Versar INC.

May 8, 1995

USTs 2 and 5

Mr. Scott Seery
Hazardous Materials Specialist
Alameda County Health Care Services Agency
UST Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: WORKPLAN TO REMOVE TWO UNDERGROUND STORAGE TANKS, 15400 FOOTHILL BOULEVARD, SAN LEANDRO, CALIFORNIA.
Versar Project Number 2241-025

Dear Mr. Seery,

Versar, Inc. (Versar) has prepared this workplan on behalf of the County of Alameda General Services Agency (County) for the excavation and removal of two underground storage tanks (UST) located on the Fairmont Hospital property (site) at 15400 Foothill Boulevard in San Leandro, California. This work plan has been developed based on information supplied to Versar by the County and is being submitted in conjunction with the Alameda County Health Care Services Agency's (ACHCSA) Underground Tank Closure Plan. The site location is shown in Figure 1. The USTs to be removed, include a 12,000 gallon fuel oil tank located adjacent to the hospital facility's powerhouse shop, and a 1,000 gallon diesel fuel tank located adjacent to the hospital facility's generator house. The locations of the project areas are shown in Figure 2.

BACKGROUND

Three underground storage tanks, 2-12,000 gallon and 1-1,000 gallon capacity were originally located side by side, adjacent to the hospital facility's powerhouse shop on the northwestern portion of the site (Figure 2). Available information indicates the 12,000 gallon tanks were installed in 1952, while the 1,000 gallon tank was installed in 1962. In July of 1993 the 1,000-gallon UST, formerly used to store diesel fuel, was removed by Environmental Science and Engineering, Inc. Soil samples collected within the excavation during the 1,000 gallon UST removal were reported to contain diesel-range hydrocarbons at concentrations up to 12,000 mg/kg. Benzene, toluene, ethylbenzene, and xylenes (BTEX) were not reported present in these samples (ESE,1992). Subsequently, Versar drilled five soil borings along western, southern and eastern perimeters of the backfilled excavation. Analysis of 9 soil samples collected from depths ranging from 8.0 to 16.5 feet below ground surface in

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these borings were not reported to contain diesel range hydrocarbons. Xylenes however, were reported in 6 of the samples at concentrations ranging from 0.010 to 0.028 milligrams per kilogram. No other BTEX constituents were detected during these analyses (Versar, 1994). In August, 1994 Geostrategies, Inc. performed an in-place closure of the 12,000-gallon UST located on the opposite side of the subject tank, and directly adjacent to the building's loading dock. Abandonment of this tank was accomplished by pressure grouting with a slurry cement. Due to the location and nature of the tank closure, no soil samples were collected for analysis (Geostrategies, 1994). The tank had been used to store fuel-oil.

In addition, the County recently became aware of the 1,000 gallon diesel UST located adjacent to the generator house on the southeastern portion of the site (Figure 2). Little historical information is available regarding this tank. Maintenance personnel at the site indicate the tank is over 25 years old.

SCOPE OF WORK

The scope of work developed to complete the tank removals consists of the five tasks described below.

Task 1.0 - Health and Safety Plan Preparation and Mobilization

A site-specific health and safety plan (HSP) has been prepared in compliance with federal, California Occupational Safety and Health Agency, and ACHCSA requirements, and is enclosed as Attachment 1. The HSP is intended to ensure safe work practices are followed by site workers. The HSP outlines contingency plans in the event that hazardous conditions are encountered, or if an accident occurs.

Upon ACHCSA approval of the Underground Storage Tank Closure Plan, it will be submitted to the Alameda County Fire Department (ACFD) for approval and issuance of a formal UST closure permit. Additionally, a UST removal permit will be filed with the Bay Area Air Quality Management District (BAAQMD) pursuant to BAAQMD Regulation 8, Rule 40. Once a field schedule is confirmed, Versar will notify the ACHCSA, the ACFD, and the BAAQMD at least five days prior to the scheduled removals.

Task 2.0 - Tank Removals

Task 2.0 will involve the saw-cutting of any overlying concrete surface material; removal and disposal of saw-cut rubble, exposure of the tanks by removal of soil overburden, and severing and plugging of existing UST product pipelines and electrical connections. Any residual product remaining in the tank prior to excavation activities will be pumped from the

tank using a licensed hazardous-waste transporter. Depending upon field conditions, the tanks may be pressure rinsed to assist in removing residual product from the tank. Prior to UST removal, residual vapors within each tank will be displaced ("inerted") by adding a minimum of 20 pounds of dry ice per 1,000-gallon capacity. The lower explosive limit within the tanks will be monitored using a combustible gas/oxygen meter. After being inerted, the tanks will be removed under the supervision of an ACFD representative. Following removal, the tanks will then be cleaned of exterior soil debris and inspected for holes, cracks or signs of leakage. Upon approval by the ACHSA representative, the tanks will then be loaded on to a flat-bed truck and removed from the site for shipment to an approved disposal/destruction facility. The USTs will be transported under manifest as hazardous waste by a certified transporter. A County representative will be present to sign the hazardous waste manifests for all hazardous materials removed from the site.

If petroleum hydrocarbon impacted soils appear to be present surrounding the tank, limited excavation of the soil may be conducted. Overburden and surrounding soils removed from the excavation will be stockpiled on, and covered with, plastic sheeting adjacent to the excavation. Excavated soil will subsequently be profiled to assess potential re-use as backfill, or for off-site disposal. Following completion of the excavation activities, the open tank pits will be enclosed by temporary chain-link fencing to restrict access or entry.

Task 3.0 - Soil Sampling and Analysis

During removal activities, exposed soils within the excavation will be observed to assess signs of impact from potential UST discharges and/or overspill, such as discolored or odorous soil. Excavated soils will also be screened for organic vapors using a properly calibrated photoionization detector (PID). Following removal of each tank, soil samples will be collected for laboratory analysis to assess the presence of petroleum hydrocarbon constituents.

It is anticipated that three soil samples will be collected at equidistant locations across the base of the excavation within the first two feet of native soil beneath the 12,000 gallon UST. Similarly, two soil samples will be collected from the native soils underlying the 1,000 gallon UST. Additionally, one soil sample will be collected for every 20 lineal feet of piping removed, as necessary to comply with regulatory requirements. Where possible soil samples will be collected from undisturbed soils using a hand-driven sampler lined with stainless steel sample tubes. However, field conditions may require samples to be collected from the bucket of the backhoe. One soil sample will also be collected for approximately every 20 cubic yards of stockpiled soil. Samples collected from soil stockpiles will be composited in the laboratory prior to analysis. In order to minimize headspace volatilization, sample tubes will be completely filled and sealed with plastic end caps. Upon collection, soil

not if planned for on-site reuse

samples will be promptly placed in an insulated chest with ice pending transport to a California-certified hazardous waste analytical laboratory. Soil samples will be analyzed for the following compounds under the associated analytical methods:

- Total petroleum hydrocarbons as diesel (TPH-D) by EPA Method 8015 modified.

- Aromatic volatile organics benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020.

If groundwater is encountered in the excavation, a grab sample will be obtained and submitted for analysis consistent with the analytical methods used for the soil samples.

Task 4.0 - Backfilling

Assuming that no soil contamination is judged to be present, based on laboratory analytical results and approval by ACHCSA regulatory personnel, the excavation will be backfilled using the stockpiled and import fill. The backfill will be placed and compacted to within approximately six inches of surface grade. The surface will then be finished to surface grade with a similar concrete material.

Task 5.0 - Reporting

Following completion of the field activities and receipt of the laboratory analytical data, a closure report will be compiled and submitted to the ACHCSA for review. The report will include:

- A site description;
- Scope of work;
- Historical uses of the tanks;
- UST Closure permit;
- A description of the excavation activities and soil conditions encountered;
- A site plan indicating excavation limits and soil sample locations;
- Sampling methodology;
- Sampling dates;
- Laboratory analytical reports;
- Interpretation of analytical results;
- Certificate of tank destruction;
- Copies of Uniform Hazardous Waste Manifests; and
- Recommendations for additional action, if necessary.

Enclosed with this workplan is the underground storage tank closure plan. As we discussed, field work is tentatively scheduled to begin Tuesday, May 17 with actual tank removals to be conducted Wednesday, May 17. If you have any questions please contact me at (510) 814-5924.

Sincerely,

Terrence Kinn
Versar, Inc.

Enclosure: Underground Storage Tank Closure Plan

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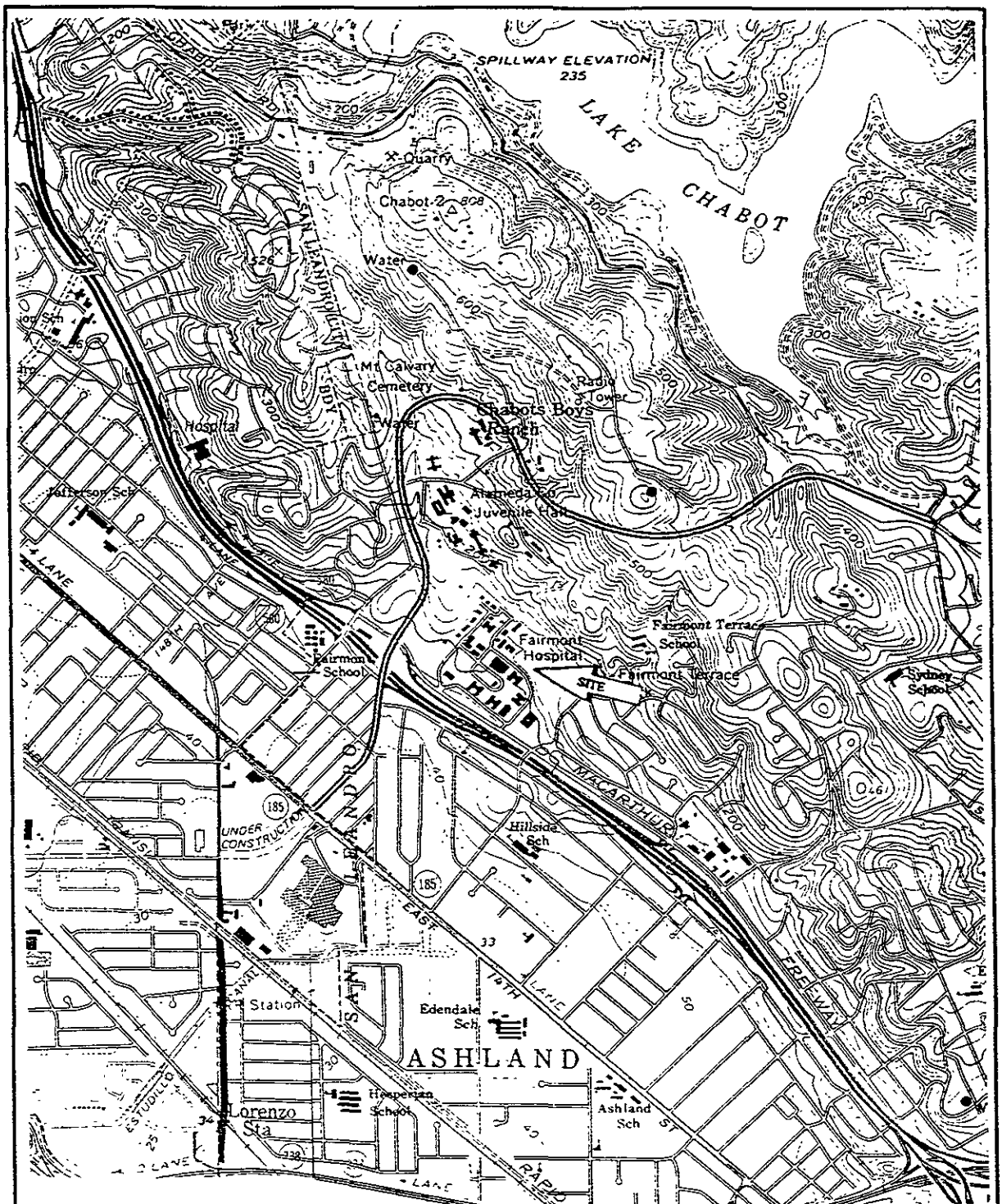
FIGURES



Note: base map from USGS Hayward and San Leandro, CA quadrangles, 7.5 minute series.

Versar INC. ENVIRONMENTAL RISK MANAGEMENT	**SITE LOCATION MAP** Fairmont Hospital 15400 Foothill Blvd. San Leandro, California	Versar Project: 2241-025 May 1995	N	**FIGURE** 1 Not To Scale

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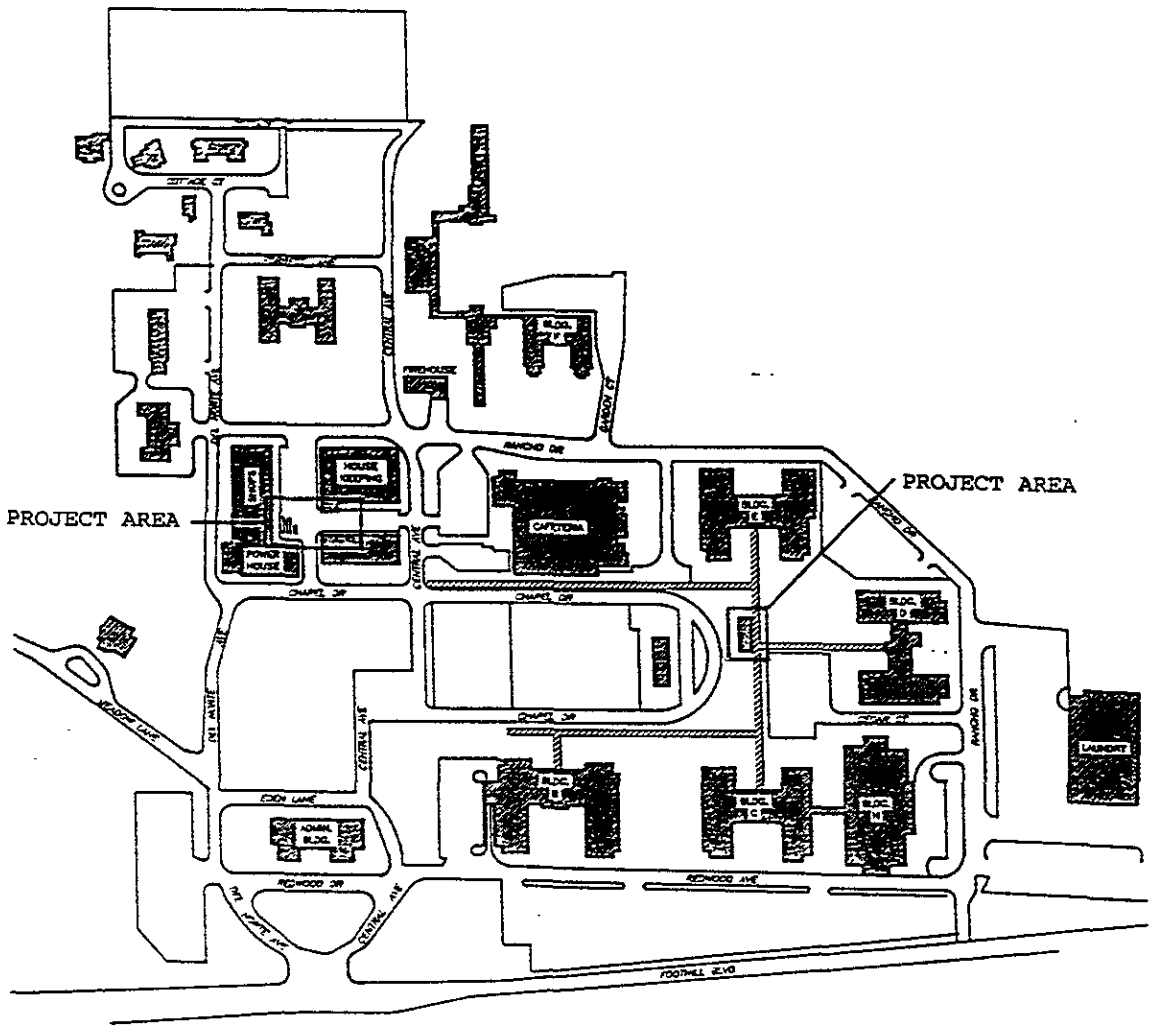

Versar INC.	**Project Areas Map** Fairmont Hospital 15400 Foothill Blvd. San Leandro, California	Versar Project: 2241-025 May 1995	North	FIGURE 2 No Scale

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ATTACHMENT 1
HEALTH AND SAFETY PLAN

Versar INC.

HEALTH AND SAFETY PLAN

FOR

FAIRMONT HOSPITAL
15400 FOOTHILL BOULEVARD
SAN LEANDRO, CALIFORNIA

Prepared for:

Alameda County
General Services Agency
1401 Lakeside Boulevard
Oakland, California

Prepared by:

Versar Inc. - San Francisco
1255 Harbor Bay Parkway, Suite 100
Alameda, California

Versar Project No. 2241-025

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Table of Contents

Versar INC.

Table of Contents
(Continued)

LIST OF FIGURES

Figure

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1.0 INTRODUCTION

1.1 Background

Alameda County General Services Agency has retained Versar, Inc. (Versar) to conduct the removal/closure of two underground storage tanks (UST) located at the Fairmont Hospital in the City of San Leandro, California, as part of construction upgrades and expansion activities at the site (The USTs are being removed.)

Limited information is available regarding the type of construction of these USTs; however, it is assumed that these tanks are of a single-walled, steel construction. Information obtained from the Alameda County General Services Agency for the UST's are listed below:

Capacity	Construction	Age	Contents
12,000 gallons	Steel	> 30 years	diesel fuel
1,000 gallons	Steel	> 25 years	fuel oil

1.2 Site Characterization

Client Name: Alameda County General Services Agency

Location of Site: Fairmont Hospital
15400 Foothill Boulevard
San Leandro, California

Client Contact Person(s):

Name: Mr. Thomas Mc Kimmy

Topography of the area surrounding the site:

Hilly __X__ Flat ____ Hummocky ____ Marshy ____
Mountainous ____ Other ____

Area affected:

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Urban ____ Rural __X__ Residential __X__ Industrial____
Commercial ____ Other ____

Types of bodies of water bordering the site, if any:

Stream ____ River ____ Pond ____ Lake ____ Bay ____
Ocean ____ Other ____ None __X__

Are the services being provided as a consequence of orders from local, state, or federal officials?

Yes _____ No __X___

1.3 Purpose

The primary purpose of the site safety plan is to provide Versar field personnel and subcontractors with an understanding of the potential chemical and physical hazards that exist or may arise while the tasks of this project are being performed. Secondarily, the information contained herein will define the safety precautions necessary to respond to such hazards should they occur.

1.4 Objective

The primary objective is to ensure the well-being of all field personnel and the community surrounding the site. In order to accomplish this, project staff and approved subcontractors shall acknowledge and adhere to the policies and procedures established herein. Accordingly, all personnel assigned to this project shall read this site safety plan and sign the Agreement Statement in Section 8.1 to certify that they have read, understood, and agreed to abide by its provisions.

1.5 Hazard Determination

Serious ____ Moderate ____ Low __X__ Unknown ____

1.6 Level of Protection

__X_ Modified level D

- ensuring that the Site Safety Officer is making an effort to monitor the site safety and has designated a Field Team Leader to assist with the responsibility when necessary.

2.2 Health and Safety Manager: Richard Strider

The Health and Safety Manager (HSM) shall be responsible for the overall coordination and oversight of the site safety plan. Specific duties will include:

- approving the selection of the types of personal protective equipment (PPE) to be used on site for specific tasks
- monitoring the compliance activities and the documentation processes undertaken by the Site Safety Officer
- evaluating weather conditions and chemical hazard information and making recommendations to the Project Manager about any modifications to work plans or personal protection levels in order to maintain personal safety
- coordinating upgrading or downgrading of PPE with Site Safety Officer, as necessary, due to changes in exposure levels, monitoring results, weather, other site conditions
- approving all field personnel working on site, taking into consideration their level of safety training, their physical capacity, and their eligibility to wear the protective equipment necessary for their assigned tasks (i.e. respirator fit testing results)
- overseeing the air-monitoring procedures as they are carried out by site personnel for compliance with all company health and safety policies

2.3 Site Safety Officer: Terrence Kinn

The Site Safety Officer (SSO) shall be responsible for the implementation of the site safety plan on site. Specific duties will include:

- monitoring the compliance of field personnel for the routing and proper use of the PPE that has been designated for each task

2.5 Field Personnel

All field personnel shall be responsible for acting in compliance with all safety procedures outlined in this site safety plan. Any hazardous work situations or procedures should be reported to the Site Safety officer so that corrective steps can be taken. The Health and Safety Manager and/or Site Safety Officer has the authority to halt any operation that does not follow the provisions of this Health and Safety Plan.

2.6 Field Prework Meeting

Prior to commencement of field activities, the SSO or HSM will stage a field meeting with all field personnel to discuss the anticipated hazard issues, monitoring activities, action levels and evacuation procedures. In addition, the route to the hospital will be reviewed and the Health and Safety Plan will be signed by all field personnel present.

3.0 EMERGENCIES

In the event of an accident or emergency situation, immediate action must be taken by the first person to recognize the event. A first aid kit and mobile telephone will be located on site inside the Versar vehicle. Immediately after emergency procedures are implemented, notify (1) the Site Safety Officer and (2) the Project Manager and the Health and Safety Manager about the situation.

3.1 Emergency Telephone Numbers

Immediate Emergencies:

Local Police:	911
Fire:	911
Ambulance:	911
Medical:	911

Medical Emergency:

Fairmont Hospital
15400 Foothill Boulevard
San Leandro, California
(510) 667-7800

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Environmental Emergency:

Versar, Inc.	(415) 748-6444
Regional EPA office	(415) 974-8131
National Response Center	(800) 424-8802
Poison Control	(800) 523-2222

3.2 Encountering Hazardous Situations (requiring evacuation)

Personnel encountering a hazardous situation shall **instruct others on site to evacuate the vicinity IMMEDIATELY** and call the (1) Site Safety Officer, (2) the Project Manager, and (3) the Health and Safety Manager for instructions.

The site must not be re-entered until the situation has been corrected (i.e. appropriate back-up help, monitoring equipment, personal protective equipment is at the site).

Usual Procedures for Injury

A. Call for ambulance/medical assistance if necessary. Notify the receiving hospital of the nature of the physical injury or chemical overexposure. If a telephone is not available, transport the person to the nearest hospital.

B. Send/take this site safety plan to the medical facility with the injured person.

C. If the injury is minor, proceed to administer first aid.

D. Notify the Site Safety Officer, Project Manager, and Health and Safety Manager of all accidents, incidents, or near miss situations.

3.3 Emergency Treatment

When transporting an injured person to a hospital, bring this site safety plan to assist medical personnel with diagnosis and treatment. In all cases of chemical overexposure, follow standard procedures as outlined below for poison management, first aid, and if applicable, cardiopulmonary resuscitation. Four different routes of exposure and their respective first aid/poison management procedures are outlined below:

A. Ingestion:

IMMEDIATELY transport the person to the nearest medical facility, or call the poison control center at **911 or 1-800-523-2222**

B. Inhalation/Confined Space:

DO NOT ENTER A CONFINED SPACE TO RESCUE A PERSON WHO HAS BEEN OVERCOME UNLESS PROPERLY EQUIPPED AND A STANDBY PERSON IS PRESENT.

C. Inhalation/ Other:

Move the person from the containment environment. Initiate CPR, if necessary. Call, or have someone call, for medical assistance. When applicable, refer to Material Safety Data Sheet for additional specific information. If necessary, transport the victim to the nearest hospital as soon as possible.

D. Skin Contact:

IMMEDIATELY wash off skin with a large amount of water. Remove any contaminated clothing and rewash skin. Transport person to a medical facility, if necessary.

E. Eyes:

Hold eyelids open and rinse the eyes IMMEDIATELY with copious amounts of water for 15 minutes. If possible, have the person remove his/her contact lenses (if worn). Never permit the eyes to be rubbed. Transport the person to a hospital as soon as possible.

4.0 CHEMICALS OF CONCERN

Health Effects

Benzene can enter the body through inhalation, ingestion, and skin contact. Studies have noted that chronic exposure to benzene vapor can produce neurotoxic and hemopoietic (blood system) effects. Other effects can include headache, dizziness, nausea, convulsions, coma, and possible death if exposure is not reversed. The most significant chronic effect of

benzene is bone marrow toxicity. Although the cause-effect relationship is not fully understood, it is believed that there might be a strong association between chronic exposures to benzene and the development of leukemia. Permissible exposure limit (PEL) for benzene by OSHA Standard is a time weighted average (TWA) of 1 part per million (ppm).

Diesel Fuel is a complex mixtures of parafinnic, olefinic, napthenic and aromatic hydrocarbons. Substances can be clear to dark semi-opaque with a mild petroleum odor. Inhalation of excessive concentrations of vapor or mist can be irritating to the respiratory passages and can cause the following symptoms: Headache, dizziness, nausea, vomiting, and loss of coordination. Prolonged or repeated skin contact may cause irritation of the hair follicles and block the sebaceous glands. This produces a rash of acne pimples and spots, usually on the arms and legs.

5.0 HEALTH AND SAFETY REQUIREMENTS

5.1 Work Zone Access

Access within a 30-foot radius of any on-site operation is prohibited to all but Versar field personnel and subcontractors. Standard work practices, such as performing field activities in the upwind position, will be observed whenever possible. Personal protective equipment indicated in Section 5.4 will be worn by all onsite field personnel, including the subcontractor's personnel.

Exclusion Zones

Since the site is private property secured by locked gates a formal exclusion zone is not expected to be required. Unauthorized personnel will not be permitted near the work zone area.

Decontamination Zone

A formal decontamination zone is not expected to be required. However, should one need to be established, it would be sited in the upwind direction from the work zone area. Decontamination procedures are covered in Section 5.5. All site personnel will be required to follow the procedures.

Support Zones

No formal requirements will be necessary for the support zone area, although the general practice of locating the zone in the upwind direction will be followed.

5.2 Air/Gas/Vapor Monitoring Procedures

The greatest potential hazards to safety and health at this site include:

1) Exposure to chemical vapors - through inhalation

2) Exposure to chemical contamination - through skin contact and ingestion

3) Exposure to combustible/ignitable fumes - explosions and fire hazards

Air monitoring during project tasks will be conducted on a half-hourly schedule throughout the course of the field investigation to provide data for ensuring that vapor concentrations are within acceptable ranges, and to provide adequate criteria for evaluating respiratory and dermal protection. Air monitoring data will be documented on a field log throughout the duration of the field activities.

- If PID/FID readings exceed 100 units in the ambient air, an air purifying respirator with organic cartridges must be worn by all site workers within any area where monitoring results exceed 100 units.

- If PID/FID readings exceed 750 units, Level B protection will be required. Personnel must stop work operations, leave the site immediately and contact the Site Safety Officer or the Health and Safety Manager for further instructions.

- If combustible gas meter readings exceed 10% of the lower flammable limit or the lower explosive limit (LEL), personnel must stop work and the immediate atmosphere should be cycled by using explosion-proof fans to encourage the dissipation of concentrated flammable or explosive gases.

- Respirator cartridges will be changed once per day as a minimum. This can be accomplished at the end of the work day during respirator decontamination. If odor breakthrough is detected while wearing the respirator or breathing becomes difficult, change cartridges immediately.

5.3 Action Levels / Level of Personal Protection Equipment (PPE)

Air monitoring instrument	LEVEL D < 100 units	LEVEL C 100-750 units	LEVEL B > 750 units
Combustible gas meter	< 10% LEL	>10% stop work	

5.4 Personal Protective Equipment

Modified Level D is the minimum acceptable level for this site. Modified Level D provides minimal dermal protection. Respiratory protection is optional unless air monitoring data indicates otherwise.

Modified Level D includes:

- coveralls/work uniform
- Tyvek (optional)
- Nitrile butyl-rubber or Viton gloves (optional)
- boots/shoes, leather or chemical resistant, with steel shank and approved toe protection
- approved safety glasses or chemical splash goggles if the potential for splash exists
- hard hat
- reflective traffic vest (if traffic, construction, or other related activities are present)
- hearing protection (as appropriate)

B. Additional equipment upgrade:

1. Protocols for upgrading

   Once air monitoring data are complete and results are tabulated on the initial site entry, the Site Safety Officer and/or Health and Safety Manager will determine if changes in PPE are needed.

2. Upgraded equipment

   a. Respirators

      Respirators with organic vapor cartridges shall be worn by all personnel if ionization detector readings exceed 100 units.

   b. Other

      Tyvek suits and appropriate gloves shall be worn if potential for dermal exposure exists while performing job tasks.

C. First Aid Equipment

Vehicles used for site work will be equipped with a first aid kit and safety equipment including:

- cones and flags
- barricades
- fire extinguisher
- water, suitable for drinking
- portable eye wash
- appropriate emergency bandage material

5.5 Decontamination Procedures

All operations conducted at this site have the potential to contaminate field equipment and personal protective equipment (PPE). To prevent the transfer of any contamination to vehicles, administrative areas, and other personnel, the following procedures must be followed:

1. Whenever possible, field equipment should be decontaminated with a laboratory-grade detergent solution and thoroughly rinsed with water prior to leaving the site. This must be done outside a 5 foot radius of any work area or the hot zone.

2. Disposable PPE (for example, Tyvek suits, respirator cartridges) must be bagged and disposed of at the site.

Personal Decontamination

Level D: Segregated Equipment Drop

- wash/rinse outer boot (as appropriate)
- wash/rinse chemical resistant outer glove, then remove as appropriate
- remove and throw out inner disposable gloves in designated, lined receptacles

Level C: Segregated Equipment Drop

- wash/rinse outer boots
- wash/rinse chemical resistant outer gloves, then remove tape and gloves
- remove chemical resistant suit (remove by rolling down suit from the inside)
- remove outer boots
- remove first pair(s) of disposable gloves

- remove respirator, hard hat/faceshield and properly dispose of cartridges; wash respirator
- remove last pair of disposable gloves

Level B: Segregated Equipment Drop

- wash/rinse outer boots
- wash/rinse chemical resistant outer gloves
- cross hotline (into clean area) and change air tanks, then redress or
- cross hotline (into clean area)
- remove boots and gloves
- remove SCBA, if worn over chemical resistant suit
- if SCBA is worn under the suit, remove the chemical resistant suit, then the SCBA
- remove hard hat

5.6 Excavation Procedures

A USA number must be obtained from appropriate agency prior to excavating. To determine presence of subsurface metal tanks and/or drums, a metal detector should be used before excavating at a site.

During the excavation operation, two persons (one designated as "operator" and the other as the "supervisor") must be present at all times. The supervisor (whether Versar personnel or subcontractors) must be instructed as to the whereabouts of the emergency shut-off switch. Every attempt must be made to keep unauthorized personnel from entering the work area. If this is not possible, the operation should be shut down until the area is cleared. The Site Safety Officer or the Field Team Leader has the authority and responsibility to shut down the excavation operations whenever a hazardous situation is deemed present.

The arm of the excavator should maintain a preferred clearance of 20 feet from any overhead electrical cables, with 10 feet being the minimum. All excavation operations will immediately cease during any hazardous weather conditions. Following the removal of the USTs, temporary chain-link fencing will be installed around the excavation site to restrict access to the area and secure the excavation.

Hard hats shall be worn at all times.

5.7 Electrical Equipment and Ground Fault Circuit Interrupters

All electrical equipment and power cables used in and around excavations or structures containing chemical contamination must be explosion-proof and/or intrinsically-safe and equipped with a three-wire ground lead that has been rated as explosion-proof for hazardous atmospheres (Class 1 Div 1&2). In accordance with OSHA 29 CFR 1926.404, approved ground fault circuit interrupters (GFCI) must be utilized for all 120 vault, single-phase, 15 and 20 amp receptacle outlets on the site that are in use by employees and that are not part of the permanent wiring as defined by the NEC 1987. Receptacles on the ends of the extension cords are not part of the permanent wiring and therefore, must be protected by GFCI's whether or not the extension cord is plugged into permanent wiring.

The GFCI is a fast-acting circuit breaker that senses small imbalances in the circuit caused by current leakage to ground, and in a fraction of a second, shuts off the electricity. However, the GFCI will not protect the employee from line-to-line contact hazards such as a person holding two "hot" wires or a hot and neutral wire in each hand. The GFCI does provide protection against the most common form of electrical hazard - the ground fault. It also provides protection against fires, overheating, and destruction of wire insulation.

GFCI's can be used successfully to reduce electrical hazards on construction sites. Tripping of GFCI's interruption of current flow, is sometimes caused by wet connectors and tools. It is good practice to limit exposure of connectors and tools to excessive moisture by using watertight or sealable connectors. Providing more GFCI's on shorter circuits can prevent tripping caused by the cumulative leakage from several tools or by leakages from extremely long circuits. (Adapted from OSHA 3007; Ground-Faulting Protection on Construction Sites - 1987.)

5.8 Fire Protection

Only approved metal cans will be used to transport and store flammable liquids.

All gasoline and diesel-driven engines requiring refueling must be shut down and allowed to cool before filling.

Smoking is not allowed during any operations within the work area in which petroleum products or solvents in free-floating, dissolved or vapor forms, or other flammable liquids may be present.

No open flame or spark is allowed in any area containing petroleum products or other flammable liquids.

5.9 General Health

Medicine and alcohol can increase the effects of exposure to toxic chemicals. Unless specifically approved by a qualified physician, prescription drugs should not be taken by personnel assigned to operations where the potential for absorption, inhalation, or ingestion of toxic substances exists.

Drinking and driving is prohibited at any time. Driving at excessive speeds is always prohibited.

Skin abrasions must be thoroughly protected to prevent chemicals from penetrating the abrasion.

It is recommended that contact lenses not be worn by persons working on the site.

6.0 EMPLOYEE TRAINING

All Versar employees with the potential for hazardous materials exposure will have the required OSHA Health and Safety Training certification to assist in recognizing, evaluating, and controlling site hazards. Three days of supervised field-training is also included within the initial training program. Project manager level and above must also participate in an additional eight-hour supervisory training course. Once employees have received the above training, they receive a certificate of completion and are scheduled for an eight-hour refresher training session within one year of their initial training. Versar training includes specific details on the following:

- regulatory requirements
- confined space entry
- respiratory protection
- hazard communication
- decontamination procedures
- incident command system
- first aid/CPR
- air monitoring
- toxicology
- Prop. 65 (California)
- fire technology
- personal protective equipment

All Versar subcontractors are required to provide proof of certification for appropriate safety training courses.

7.0 MEDICAL MONITORING PROGRAM

All Versar field personnel are required to have annual medical evaluations in accordance with the company's Health and Safety Program policy. Additional re-evaluation will be considered in the event of chemical over-exposure while working on this site.

The chemicals typical of this site can affect specific organ systems producing characteristic health effects. The medical evaluation will, therefore, focus on the liver, kidney, nervous system, blood systems, and skin and lung function. Laboratory testing will include complete blood count, and applicable kidney and liver function tests. Other tests include skin examination.

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8.0 DOCUMENTATION

8.1 Health and Safety Plan Agreement

Versar personnel have the authority to stop work performed by our subcontractors at this site if any work is not performed in accordance with the requirements of this Health and Safety Plan.

All Versar project personnel and subcontractor personnel are required to sign the following agreement prior to conducting work at the site.

A. I have read and fully understand the Health and Safety Plan and my individual responsibilities.

B. I agree to abide by the provisions of the Health and Safety Plan.

Name	Company	Date	Signature

Versar INC.

8.2 Health and Safety Plan Amendment Sheet

Project Name: _____

Project Number: _____

Location: _____

Changes in field activities or hazards:

Proposed Amendment:

Proposed By:_____ Date _____

Approved By:_____ Date _____
Project Manager

_____ Date _____
Health & Safety Manager

Declined By:_____ Date _____

Amendment Effective Date _____