Health and Safety Plan and a start-up safety briefing is scheduled.

7. Determining appropriate level of protection and exposure monitoring strategy for the project by task or phase.

Overall responsibility for safety during the site investigative activities rests with the Project Manager. To assist the Project Manager, a qualified Site Safety Officer will be appointed for each site.

The Site Safety Officer's responsibilities include:

1. Implementing all safety procedures and operations on site.
2. Conducting start-up safety briefing with project personnel and subcontractors. Ensure all necessary equipment and procedures are in place before start-up. Addressing any substandard conditions requiring correction prior to start up.
3. Updating equipment or procedures based upon new information gathered during the site inspection.
4. Upgrading or downgrading the levels of personal protection based upon site observations and/or measurements.
5. Determining and posting locations and routes to medical facilities and arranging emergency transportation to medical facilities (as required).
6. Controlling site entry and notifying (as required) local public emergency officers (i.e., police and fire departments) of the nature of the team's operations and making emergency telephone numbers available to all team members.
7. Ensuring that at least one member of the field team is available to stay behind and notify emergency services if the Site Safety Officer must enter an area of maximum hazard or entering this area only after notifying emergency services (police department).
8. Observing work party members for symptoms of on-site exposure or stress.
9. Arranging for the availability of on-site emergency medical care and first aid, as necessary.
10. Documenting field activities and incidents. Keeping Project Manager informed. Consulting with Health and Safety Officer as needed.

The Health and Safety Officer (HSO) is responsible for:

1. Assisting Project Manager with development of the site specific Health and Safety Plan.
2. Providing technical support during normal operations and upsets for hazard assessment, exposure monitoring, level of protection changes.
3. Reviewing and approving the site specific safety plan.

The responsibilities of all other on site personnel include:

1. Complying with all aspects of the project Safety plan, including strict adherence to the buddy system.
2. Obeying the orders of the Site Safety Officer.
3. Notifying the Site Safety Officer of hazardous or potentially hazardous incidents or working situations.

Subcontractors and other non-ESE site personnel are also responsible for complying with this plan and all applicable federal, state and local safety and environmental regulations and codes.

2.4 TRAINING:

All ESE site personnel working on the hazardous material contamination site investigations will have completed a safety and health training course for hazardous waste site work meeting the requirements of 29CFR1910.120 and have worked at least 3 days of supervised on the job training. The course consists of an initial 40-hour session and annual refreshers of 8 hours. Subcontractors and visitors are required to provide proof of equivalent training. The field team leader will have completed an additional 8 hours of waste site supervisory training. For each location, specific training is given by the Project Manager or Site Safety Officer to inform employees of site-specific hazards.

At least one field team member will be trained to perform cardiopulmonary resuscitation (CPR) and first aid.

2.5 MEDICAL MONITORING PROGRAM:

All ESE on site personnel, subcontractors, and visitors for this project will be required to have the medical examination outlined in Table 1. This examination is given annually and more often if specified by the attending physician. All medical examinations include certification by the physician of the employee's ability to wear a negative-pressure respirator and to perform strenuous work. If a person sustains an injury or contracts an illness related to work on site that results in lost work time, he must obtain written approval from a physician to regain access to the site.

Table 2.1

Medical Examination--Monitoring Program

Basic physical exam
Heart status and functions (EKG) baseline only except if >40
Chest X-ray (Roentgenogram posterior-anterior)
Pulmonary function--forced vital capacity, forced expiratory volume at 1 second and reserve volume
Blood--full SMAC Series
Hemoglobin--cell counts, protein levels
Liver function--full enzyme profile
Renal function--BUN, Creatinine, Creatine/Creatinine ratio, lipoprotein count and differential, uric acid
Urinalysis
Audiometry--audio spectrum response of ear
Eye--physical condition, visual acuity

Other laboratory tests may be ordered depending on actual or expected exposures and physician recommendations.

The individuals listed in the Site-Specific Plan organization chart will be certified to wear respirator protection in accordance with criteria from the ANSI Z88.2 and 29 CFR 1910.134.

2.6 RECORDS DOCUMENTATION:

Air monitoring data generated during the project will become part of the written record. Both medical and air monitoring data will be retained for the time period required by OSHA in various standards [29 CFR 1910.20(D)(i), 1910.20(D)(ii), 1910.1018, 1910.1025]. Training records are maintained in project files and on ESE's personal identification cards and are available for inspection at all times. Subcontractors are required to have similar documents available for inspection as required.

All personnel associated with work at a site will be required to sign a statement indicating that they have read, and will comply with the site safety plan. This signature page will also include information on their training and medical surveillance status.

3.0 HAZARD EVALUATION

3.1 CHEMICAL CONTAMINANTS:

Potential site contaminants at petroleum contamination sites include gasoline, gasohol, motor oil, fuel oils (including kerosene, diesel fuel), and aviation grade gasoline. These materials may exist as free product in soil or on groundwater, and/or as contaminants to soil and water, and/or in tanks, piping, and systems. Fuel products include materials in and around storage tanks, such as gasoline, kerosene, diesel, and their derivatives, xylene, toluene, benzene, tetraethyl lead (TEL), and chlorinated solvents. The chlorinated solvents include trichloroethylene and tetrachloroethylene.

3.2 PHYSICAL AND MECHANICAL HAZARDS:

Activities on site may include site visits, soil gas sampling, headspace sampling, installation and sampling from monitor wells, installation of free product recovery systems, installation of groundwater recovery systems, installation of soil venting systems, installation of biological treatment systems, installation of air strippers, installation of carbon absorption units, removal of tanks, piping, and systems, and removal of contaminated soil.

Hazards associated with these activities are varied and include vehicle/pedestrian collisions, fire, collapse of excavation and trenching, handling of heavy materials and equipment operations resulting in contact and crushing type injuries, and use of air- and electrically-powered tools which may result in abrasions, contusions, lacerations, etc.

3.3 JOB HAZARD ANALYSIS AND RISK ASSESSMENT:

The chemical contaminants which may be present and the hazardous activities which may be performed at the site will be identified through preliminary site assessment activities, such as site visits or records search. Based on this preliminary information, initial risk assessments will be made by the Site Safety Officer, in consultation with an ESE Regional Health and Safety Officer, defining hazards (both chemical and physical) to workers and other on site personnel, the surrounding populace, and the environment.

The identities of potential hazards and resultant initial risk assessments will be included in the Hazard Evaluation section of the Site-Specific Plan, will be reviewed daily, and will be updated as necessary by the Site Safety Officer. Updated information will be communicated to all other on site personnel immediately.

3.4 AIR MONITORING:

An air monitoring program is fundamental to the safety of on site and off site personnel. Total organic vapor (TOV) levels associated with on site activities will be monitored with a Photoionization Detection (PID) instrument (Photovac® TIP or HNU PI-101). This instrument will be the primary source of information for upgrading personal protection. Calibration and maintenance of monitoring equipment will be in accordance with manufacturer recommendations.

The Site Safety Officer, or designee, will establish daily a background TOV prior to initiating on site activities. Under most circumstances, this level can be determined by taking multiple readings at representative locations along the perimeter of the site and averaging the results of sustained measurements. (A sustained measurement is defined as the arithmetic average of six readings taken at 10-second intervals.) If, due to site conditions, it appears that perimeter readings will not yield a truly representative background level, the Site Safety Officer or an ESE Regional Health and Safety Officer will be consulted for guidance.

Decisions to upgrade personal protection will be based on sustained breathing zone TOV that exceeds background levels. Breathing zone refers to the area from the top of the shoulders to the top of the head.

Explosivity levels associated with on site activities will be monitored with an explosimeter or combustible gas meter. This will be the primary source of information for determining the potential hazard due to explosion or fire in confined spaces and other enclosed areas with little or no ventilation.

Prior to entry of any area which may contain an explosive or flammable atmosphere, the Site Safety Officer or designee will take representative readings of the suspect area. Representative readings include readings from top, middle, and lower levels of the area, and at various points at each level in larger areas. Areas in which any one reading exceeds 20% of the lower flammable limit will be considered potentially explosive, and will be vented to below 20% of the lower flammable limit before the introduction of any personnel or non-explosion proof powered equipment.

4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment to be used at petroleum contamination sites will consist of several components. These components will protect the respiratory system, eyes and face, hands, feet, body, and head from a variety of chemical and physical hazards. Levels of personal protection will be categorized in accordance with the criteria described in accordance with the guidelines given in Section 3, Air Monitoring. Additional guidance for personal protective equipment can be found in the ESE Corporate Respiratory Protection Program, or can be obtained from an ESE Regional Health and Safety Officer.

Action levels for upgrading to the various protective levels and levels of personal protection required for the various tasks to be performed on each site, as well as any special site requirements, will be given in the Personal Protective Equipment section of the Site-Specific Plan.

PERSONAL PROTECTIVE EQUIPMENT--LEVEL A

1. Open-circuit, pressure-demand, self-contained breathing apparatus (SCBA);
2. Totally encapsulated suit;
3. Gloves, inner (surgical type);
4. Gloves, outer, chemical protective;
5. Boots, chemical protective, steel toe and shank; and
6. Booties, chemical protective.

CRITERIA

1. Sites known to contain hazards which:
   a. Require the highest level of respiratory protection (as previously stated),
   b. Will cause illness as a result of personal exposure,
   c. Permit a reasonable determination that personal exposure could occur to any part of the body; or
2. Sites for which the Project Manager and/or Site Safety Officer make a reasonable determination that, based on the lack of information to the contrary, the site may be described as previously stated.

PERSONAL PROTECTIVE EQUIPMENT--LEVEL B

1. Open-circuit, pressure-demand SCBA;
2. Chemical protective
   a. Overalls and long-sleeved jacket, or
   b. Coveralls;
3. Gloves, inner (surgical type);
4. Gloves, outer, chemical protective;
5. Boots, chemical protective, steel toe and shank; and
6. Booties, chemical protective.

CRITERIA

1. Sites known to contain hazards which:
   a. Require the highest level of respiratory protection (as previously stated),
   b. Will cause illness as a result of personal exposure,
   c. Permit a reasonable determination that personal exposure to areas of the body not covered by Level B protective clothing is unlikely; and
2. Sites for which the Project Manager and/or Site Safety Officer make a reasonable determination that, based on the lack of information to the contrary, the site may be described as previously stated.

PERSONAL PROTECTIVE EQUIPMENT--LEVEL C

1. Full face-piece, air-purifying respirator (high-efficiency particulate/organic vapor cartridges);
2. Emergency escape oxygen pack (carried);
3. Chemical protective (Tyvek® is the minimum protection)
   a. Overalls and long-sleeved jacket, or
   b. Coveralls, or
   c. Apron;
4. Gloves, inner (surgical type) (Latex);
5. Gloves, outer, chemical protective (Nitrile);
6. Boots, chemical protective (neoprene or NBR), steel toe and shank; and
7. Booties, chemical protective (Latex).

CRITERIA

1. Sites known to contain hazards which:
   a. Do not require a level of respiratory protection greater than the level afforded by air-purifying respirators (nominal protection of 10), as previously stated;
   b. Will cause illness as a result of personal exposure; or
   c. Permit a reasonable determination that personal exposure to areas of the body not covered by Level C protective clothing is unlikely; and
2. Sites for which the Project Manager and/or Site Safety Officer make a reasonable determination that, based on the lack of information to the contrary, the site may be described as previously stated.

PERSONAL PROTECTIVE EQUIPMENT--LEVEL D

1. Coveralls, cotton;
2. Boots/shoes, safety;
3. Safety glasses;
4. Hard hat with optional face shield (where overhead hazards exist); and
5. Air-purifying respirator (readily available).

CRITERIA
Sites where the Project Manager and/or Site Safety Officer make a reasonable determination that hazards due to exposure to hazardous materials are unlikely.

ADDITIONAL PERSONAL PROTECTION
In addition to personal protective equipment, field personnel having duties on or near the hazard site should have ready access to:

1. A fully stocked industrial-size first-aid kit;
2. An eyewash kit; and
3. At least 6 gallons of potable water in a pressurized container to permit decontamination in event of accidental skin or eye contact with chemicals.

5.0 STANDARD WORK PRACTICES

5.1 GENERAL SAFETY RULES:

In addition to the specific requirements of the Site-Specific Plan, common sense should prevail at all times. The following general safety rules and practices will be in effect at the site.

1. The site will be suitably marked or barricaded as necessary to prevent unauthorized visitors, but will not hinder emergency services if needed.

2. All open holes, trenches, and obstacles will be properly barricaded in accordance with local site needs. These needs will be determined by proximity to traffic ways, both pedestrian and vehicular, and site of the hole, trench, or obstacle. If holes are required to be left open during nonworking hours, they will be adequately decked over or barricaded and sufficiently lighted.

3. Prior to conducting any digging or boring operations, underground utility locations will be identified. The site representative and local utility authorities will be contacted to provide locations of underground utility lines and product piping. All boring, excavation, and other site work will be planned and performed with consideration for underground lines.

4. Smoking and ignition sources in the vicinity of flammable or contaminated material is prohibited.

5. Drilling, boring, movement and use of cranes and drilling rigs, erection of towers, movement of vehicles and equipment, and other activities will be planned and performed with consideration for the location, height, and relative position of aboveground utilities and fixtures, including signs, lights, canopies, buildings, and other structures and construction, and natural features such as trees, boulders, bodies of water, and terrain.

6. When working in areas where flammable vapors may be present, particular care must be exercised with tools and equipment that may be sources of ignition. All tools and equipment so provided must be properly bonded and/or grounded.

7. Approved and appropriate safety equipment, as specified in this site-specific HASP, such as eye protection, hard hats, foot protection, and respirators, must be worn in areas where required by the site-specific HASP. In

addition, eye protection must be worn when handling free product, contaminated soil or water, or fill dirt.

8. Beards that interfere with respirator fit are not allowed within the site boundaries. This is necessary because all site personnel may be called upon to use respirator protection in some situations, and beards do not allow for proper respirator fit.

9. No smoking, eating, or drinking will be allowed in the contaminated areas.

10. Tools and hands must be kept away from the face.

11. Personnel must shower at the end of the shift or as soon as possible after leaving the site.

12. Each sample must be treated and handled as though it were extremely toxic.

13. Tank pit excavations must be sampled cautiously, using a remote sampling device or securing samples from excavated soil, and the pit should be entered only as a last resort and only if it is properly shored or sloped. The pit may meet the criteria for a confined space, in which case any entry must be made in accordance with NIOSH recommended Confined Space Entry Procedures. No confined space entry except by written procedure approved by the Health and Safety Officer.

14. Persons with long hair and/or loose-fitting clothing that could become entangled in power equipment are not permitted in the work area.

15. Horseplay is prohibited in the work area.

16. Working while under the influence of intoxicants, narcotics, or controlled substances is prohibited.

5.2 WORK LIMITATIONS:

HOURS

Work shall be limited to daylight hours and during normal weather conditions. Extremes in temperature and weather condition (i.e., wind and lightning) will restrict working hours.

HEAT STRESS

For monitoring the body's recuperative ability toward excess heat, the following techniques will be used as a screening mechanism. Monitoring of personnel wearing protective clothing will commence when the ambient temperature is 70 degrees Fahrenheit (°F) or above. When temperatures exceed 85°F, workers will be monitored after every work period. Monitoring will include visual observations for signs of heat stress and measurement of radial pulse rate for 30 seconds at the beginning of each rest period. If the heart rate exceeds 110 beats per minute (beats/min) at the beginning of a rest period, the next work period will be shortened by 10 minutes, and the rest period stays the same. If the pulse rate is 100 beats/min at the beginning of the next rest period, the following work cycle will be shortened another 10 minutes.

Also, good hygienic standards must be maintained by frequent change of clothing and daily showering. Clothing should be permitted to dry during rest periods. If skin problems occur, consult medical personnel.

COLD STRESS

The human body "senses" cold as a result of two factors, the air temperature and the wind velocity. Cooling of the flesh increases rapidly as wind velocity goes up. Frostbite can occur at relatively mild temperatures if wind penetrates the body insulation. For example, when the air temperature is 40°F and the wind velocity is 30 miles per hour (mph), the exposed skin would perceive an equivalent still air temperature of 13°F. Table 5-1 illustrates windchill indices and the associated hazards to exposed flesh. Precautions will be taken to minimize exposed flesh, and layered clothing will be provided, as appropriate.

Table 5-1.

Windchill Index

Windspeed	Actual Thermometer Reading(°F)									
(mph)	50	40	30	20	10	0	-10	-20	-30	-40
Calm	50	40	30	20	10	0	-10	-20	-30	-40
5	48	37	27	16	6	-5	-15	-26	-36	-47
10	40	28	16	4	-9	-21	-33	-46	-58	-70
15	36	22	9	-5	-18	-36	-45	-58	-72	-85
20	32	18	4	-10	-25	-39	-53	-67	-82	-96
25	30	16	0	-15	-29	-44	-59	-74	-88	-104
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116

Source: National Safety Council, 1982.

5.3 ACCIDENT PREVENTION PLAN/ACCIDENT REPORTING:

The purpose of the Safety Plan is to prevent accidents and minimize the impact of an accident if one should occur.

All accidents must be reported to the Site Safety Officer immediately. Prompt reporting is essential to the prevention of future incidents in addition to the well-being of the affected individual or individuals. The Site Safety Officer will notify the Project Manager of any serious accidents. The Site Safety Officer or other key members of the field team will be trained in first aid and CPR. First aid will be administered to affected personnel under the direction of the Site Safety Officer. For serious accidents, the nearest ambulance service will be contacted for transport of injured personnel to the nearest medical facility (see Section 6.0). The Site Safety Officer will have established contact and liaison with medical authorities (see Section 6.0) whose personnel will be knowledgeable of the activities of the field team. Telephone numbers and addresses of ambulance and medical services will be posted on site.
A formal report of any OSHA-recordable accident will be filed with ESE. All reports must be received within 2 working days.

5.4 WORK ZONES AND DECONTAMINATION PROCEDURES:

Work zones will be established in accordance with guidance provided in Figure 5-1. These zones may be modified to fit applicable field conditions; however, proposed modifications must be approved by the Project Manager and Site Safety Officer prior to being implemented in the field.

Personnel decontamination will be initiated on site. Disposable clothing will be removed and stored in designated containers. If additional decontamination is necessary, based on preliminary or subsequent risk assessment by the Site Safety Officer in consultation with ESE Regional Safety and Health Officer, additional decontamination procedures will be implemented. Site specific decontamination procedures will be listed in the Site-Specific Plan.

All heavy equipment will be decontaminated on site. Water in the form of steam cleaning and/or pressure washing may be used to remove any visual contamination from drilling equipment and backhoe.

5.5 SITE SECURITY AND ENTRY:

Site security measures, including barricading, fencing, and lighting, and any special site entry procedures will be described in the Section 5 of the Site-Specific Plan.

6.0 EMERGENCY INFORMATION AND CONTINGENCY PLANS

All emergency information, including phone numbers, site resources, and routes to emergency medical care, will be maintained on site in the Site-Specific Plan by each field team.

The phone list will include the following numbers:

AMBULANCE:
FIRE DEPARTMENT:
HOSPITAL (primary):
HOSPITAL (secondary):
POISON CONTROL CENTER:
POLICE:
TOXIC WASTE AND OIL SPILL:
CLIENT CONTACT:
AGENCY CONTACT:
PROJECT MANAGER:
REGIONAL SAFETY AND HEALTH OFFICER:

The list of site resources will include fire extinguishers, first aid equipment, eyewash units, communications (telephone), emergency personal protective equipment, spill containment equipment and materials, and any other special equipment, supplies or resources.

6.1 INJURY CONTINGENCY PLAN:

First aid equipment will be kept on site during all site activities. Additionally, one member of the field team will be trained in first aid. Emergency telephone numbers for ambulance and poison control will be maintained on site in a readily accessible location. Names, addresses, and routes to two emergency medical care providers (hospitals or emergency clinics) will be verified prior to any site activity, and will be listed in the Site-Specific Plan. Maps showing the location of the site, the emergency medical care providers, and hotels and restaurants (if any) used by the field team should be provided in each vehicle. In the event of an injury that cannot be treated on site, the injured person will be immediately transported to the medical provider either by support vehicle or ambulance on determination by the Site Safety Officer, Project Manager, and/or first aid provider.

6.2 FIRE CONTROL AND CONTINGENCY PLAN:

No smoking will be allowed during field activities. Fire extinguishers will be available at sites for use on small fires. All samples must be treated as flammable or explosive. The Site Safety Officer will have available the telephone number of the nearest fire station and local law enforcement agencies in case of a major fire emergency.

6.3 SPILL CONTROL AND CONTINGENCY PLAN:

In the event of a spill, the Site Safety Officer will be notified immediately. The important factors are that no personnel are overexposed to vapors, gases, or mists and that the liquid does not ignite. Waste spillage must not be allowed to contaminate any local water source. Small dikes will be erected to contain spills, if necessary, until proper disposal can be completed. Subsequent to cleanup activities, the Site Safety Officer will survey the area to ensure that no toxic or explosive vapors remain.

6.4 OFF SITE INCIDENT CONTINGENCY PLAN:

The Site Safety Officer will provide field team members with emergency medical care information similar to that kept on site in event of an off site emergency, such as a motor vehicle accident, food poisoning, or other injury sustained off the site.

6.5 COMMUNITY THREAT CONTINGENCY PLAN:

The potential for exposure to the surrounding community will be assessed in conjunction with the preliminary site assessment.

The Site Safety Officer will consult with a representative of the local emergency services agency (police or fire department, in accordance with local governmental procedures), and will outline procedures in the Site-Specific Plan to be followed in the event of an emergency threat to the surrounding populace. Situations requiring specified procedures include fire, explosion, accidental ingestion, large spills consisting of free product, and accumulation of potentially explosive vapors off site.

The Site-Specific Plan will identify individuals who will respond to reports of non-emergency community threats arising from site activities. This non-emergency response will include sampling of air, wells and ground water, and soil. Situations requiring specified procedures include small spills and presence of existing concentrations of potentially explosive vapors on site.

APPENDIX A

SITE-SPECIFIC HEALTH & SAFETY INFORMATION

ENVIRONMENTAL SCIENCE & ENGINEERING

SITE SPECIFIC INFORMATION

PROJECT NAME: ALAMEDA COUNTY GSA - STAPLES RANCH, PLEASANTON, CA

PROJECT NUMBER: 6-94-5228

PROJECT MANAGER: BART MILLER

HEALTH AND SAFETY OFFICER: BART MILLER

THIS HEALTH AND SAFETY PLAN HAS BEEN REVIEWED AND APPROVED BY:

Lionel S. Reynolds
CERTIFIED INDUSTRIAL HYGIENIST

DECLARATION OF UNDERSTANDING

I have read and understand the Health and Safety Plan and agree to abide by it.

NAME	COMPANY	SSN	DATE

A. GENERAL PROJECT INFORMATION

SITE: ALAMEDA COUNTY GSA DATE PREPARED: 3/29/94

LOCATION: STAPLES RANCH, PLEASANTON, CA PREPARED BY: BART MILLER

OBJECTIVE (S): DRILL AND SAMPLE EIGHT SOIL BORINGS TO A DEPTH OF APPROXIMATELY 40 FEET BELOW GRADE

PROPOSED DATE(S) OF ON-SITE WORK: APRIL 13-14, 1994

BRIEFING DATE(S): APRIL 13, 1994

BACKGROUND REVIEW: COMPLETED MARCH 29, 1994

COMPLETE: X

PRELIMINARY: ___

----------PROJECT H.A.S.P. SUMMARY----------

LEVEL(S) OF PROTECTION: A___ B___ C___ D X MIXED___ MODIFIED X

OVERALL HAZARD ESTIMATE: HIGH___ MODERATE___ LOW X UNKNOWN___

ADDITIONAL DOCUMENTATION: TLV TABLE___ FULL HASP___ METHODS___

OTHER___

B. SITE/MATERIAL CHARACTERISTICS

MATERIAL/WASTE TYPE(S): LIQUID X SOLID X GAS___ SLUDGE___

MATERIAL PRESENT IN: DRUMS X TANKS___ OPEN X OTHER___

CHARACTERISTICS: IGNITABLE X CORROSIVE___ TOXIC X REACTIVE___

RADIOACTIVE___ VOLATILE X UNKNOWN___ OTHER_____

FACILITY TYPE: AGRICULTURAL CLOSED X OPEN___

FACILITY SIZE: APPROXIMATELY 31 ACRES

TOPOGRAPHY: LOW RELIEF

PRINCIPAL DISPOSAL METHOD AND LOCATION(S) STOCKPILE DRILL CUTTINGS AT SITE ON AND UNDER HEAVY GAUGE PLASTIC SHEETING PENDING ANALYTICAL RESULTS. DRUM DECONTAMINATION RINSEATES AND LEAVE AT SITE PENDING RECEIPT ANALYTICAL RESULTS.

C. HAZARD EVALUATION

INSTRUCTIONS: Evaluate principal hazards expected at this site. Be specific; complete all entries.

HAZARDS

Physical: HEAVY MACHINERY WITH MOVING PARTS. EXPOSURE TO AMBIENT CONDITIONS.

Chemical: POTENTIAL EXPOSURE TO SOIL AND RINSEATES IMPACTED WITH DIESEL FUEL.

Biological: ALLERGIES AND INSECT BITES/STINGS.

CORRECTIVE ACTIONS

Physical: SITE SAFETY MEETING AND HAZARD IDENTIFICATION PRIOR TO WORK. USE OF HARDHATS, STEEL-TOED BOES, AND GLOVES AND, IF NECESSARY, EAR AND EYE PROTECTION. BUDDY SYSTEM.

Chemical: SITE SAFETY MEETING PRIOR TO WORK. USE OF RUBBER GLOVES WHEN HANDLING SOIL, NONDECONTAMINATED EQUIPMENT, AND RINSEATES. ENSURE WORKERS FULLY CLOTHED. MONITOR SOIL SAMPLES AND BREATHING ZONE FOR VOLATILE ORGANIC COMPOUNDS ASSOCIATED WITH PETROLEUM HYDROCARBONS USING PHOTOIONIZATION DETECTOR.

Biological: SITE SAFETY MEETING PRIOR TO WORK. FIRST AID KIT IN THE FIELD DURING SITEWORK.

D. WORK PLAN INSTRUCTIONS

PERSONAL PROTECTION REQUIRED:
Level of protection: A___ B___ C___ D X MIXED___ MODIFICATIONS X

For MIXED levels of protection describe areas and levels._____

For MODIFICATIONS identify action levels. USE OF PERSONAL AIR PURIFYING RESPIRATORS WITH ORGANIC CHEMICAL CARTRIDGES IF CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN THE BREATHING ZONE EXCEEDS 50 PPM AS MEASURED USING A PHOTOIONIZATION DETECTOR.

ADDITIONAL PERSONAL PROTECTIVE EQUIPMENT (PPE): TYVEK SUITS IF REQUIRED.

MONITORING EQUIPMENT: PID X FID___ TOXIC GAS___ OXYGEN___
DETECTOR TUBES___ EXPLOSIMETER___ PERSONAL MONITOR___
OTHER INSTRUMENTS N/A
NOTES (Equipment Calibration, Decontamination Procedures and, etc.): PID CALIBRATED WITH STANDARD GAS IMMEDIATELY PRIOR TO SITE WORK DAILY.

E. EMERGENCY PROCEDURES

EMERGENCY ACTIONS:

FIRE OR EXPLOSION: EVACUATE AREA AND CALL 911. ASSIST INJURED ONLY WHEN SAFE TO DO SO. PROVIDE FIRST AID/CPR.

INJURY: CALL 911. ASSIST VICTIM(S) ONLY WHEN SAFE TO DO SO. PROVIDE FIRST AID/CPR.

WEATHER: PROVIDE PLENTY OF WATER AND LIQUIDS ON HOT DAY TO PREVENT HYPERTHERMIA. ENSURE ADEQUATE CLOTHING ON COLD DAY TO PREVENT SUNBURN OR HYPOTHERMIA. tAKE REGULAR REST PERIODS IF REQUIRED.

OTHER:

CHEMICAL EXPOSURE ACTIONS:

(See Appendix C for Optional Material Safety Data Sheets)

Material	Symptoms	Treatment
DIESEL FUEL (DEGRADED)	Inhalation-Narcosis: headache, nausea, drowsiness, dizziness loss of coordination	Remove to fresh air obtain medical assistance
	unconsciousness	remove to fresh air, restore breathing, admin. oxygen, obtain medical assistance (911).
	eye/skin contact	flush eyes w/water 15 min., remove contam. clothing and wash skin.
	ingestion	do not induce vomiting, contact physician.

Seek prompt medical assistance for further treatment, observation & support

EMERGENCY TELEPHONE NUMBERS

POLICE/FIRE/AMBULANCE: 911 POISON CONTROL: (800) 523-2222

ESE MARTINEZ OFFICE: (415) 372-3637 CHEMTREC: (800) 424-9300

UNDERGROUND SERVICE ALERT: (800) 642-2444

PROJECT CONTACTS

AGENCY: ALAMEDA COUNTY GENERAL SERVICES AGENCY (510) 271-4320

SITE CONTACT: ANDY GARCIA (510) 284-3573

CLIENT CONTACT: ANDY GARCIA (510) 284-3573

F. EMERGENCY PRECAUTIONS

PRIMARY HOSPITAL/INFIRMARY:

Name: VALLEY CARE MEDICAL CENTER

Address: 5555 WEST LAS POSITAS BLVD., PLEASANTON

Telephone Numbers: Emergency: (510) 847-3000

Information:

Directions from site to emergency unit: EL CHARRO ROAD NORTH TO INTERSTATE 580. WEST ON INTERSTATE 580 TO TASSAJARA ROAD/SANTA RITA ROAD EXIT. SOUTH ACROSS INTERSTATE 580 OVERPASS. CONTINUE SOUTH TO INTERSECTION WITH LAS POSITAS BOULEVARD. GO RIGHT AT INTERSECTION. TAKE FIRST RIGHT INTO HOSPITAL.

Remarks: SEE ATTACHED FIGURE.

HOSPITAL LOCATION: VALLEY MEDICAL CENTER
5555 WEST LAS POSITAS BLVD.
PLEASANTON, CA 94588

APPENDIX B

CERTIFICATES
OF
INSURANCE

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY): 3/17/94

PRODUCER
JOHNSON & HIGGINS
500 WEST MADISON, SUITE 2100
CHICAGO, IL 60661-2595

(312) 648-4200

INSURED
ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ATT KAREN JENSEN
300 HAMILTON BLVD, STE 330
PEORIA, IL 61602

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A	ILLINOIS NATIONAL INS CO
COMPANY LETTER B	NATIONAL UNION FIRE INS CO (PA)
COMPANY LETTER C	PLANET INS CO
COMPANY LETTER D	
COMPANY LETTER E	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED

LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY COMMERCIAL GENERAL LIABILITY CLAIMS MADE [X] OCCUR. OWNER'S & CONTRACTOR'S PROT.	GL3404599	3/16/94	4/01/95	GENERAL AGGREGATE	$ 1,000,000
					PRODUCTS-COMP/OP AGG.	$ 1,000,000
					PERSONAL & ADV. INJURY	$ 1,000,000
					EACH OCCURRENCE	$ 1,000,000
					FIRE DAMAGE (Any one fire)	$ 50,000
					MED.EXPENSE(Any one person)	$ 5,000
A	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS GARAGE LIABILITY	CA1188525	3/16/94	4/01/95	COMBINED SINGLE LIMIT	$ 1,000,000
					BODILY INJURY (Per person)	$
					BODILY INJURY (Per accident)	$
					PROPERTY DAMAGE	$
	EXCESS LIABILITY UMBRELLA FORM OTHER THAN UMBRELLA FORM				EACH OCCURRENCE	$
					AGGREGATE	$
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY	NWA010263802 CA NWA010257702	3/16/94 3/16/94	4/01/95 4/01/95	[X] STATUTORY LIMITS	
					EACH ACCIDENT	$ 500,000
					DISEASE-POLICY LIMIT	$ 500,000
					DISEASE-EACH EMPLOYEE	$ 500,000
	OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / SPECIAL ITEMS

Alameda County General Services Agency is Additional Insured as respects UST Compliance Monitoring, UST Removal, Replacement and Subsurface Investigations.

CERTIFICATE HOLDER

Alameda County General
Services Agency
Building Maintence Dept.
1400 Macarthur Blvd.
Oakland CA 94619

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE Donald Price

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY) 02/23/94

PRODUCER

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ATT KAREN JENSEN
300 HAMILTON BLVD., STE. 330
PEORIA, IL 61602

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A	NAT'L PROF. CASUALTY CO.
COMPANY LETTER B	
COMPANY LETTER C	
COMPANY LETTER D	
COMPANY LETTER E	

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$
	☐ COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG.	$
	☐ CLAIMS MADE ☐ OCCUR.				PERSONAL & ADV. INJURY	$
	☐ OWNER'S & CONTRACTOR'S PROT.				EACH OCCURRENCE	$
	☐ _____				FIRE DAMAGE (Any one fire)	$
					MED. EXPENSE (Any one person)	$
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$
	☐ ANY AUTO				BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS				BODILY INJURY (Per accident)	$
	☐ SCHEDULED AUTOS				PROPERTY DAMAGE	$
	☐ HIRED AUTOS					
	☐ NON-OWNED AUTOS					
	☐ GARAGE LIABILITY					
	EXCESS LIABILITY				EACH OCCURRENCE	$
	☐ UMBRELLA FORM				AGGREGATE	$
	☐ OTHER THAN UMBRELLA FORM					
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				☐ STATUTORY LIMITS	
					EACH ACCIDENT	$
					DISEASE-POLICY LIMIT	$
					DISEASE-EACH EMPLOYEE	$
A	OTHER PROFESSIONAL/ POLLUTION LIABILITY	C72961	2/23/94	4/01/95	$3,000,000 EACH CLAIM $3,000,000 AGGREGATE	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS RE: UST COMPLIANCE MONITORING, UST REMOVAL, REPLACEMENT AND SUBSURFACE INVESTIGATIONS.

CERTIFICATE HOLDER

ALAMEDA COUNTY GENERAL SERVICES AGENCY
BUILDING MAINT. DEPT.
4400 MACARTHUR BLVD.
OAKLAND, CA 94619

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Kathryn M Beecher

APPENDIX C

MATERIAL SAFETY DATA SHEETS

MATERIAL SAFETY DATA SHEET

97367 (4-85)

MSDS NUMBER ▶ 52,303-3 PAGE 1

24 HOUR EMERGENCY ASSISTANCE	GENERAL MSDS ASSISTANCE
SHELL: 713-473-9461 CHEMTREC: 800-424-9300	SHELL: 713-241-4819

ACUTE HEALTH - 2	FIRE 2	REACTIVITY 0	HAZARD RATING ▶ LEAST - 0 SLIGHT - 1 MODERATE - 2 HIGH - 3 EXTREME - 4

*For acute and chronic health effects refer to the discussion in Section III

BE SAFE
READ OUR PRODUCT SAFETY INFORMATION ... AND PASS IT ON
*PRODUCT LIABILITY LAW REQUIRES IT!

SECTION I NAME

PRODUCT ▶	SHELL AUTO DIESEL
CHEMICAL NAME ▶	DIESEL OIL
CHEMICAL FAMILY ▶	PETROLEUM HYDROCARBON
SHELL CODE ▶	31100

SECTION II-A PRODUCT/INGREDIENT

NO.	COMPOSITION	CAS NUMBER	PERCENT
P	SHELL AUTO DIESEL	68334-30-5	100

SECTION II-B ACUTE TOXICITY DATA

NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
P	NOT AVAILABLE		

SECTION III HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

EYE CONTACT
BASED ON ESSENTIALLY SIMILAR PRODUCT TESTING LIQUID IS PRACTICALLY NONIRRITATING TO THE EYES.

SKIN CONTACT
BASED ON ESSENTIALLY SIMILAR PRODUCT TESTING LIQUID IS PRESUMED TO BE MODERATELY IRRITATING TO THE SKIN. PROLONGED OR REPEATED LIQUID CONTACT CAN RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN SEVERE IRRITATION AND DERMATITIS. MAY CAUSE MILD SKIN SENSITIZATION. RELEASE DURING HIGH PRESSURE USAGE MAY RESULT IN INJECTION OF OIL INTO THE SKIN CAUSING LOCAL NECROSIS.

INHALATION
INHALATION OF VAPORS OR MIST MAY CAUSE MILD IRRITATION TO THE UPPER RESPIRATORY TRACT. HIGH CONCENTRATIONS MAY RESULT IN CENTRAL NERVOUS SYSTEM DEPRESSION. INHALATION OF HIGH LEVELS OF MIST MAY RESULT IN CHEMICAL PNEUMONITIS.

INGESTION
INGESTION OF PRODUCT MAY RESULT IN VOMITING; ASPIRATION (BREATHING) OF VOMITUS INTO THE LUNGS MUST BE AVOIDED AS EVEN SMALL QUANTITIES MAY RESULT IN ASPIRATION PNEUMONITIS.

SIGNS AND SYMPTOMS
IRRITATION AS NOTED ABOVE. SKIN SENSITIZATION (ALLERGY) MAY BE EVIDENCED BY RASHES, ESPECIALLY HIVES. EARLY TO MODERATE CNS (CENTRAL NERVOUS SYSTEM) DEPRESSION MAY BE EVIDENCED BY GIDDINESS.

HEADACHE, DIZZINESS AND NAUSEA; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR. LOCAL NECROSIS IS EVIDENCED BY DELAYED ONSET OF PAIN AND TISSUE DAMAGE A FEW HOURS FOLLOWING INJECTION. ASPIRATION PNEUMONITIS MAY BE EVIDENCED BY COUGHING, LABORED BREATHING AND CYANOSIS (BLUISH SKIN); IN SEVERE CASES DEATH MAY OCCUR.

AGGRAVATED MEDICAL CONDITIONS
PREEXISTING SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. PREEXISTING SKIN OR LUNG ALLERGIES MAY INCREASE THE CHANCE OF DEVELOPING INCREASED ALLERGY SYMPTOMS FROM EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS
KIDNEY DAMAGE MAY RESULT FOLLOWING ASPIRATION PNEUMONITIS. THE RESULTS OF ANIMAL BIOASSAYS ON MIDDLE DISTILLATE FUELS SHOW THAT PROLONGED DERMAL CONTACT PRODUCES A WEAK TO MODERATE CARCINOGENIC ACTIVITY.

SEE SECTION VI FOR ADDITIONAL HEALTH INFORMATION.

SECTION IV — OCCUPATIONAL EXPOSURE LIMITS

NO.	OSHA PEL/TWA	OSHA PEL/CEILING	ACGIH TLV/TWA	ACGIH TLV/STEL	OTHER
	*				

* NO OSHA PEL OR ACGIH TLV HAS BEEN ESTABLISHED.

SECTION V — EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
FLUSH EYES WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

SKIN CONTACT
REMOVE CONTAMINATED CLOTHING/SHOES AND WIPE EXCESS FROM SKIN. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED. IF MATERIAL IS INJECTED UNDER THE SKIN, GET MEDICAL ATTENTION PROMPTLY TO PREVENT SERIOUS DAMAGE; DO NOT WAIT FOR SYMPTOMS TO DEVELOP.

INHALATION
REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.

INGESTION
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

NOTE TO PHYSICIAN
IF MORE THAN 2.0 ML PER KG HAS BEEN INGESTED AND VOMITING HAS NOT OCCURRED, EMESIS SHOULD BE INDUCED WITH SUPERVISION. KEEP VICTIM'S HEAD BELOW HIPS TO PREVENT ASPIRATION. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE USING A CUFFED ENDOTRACHEAL TUBE SHOULD BE CONSIDERED.

SECTION VI — SUPPLEMENTAL HEALTH INFORMATION

REPEATED DERMAL APPLICATION OF HIGH LEVELS OF MIDDLE DISTILLATE FUELS IN EXPERIMENTAL ANIMALS HAS PRODUCED EXTREMELY SEVERE IRRITATION TO CORROSIVE ACTION ON THE SKIN. VARYING DEGREES OF LIVER AND KIDNEY DAMAGE WERE NOTED IN THESE STUDIES, INCLUDING CONGESTION, ENLARGEMENT, MOTTLING, AND MULTIFOCAL NECROSIS.

MIDDLE DISTILLATE FUELS HAVE BEEN DEMONSTRATED TO CAUSE CHROMOSOME DAMAGE IN THE IN VIVO RAT BONE MARROW CYTOGENETICS ASSAY, AND MUTAGENIC IN THE L5178Y MOUSE LYMPHOMA ASSAY. BASED ON AN INCREASED INCIDENCE OF VARIOUS TUMORS IN STUDIES WITH LABORATORY ANIMALS, THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH) REGARDS WHOLE DIESEL EXHAUST AS A POTENTIAL OCCUPATIONAL CARCINOGEN.

SECTION VII PHYSICAL DATA

BOILING POINT: 450 (APPROX.) (DEG F)

SPECIFIC GRAVITY: 0.8762 (H2O=1)

VAPOR PRESSURE: NOT AVAILABLE (MM HG)

MELTING POINT: NOT AVAILABLE (DEG F)

SOLUBILITY: NEGLIGIBLE (IN WATER)

VAPOR DENSITY: >1 (AIR=1)

EVAPORATION RATE (N-BUTYL ACETATE = 1): NOT AVAILABLE

APPEARANCE AND ODOR:
YELLOW LIQUID; STRONG HYDROCARBON ODOR.

SECTION VIII FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD:
130 DEG F (PMCC) MIN.

FLAMMABLE LIMITS /% VOLUME IN AIR
LOWER: N/AV UPPER: N/AV

EXTINGUISHING MEDIA
USE WATER FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS
CAUTION. COMBUSTIBLE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINTED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER. IN THE CASE OF LARGE FIRES, ALSO COOL SURROUNDING EQUIPMENT AND STRUCTURES WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS
CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION IX REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:
AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS
THERMAL DECOMPOSITION PRODUCTS ARE HIGHLY DEPENDENT ON THE COMBUSTION CONDITIONS. A COMPLEX MIXTURE OF AIRBORNE SOLID, LIQUID, PARTICULATES AND GASES WILL EVOLVE WHEN THIS MATERIAL UNDERGOES PYROLYSIS OR COMBUSTION. CARBON MONOXIDE AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED UPON COMBUSTION.

SECTION X EMPLOYEE PROTECTION

RESPIRATORY PROTECTION
USE A NIOSH-APPROVED RESPIRATOR AS REQUIRED TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134, USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE CLOTHING
NO SPECIAL EYE PROTECTION IS ROUTINELY NECESSARY. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR CHEMICAL RESISTANT GLOVES AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT.

ADDITIONAL PROTECTIVE MEASURES
USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS.

SECTION XI ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES
CAUTION. COMBUSTIBLE. *** LARGE SPILLS *** ELIMINATE POTENTIAL SOURCES OF IGNITION. WEAR APPROPRIATE RESPIRATOR AND OTHER PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS AND SEAL TIGHTLY FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTION AS ABOVE. *** SMALL SPILLS *** TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL.

SECTION XII SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE; FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE (ONLY) WITH ADEQUATE VENTILATION. CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

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SECTION XIII TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:
COMBUSTIBLE LIQUID

D.O.T. PROPER SHIPPING NAME:
DIESEL OIL, NA 1993

SECTION XIV OTHER REGULATORY CONTROLS

THIS PRODUCT IS LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

IN ACCORDANCE WITH SARA TITLE III, SECTION 313, THE EDS SHOULD ALWAYS BE COPIED AND SENT WITH THE MSDS.

SECTION XV SPECIAL NOTES

THIS REVISION INCORPORATES THE FINDINGS OF DIESEL EXHAUST CARCINOGENICITY INTO SECTION VI.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

DATE PREPARED:NOVEMBER 06, 1989

BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION ...AND PASS IT ON
(PRODUCT LIABILITY LAW
REQUIRES IT)

J. C. WILLETT

SHELL OIL COMPANY
PRODUCT SAFETY AND COMPLIANCE
P. O. BOX 4320
HOUSTON, TX 77210

APPENDIX B

ESE STANDARD OPERATING PROCEDURE NO. 1

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
CONCORD, CALIFORNIA OFFICE

STANDARD OPERATING PROCEDURE NO. 1
FOR SOIL BORINGS AND SOIL SAMPLING WITH HOLLOW-STEM AUGERS IN UNCONSOLIDATED FORMATIONS

Environmental Science & Engineering, Inc. (ESE) typically drills soil borings using a truck-mounted, continuous-flight, hollow-stem auger drill rig. The drill rig is owned and operated by a drilling company possessing a valid State of California C-57 license. The soil borings are conducted under the direct supervision and guidance of an experienced ESE geologist. The ESE geologist logs each borehole during drilling in accordance with the Unified Soil Classification System (USCS). Additionally, the ESE geologist observes and notes the soil color, relative density or stiffness, moisture content, odor (if obvious) and organic content (if present). The ESE geologist will record all observations on geologic boring logs.

Soil samples are collected during drilling at a minimum of five-foot intervals by driving an 18-inch long Modified California Split-spoon sampler (sampler), lined with new, thin-wall brass sleeves, through the center of and ahead of the hollow stem augers, thus collecting a relatively undisturbed soil sample core. The brass sleeves are typically 2-inches in diameter and 6-inches in length. The sampler is driven by dropping a 140-pound hammer 30-inches onto rods attached to the top of the sampler. Soil sample depth intervals and the number of hammer blows required to advance the sampler each six-inch interval are recorded by the ESE geologist on geologic boring logs. The ends of one brass sleeve are covered with Teflon sheeting, then covered with plastic end caps. The end caps are sealed to the brass sleeve using duct tape. Each sample is then labeled and placed on ice in a cooler for transport under chain of custody documentation to the designated analytical laboratory. A portion of the remaining soil in the sampler is placed in either a new Ziploc® bag or a clean Mason Jar® and set in direct sunlight to enhance the volatilization of any Volatile Organic Compounds (VOCs) present in the soil. After approximately 15-minutes that sample is screened for VOCs using a photoionization detector (PID). The PID measurements will be noted on the geologic boring logs. The PID provides qualitative data for use in selecting samples for laboratory analysis. Soil samples from the saturated zone (beneath the ground-water table) are collected as described above, are not screened with the PID, and are not submitted to the analytical laboratory. The samples from the saturated zone are used for descriptive purposes. Soil samples from the saturated zone may be retained as described above for physical analyses (grain size, permeability and porosity testing).

If the soil boring is not going to be completed as a well, then the boring is typically terminated upon penetrating the saturated soil horizon or until a predetermined interval of soil containing no evidence of contamination is penetrated. This predetermined interval is typically based upon site specific regulatory or client guidelines. The boring is then backfilled using either neat cement, neat cement and bentonite powder mixture (not exceeding 5% bentonite), bentonite pellets, or a sand and cement mixture (not exceeding a 2:1 ratio of sand to cement). However, if the boring is to be completed as a monitoring well, then the boring is continued until either a competent, low estimated-permeability, lower confining soil layer is found or 10 to 15-feet of the saturated soil horizon is penetrated, whichever occurs first. If a low estimated-permeability soil layer is found, the soil boring will be advanced approximately five-feet into that layer to evaluate its competence as a lower confining layer, prior to the termination of that boring.

All soil sampling equipment is cleaned between each sample collection event using an Alconox® detergent and tap water solution followed by a tap water rinse. Additionally, all drilling equipment and soil sampling equipment is cleaned between borings, using a high pressure steam cleaner, to prevent cross-contamination. All wash and rinse water is collected and contained onsite in Department of Transportation approved containers (typically 55-gallon drums) pending laboratory analysis and proper disposal/recycling.