Environmental
Science &
Engineering, Inc.
A CILCORP Company

TO: Mr. Paul Smith
Alameda County Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, California 94621

DATE: April 19, 1991

ATTN: Paul Smith

JOB NUMBER: 6-91-5165
(Vorelco #4286)

SUBJECT: Health and Safety Plan is enclosed for Broadway Volkswagen, Oakland

WE ARE TRANSMITTING THE FOLLOWING:

° Health and Safety Plan

91 APR 22 AM 10:52

CC: Tom Moffat, Vorelco, Inc.
Chris Christensen, Gregg Drilling

DIST:
LB
FILE
ORIGINATOR

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

BY Oliver B. Christen

Oliver B. Christen
Geologist

4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (415) 685-4053 Fax (415) 685-5323
Formerly known as Hunter/Gregg, Inc.

Environmental
Science &
Engineering, Inc.
A CILCORP Company

April 19, 1991

ESE Project No. 6-91-5165 (Vorelco #4286)

Mr. Paul Smith
Alameda County
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Rm 200
Oakland, California 94621

SUBJECT: A copy of the Health and Safety Plan for Broadway Volkswagen in Oakland, CA.

Dear Mr. Smith:

Environmental Science & Engineering, Inc. (ESE) has provided you a copy of the Health and Safety Plan for the Broadway Volkswagen site. This plan contains all of the necessary information regarding to the safety and health requirements for general site work taking place under a contract with Vorelco, Inc.

If you have any questions or comments pertaining to this Health and Safety Plan, please contact Oliver Christen or Susan Wickham at (415) 685-4053.

Sincerely,
ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Oliver B. Christen

Oliver B. Christen
Geologist

cc: Tom Moffat, Vorelco, Inc.
Chris Christensen, Gregg Drilling

4090 Nelson Avenue, Suite J Concord, CA 94520 Phone (415) 685-4053 Fax (415) 685-5323

HEALTH AND SAFETY PLAN
for
PETROLEUM CONTAMINATION/UST SITES

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HEALTH AND SAFETY PLAN
for
PETROLEUM CONTAMINATION/UST SITES

Vorelco, Inc.

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 Vorelco, Inc. 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 (mph)	Actual Thermometer Reading (°F)									
	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:
CORPORATE 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.

F:\...\HEALTH&S\GENERAL.H&S

APPENDIX A

SITE SPECIFIC INFORMATION

ENVIRONMENTAL SCIENCE & ENGINEERING

SITE SPECIFIC INFORMATION

PROJECT NAME: Vorelco (Broadway Volkswagen)

PROJECT NUMBER: 6-90-5165

PROJECT MANAGER: Susan S. Wickham, RG

HEALTH AND SAFETY OFFICER: Lionel S. Reynolds, CIH

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	EMPLOYEE NUMBER OR COMPANY NAME	SOCIAL SECURITY NUMBER	DATE

A. GENERAL PROJECT INFORMATION

SITE: Vorelco, Inc. DATE PREPARED: 4-9-91

LOCATION: 2740 Broadway Ave, Oakland, CA PREPARED BY: O. Christen

OBJECTIVE (S): To drill and sample 4 soil borings and one monitoring well.

PROPOSED DATE(S) OF ON-SITE WORK: Not Available

BRIEFING DATE(S): Not Available

COMPLETE: ___

PRELIMINARY: X

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

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

OVERALL HAZARD ESTIMATE: HIGH___ MODERATE___ LOW X UNKNOWN___

ADDITIONAL DOCUMENTATION: TLV TABLE___ FULL HASP X METHODS___

OTHER___

B. SITE/MATERIAL CHARACTERISTICS

MATERIAL/WASTE TYPE(S): LIQUID___ SOLID_X_ GAS___ SLUDGE___
MATERIAL PRESENT IN: DRUMS_X_ TANKS___ OPEN_x_ OTHER___
CHARACTERISTICS: IGNITABLE___ CORROSIVE___ TOXIC_x_ REACTIVE___
RADIOACTIVE___ VOLATILE_X_ UNKNOWN___ OTHER_____
FACILITY TYPE: Broadway Volkswagen CLOSED___ OPEN__x_
FACILITY SIZE: 200 by 200 feet

SITE/MATERIAL CHARACTERISTICS (continued...)

TOPOGRAPHY: The site is located on a hilly terrain near downtown Oakland.

PRINCIPAL DISPOSAL METHOD AND LOCATION(S) Soil cuttings from the borings will be stored onsite in drums until landfill disposal or remediation can be arranged. Purged water from the monitoring well will be stored in drums until proper disposal.

C. HAZARD EVALUATION

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

HAZARDS

Physical: Mechanical equipment from the drilling rig (augers, cables, etc.) can be a hazard to the geologists and the drilling crew. Hands and feet can be most susceptible to physical injury.

Chemical: Soil and water samples may contain waste oil and gasoline, because the former underground storage tanks had holes in them during removal. There is a possibility of dermal exposure to the hands, face, arms and neck. Shoes and clothing may get wet from splashing.

Biological: None

CORRECTIVE ACTIONS

Physical: A hard hat, field boots and field clothes should provide adequate protection on site. Gloves, a respirator and tyvek suit should be available at the site and used if necessary.

Chemical: If contaminated water is accidentally splashed into a workers eyes, they should be immediately rinsed out with de-ionized water. Contaminated skin and clothing should be washed as soon as possible.

Biological: None

D. WORK PLAN INSTRUCTIONS

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

For MIXED levels of protection describe areas and levels. N/A

For MODIFICATIONS identify action levels. Working at this site will involve D levels of protection. Required equipment at this site includes a hard hat, field boots and field clothes. Recommended equipment includes gloves, a tyvek suit and respirator.

ADDITIONAL PERSONAL PROTECTIVE EQUIPMENT (PPE): Respirators with cartridges, gloves, a tyvek suit, and goggles.

MONITORING EQUIPMENT: PID X FID___ TOXIC GAS___ OXYGEN___
DETECTOR TUBES___ EXPLOSIMETER___ PERSONAL MONITOR___
OTHER INSTRUMENTS_____

NOTES (Equipment Calibration, Decontamination Procedures and, etc.): The PID meter will be calibrated at the beginning of each field day. All equipment (brass tubes, split spoon, etc.) will be properly rinsed with alconox and water. The purpose of cleaning is to avoid any cross-contamination.

E. EMERGENCY PROCEDURES

EMERGENCY ACTIONS:

FIRE OR EXPLOSION: Call police/fire (911), use dry chemical, carbon dioxide, or alcohol foam type extinguisher for flammable liquid fires. Treat for third degree burns and shock.

INJURY: Call 911 for serious injuries, apply first aid and ensure injured are transferred to nearest medical facility. Only treat injuries if CPR or first aid trained. Call the paramedics or 911.

WEATHER: Contact appropriate agency and project personnel.

OTHER: Contact the appropriate agencies and project personnel listed below.

CHEMICAL EXPOSURE ACTIONS:
(See Appendix C for Optional Material Safety Data Sheets)

Material	Symptoms	Treatment	TLV (ppm)
Gasoline, Diesel Fuel, Waste Oil	Inhalation-Narcosis: headache, nausea, drowsiness, dizziness loss of coordination. Unconsciousness.	Remove to fresh air obtain medical assistance. Remove to fresh air, restore breathing, administer oxygen obtain medical assistance - 911.	300
	Eye/skin contact.	Flush eyes with water 15 minutes. Remove contaminated clothing and wash skin.	
	Ingestion.	Do not induce vomiting - contact physician, seek prompt medical assistance for further treatment.	

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 Health Agency
Paul Smith (415) 271-4320

SITE CONTACT: N/A

CLIENT CONTACT: Vorelco, Inc.
Tom Moffatt (313) 362-7296

F. EMERGENCY PRECAUTIONS

PRIMARY HOSPITAL/INFIRMARY:

Name: Merritt Hospital

Address: 350 Hawthorne Avenue, Oakland, California

Telephone Numbers: Emergency: (415) 420-6080
Information: (415) 655-4000

Directions from site to emergency unit: (See Figure A - Map of Routes to Hospitals) Take Webster Street North to 34th Street. Make a left on 34th Street, and hospital is on the left side.

Remarks: The hospital is approximately 1/2 mile to the North of the site.

ALTERNATE HOSPITAL/INFIRMARY:

Name: Kaiser Hospital

Address: 280 West MacArthur Boulevard, Oakland, California

Telephone Numbers: Emergency: (415) 596-7600

Information: (415) 596-1000

Directions from site to emergency unit: (See Figure A - Map of Routes to Hospitals) Take Broadway North to MacArthur Boulevard. Turn right on MacArthur Boulevard. The hospital is on the left side.

Remarks: The hospital is approximately 1 mile to the northeast of the site.

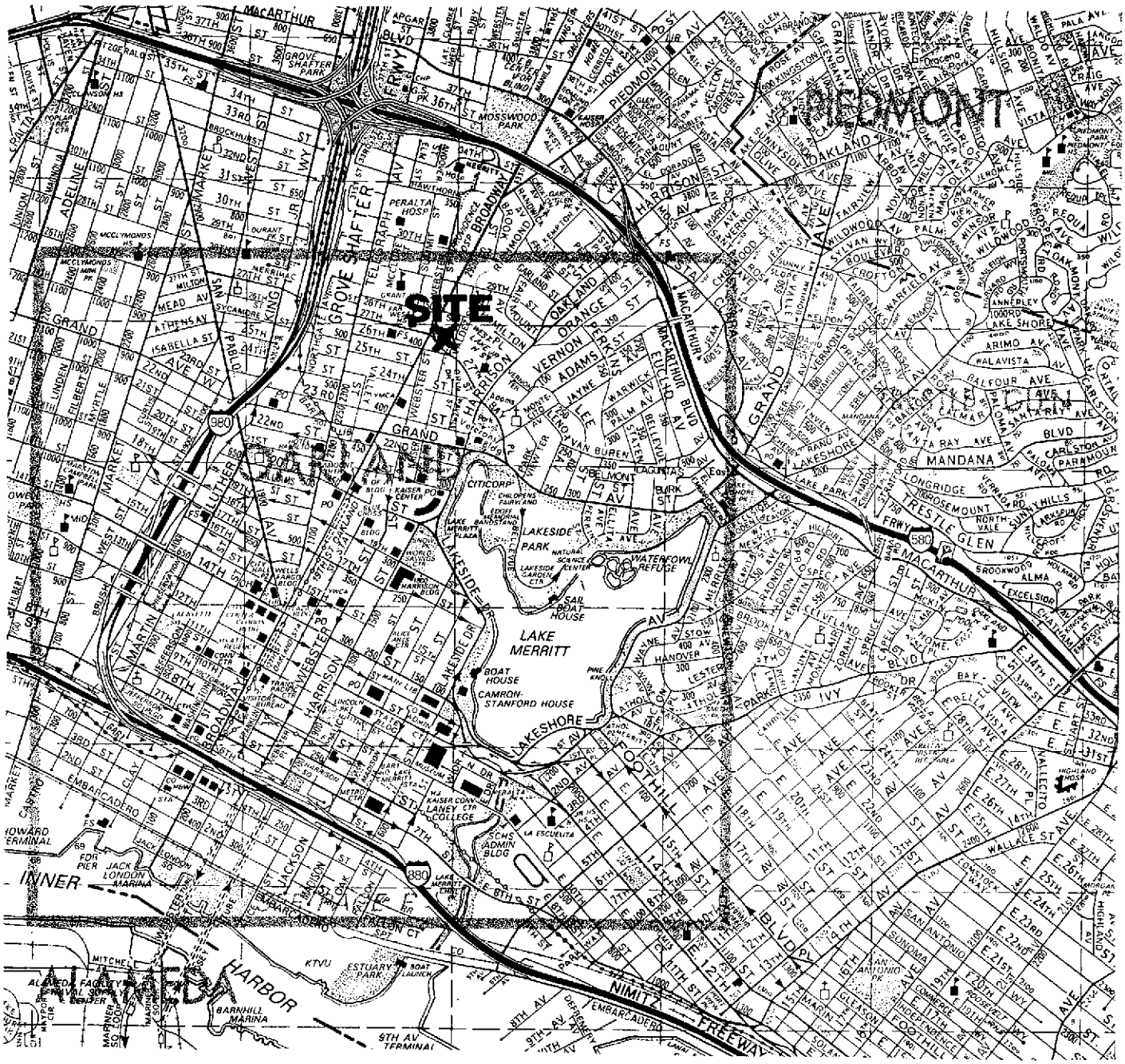

FIGURE A. MAP OF ROUTES TO HOSPITALS