VERSAR

Reference: Work Plan
Rodding Cleaning Services
2585 Nicholson Street, San Leandro, CA
Fuel Leak Case No. R000000020
Versar Project No. 104422.4422.007

PERJURY STATEMENT

As the Responsible Party (RP) for this Site, I declare under penalty of perjury that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Fred Schifferle

Fred Schifferle - Manager, Sketchley Trust
Responsible Party

• SACRAMENTO AREA OFFICE •
7844 MADISON AVENUE, SUITE 167 • FAIR OAKS, CA 95628 • TELEPHONE (916) 962-1612 FAX (916) 962-2678

July 21, 2009

Mr. Steven Plunkett
Hazardous Materials Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Work Plan to Conduct Soil Vapor Assessment
Rodding Cleaning Services
2585 Nicholson Street, San Leandro, CA
Fuel Leak Case No. RO00000020
Versar Project No. 104422.4422.007

Dear Mr. Plunkett:

Versar, Inc. (Versar) has prepared this work plan for a soil vapor assessment, as directed in your letter dated October 7, 2008. The work described in this work plan will be conducted in accordance with the California EPA, *Interim Guidance for Active Soil Gas Investigation* (RWQCB 2007). The work will be performed at the former Rodding Cleaning Service facility at 2585 Nicholson Street, in San Leandro, California (Site). The Site location is depicted in Figure 1.

Background

The Site is located at 2585 Nicholson Street in San Leandro, California. The nearest cross street is Republic Avenue. The Site is currently occupied by Crane Works and consists of a single-story commercial office building at the north end of the property, and covered parking/work areas over the western and southern edges of the property.

Two underground storage tanks (USTs) were removed from the Site in 1991. Soil and groundwater samples collected during the UST removal activities identified total petroleum hydrocarbons (TPH) as diesel and gasoline (-d and –g) in both media. Reportedly, over-excavation was performed during UST removal activities.

In 1992, an on-Site soil, groundwater and soil gas investigation were performed and one monitoring well (MW-1) installed in the central portion of the Site. Groundwater samples were collected from MW-1 between 1992 and 1995. Free-floating product was observed to a maximum thickness of 1.25 inches during some of the sampling events. Oil absorbent socks were subsequently used to collect the free-floating product.

In 1997 and 1998, limited investigations of soil and groundwater were performed on and off-Site. Adequate definition of petroleum hydrocarbons in soil and groundwater was considered to be completed and the contaminant plume was relatively stable with minimal off-Site migration of petroleum hydrocarbons.

In April 1999, Versar installed four additional monitoring wells (MW-2 through MW-5) surrounding the Site to confirm and document plume stability. Versar detected TPH-g in the southern half of the Site; benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in well MW-1 near the center of the Site. Groundwater was confirmed to be flowing in a southeasterly direction.

Subsequent to installation of the monitoring wells, quarterly groundwater monitoring of all Site wells was performed between July 1999 and April 2001. Methyl-tert-butyl ether (MTBE) was not detected during the monitoring events, and the ACHCS granted no further analysis of the compound in their October 29, 1999 letter. Data from the monitoring episodes showed limited fluctuation of petroleum constituents in source-area monitoring well MW-1, and only trace concentrations of the Site constituents of concern in off-Site monitoring wells MW-4 and MW-5.

In November 1999, Versar performed a Risk-Based Corrective Action (RBCA) analysis of residual petroleum hydrocarbons in groundwater at the Site. The RBCA analysis was re-performed for soil in Versar's letter *Additional Research and Evaluation*, dated May 15, 2001. The purpose of the RBCA analyses were to determine the magnitude of risk, if any, to human health associated with known Site soil and groundwater contamination. The analyses were prepared using conservative default parameters and existing Site data. Versar's RBCA analyses found that residual concentrations of aromatic hydrocarbons in first-encountered groundwater at the location of maximum impact do not present an actionable risk to human health under a commercial/industrial setting.

At the request of the ACHCS, Versar performed additional research and evaluation, which was presented in the Versar letter dated May 15, 2001. The additional research and evaluation consisted of the following primary issues:

< A well survey and door to door survey of the surrounding area was performed to determine potential groundwater use in the vicinity of the Site. No wells were identified in proximity to the Site impact;

< The potential for preferential pathways, such as underground utilities, was investigated and found to not be an issue for the Site; and

< Additional evidence and evaluation of plume characterization and stability was provided.

In a letter from the ACHCS dated June 4, 2001, a reduction to the groundwater monitoring program was granted. Subsequent to the reduction to the groundwater program, semi-annual monitoring of one well (MW-1) has continued from April 2001 to present. During this time, analytical results for TPH-g and benzene in MW-1 have remained above prospective action levels for mitigation. TPH-g concentrations over time appear to trend downward, benzene concentrations do not appear to be decreasing. The measured direction of groundwater flow appears to be southerly, at a gradient equal to or less than 0.002.

Purpose and Scope of Work

The soil vapor survey will characterize concentrations of volatile organic compounds (VOCs), specifically BTEX, in the vapor phase in shallow soil, adjacent to the nearby building at 2591 Nicholson Street, and surrounding the former UST excavation area and MW-1. The results of the survey will be used to assess applicability of case closure to the UST release at the Site.

The survey will utilize the direct-push method of soil investigation in combination with soil vapor collection as per the 2007 Cal EPA/DTSC guidelines. A state Department of Health Services-accredited laboratory will analyze the collected vapor samples for VOCs of concern and these results will be incorporated into a Tier 1/2 risk assessment model. The investigation and subsequent Tier 1 risk-based evaluation will estimate the potential for soil vapor migration from surrounding soils into adjoining buildings at concentrations greater than human health goals.

Task 1 - Permitting and Subsurface Utility Location

Permits for soil vapor sample borings will be obtained, if required, from Alameda County and the City of San Leandro. Prior to intrusive work, a private underground utility locator will locate and identify utilities in the proposed investigation areas at the Site. Once the utilities have been identified, the locations of soil vapor sampling points will be marked with white paint. Underground Service Alert (USA) will be contacted a minimum of 48 hours before field activities, as required by law.

Task 2 - Soil Vapor Survey and On-Site Laboratory

Vapor sampling points will be advanced using either a direct-push driller or by roto-hammer. Soil gas samples will be collected from a maximum depth of approximately five (5) feet below present grade (bpg). Sampling depths may change based on depth to groundwater, soil saturation, and encountered subsurface conditions. The sample locations will be located in the area between the former tank basin and the nearest existing structure, and within the former UST excavation. Sample collection points adjacent to the building foundation will be located as close to the existing building foundation as reasonably feasible. The prospective sample point locations are shown in Figure 2, *Soil Vapor Sample Location Map*.

The advantage of utilizing a mobile lab is to obtain results in the field to enable shorter reporting schedule and analysis of the purge rate test before selecting the optimal field purge rate. Ten (10) soil vapor sample points are proposed; three along the property line adjacent to the building at 2591 Nicholson Street, four along the workshop area of Craneworks, and three north and east of well MW-1.

Soil gas samples will be collected in general accordance with *Interim Guidance for Active Soil Gas Investigation* (RWQCB 2007). At each sampling location, a soil vapor sampling push-rod probe will be advanced to the planned sampling interval at a minimum of five feet bpg. The surface surrounding the probe rod will be sealed with hydrated bentonite powder. Part of the rod at the probe will be retracted to expose the screened inlet. A wait of 20 to 30 minutes is recommended to reach soil vapor equilibrium before purging. Couplings in the sample tubing will be leak-tested per

DTSC guidelines. A purge volume test comprising three different sample system volumes will be performed at the first sample location, prior to sampling. The resulting optimal purge volume, if determined, will be used to select the optimal purge volume. Absent a definable optimal purge volume, each sample will be purged of three times the sum of the volumes of the sample tubing, sample container and probe. The soil gas sample will be collected at a rate between 100 to 200 milliliters per minute (ml/min) into a syringe/tedlar bag or evacuated summa canister.

After each use, drive rods and other reusable components will be decontaminated with a 3-stage wash and rinse (water plus non-phosphate detergent, tap water rinse, and distilled water rinse). Clean, disposable gloves will be worn by all field personnel when handling decontaminated equipment. The samples will be appropriately labeled for identification purposes and analyzed on Site in a state-certified mobile laboratory. Chain-of-custody (COC) procedures, including the use of COC forms, will be used to document sample collection, handling, and transport to a fixed base laboratory; for mobile laboratories, samples are delivered directly to the laboratory by the sampler. Soil gas samples will be analyzed for TPH-g and BTEX by US EPA 8260. The list of compounds will be reported with a reporting limit less than the indoor air quality (IAQ) goal for each compound in a commercial use setting. Prospective soil vapor thresholds, RLs and IAQ goals are presented in Table 1 of this work plan.

Task 3 - Reporting

Upon completion of the field investigations and receipt of the laboratory findings, Versar will prepare a summary report. Reporting of the soil vapor survey investigation and findings will include conclusions and recommendations, pertinent figures, and the laboratory analytical report and project chain of custody.

Analytical Testing

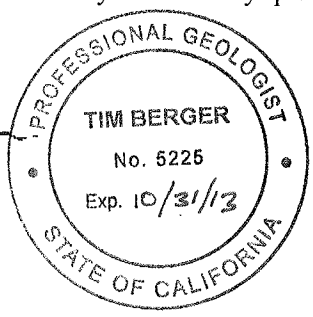
Analysis of soil vapor samples will be performed by a mobile laboratory that is California-ELAP certified to perform the required analyses. Chain-of-custody procedures will be followed, and standard laboratory quality control and assurance procedures performed, including the use of at least one field duplicate, and laboratory blanks, duplicates and standards.

Investigation Derived-Wastes

Based on the investigation methods used, soil vapor sampling by direct push drilling or roto-hammer boring and rod insertion, no substantive quantity of investigation-derived waste (IDW) will be generated. If wastes are generated, they will be separated into solid and liquid waste streams and stored on Site in DOT-approved steel drums/canisters or sealed 5-gallon buckets. The IDW storage containers will be appropriately labeled, and stored on Site in a secure area until characterized. Each IDW waste stream will be appropriately characterized for disposal and disposed accordingly. If IDW is found to be comprise hazardous waste, it will be removed from the Site within 90 days of the generation date, under an appropriate manifest to an approved treatment, storage and disposal facility.

Please call me at (916) 863-9323 if you have any questions or comments regarding this report.

Sincerely,



Tim Berger, PG, CEG
Program Manager
Versar - Southwest Region

cc: Mr. Randy Muller, Bank of America
Mr. Frederick Schifferle, Bank of America, Sketchley Trust Manager
Ms. Mesha Lewis, U.S. Trust/BofA Private Wealth Management
State Water Resources Board GeoTracker – (upload)

Attachments - Figures
Table
Health & Safety Plan

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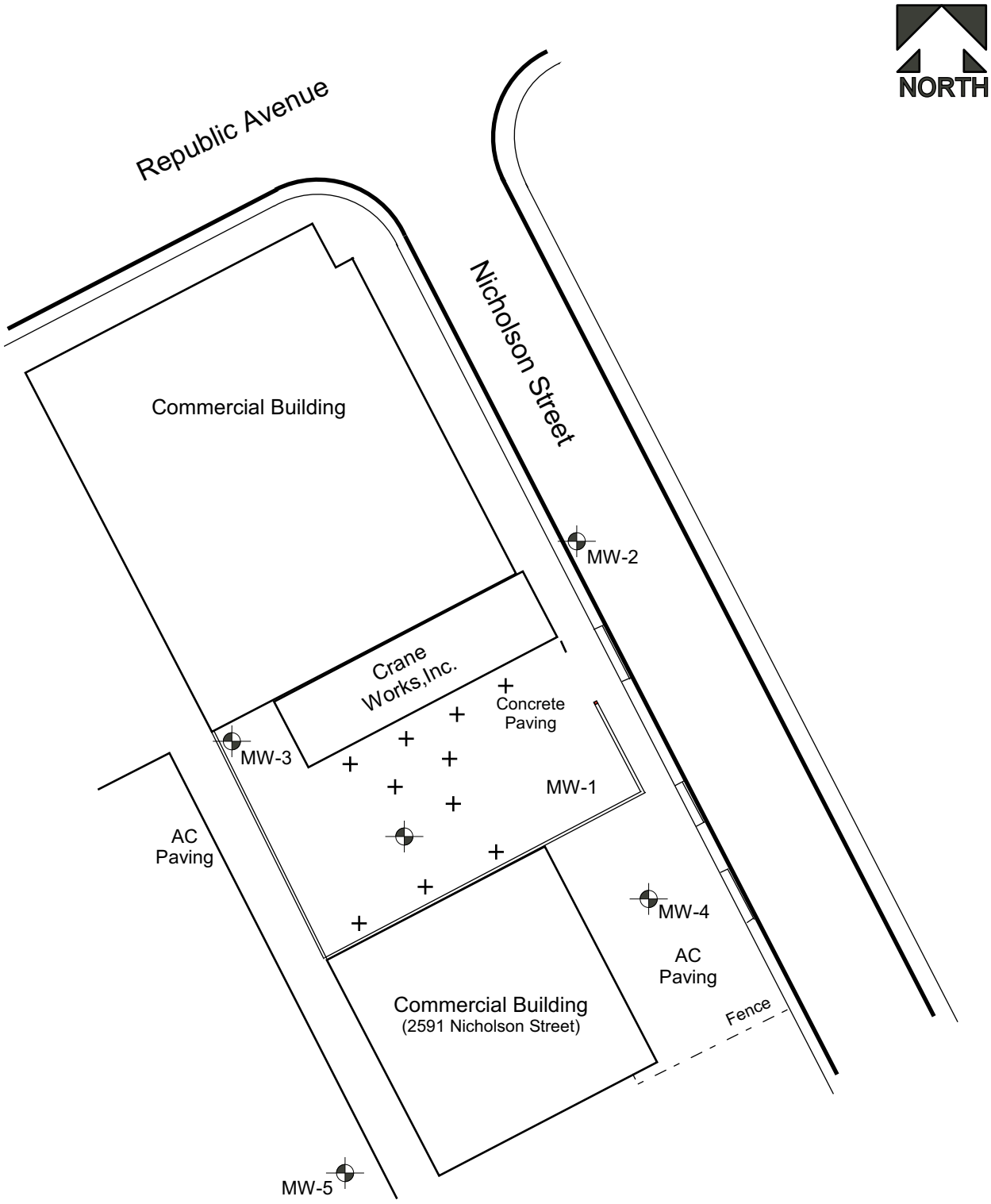
FIGURES



Dr. By: TWB	
Date: 06/23/2009	
Scale: 1 inch = 60 feet	
Versar Project No. 4422-00x	
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Active Soil Gas Survey

2585 Nicholson Street
San Leandro, California

Figure
1

TABLE

TABLE 1
SOIL GAS SURVEY CRITERIA
Rodding Cleaning Services
2585 Nicholson Street
San Leandro, California

CHEMICAL	CRITERIA			
	Mobile Lab RL (ug/m3)	**SFRWQCB SV ESL*** (ug/m3)	**SFRWQCB IAQ ESL**** (ug/m3)	**Cal EPA CHHSL***** (ug/m3)
Benzene	0.0001	280	0.14	122
Toluene	0.0002	180,000	88	378,000
Ethylbenzene	0.0001	3,300	1.6	Postponed****
m,p-Xylene	0.0002	58,000	29	887,000
o-Xylene	0.0001	58,000	SAA	887,000
MTBE	0.0001	31,000	16	13,400
TPH-gasoline	0.01	29,000	14	--
1,1 Difluoroethane (tracer gas)	0.01	--	--	--

ft bgs: feet below ground surface, depth of sample collection
Bold: Concentration exceeds the Cal EPA CHHSL
ug/m3: Micrograms per cubic meter
<100: Less than the stated laboratory reporting limit (RL)
* : Table E2 Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns
* : Table E3 Ambient and Indoor Air Screening Levels (volatile chemicals only) for Commercial/Industrial Exposure
*** : Table 2 California Human Health Screening Levels (CHHSL) for Indoor Air and Shallow Soil GasShallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns
****: Calculation of a screening number for the chemical has been postponed until the toxicity criterion currently being developed by OEHHA is published as a final document.
--: No data
RL: Mobile Laboratory Reporting Limit using EPA Method 260

HEALTH and SAFETY PLAN

HEALTH AND SAFETY PLAN
for
SOIL VAPOR ASSESSMENT

Rodding Cleaning Services
2585 Nicholson Street
San Leandro, California

Prepared for:

Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Prepared by:

7844 Madison Avenue Suite 167
Fair Oaks, California 95628

Versar Project No. 104422.4422.007

July 21, 2009

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1.0 INTRODUCTION

1.1 Background

Versar, Inc. (Versar), on behalf of the Sketchley Trust, has prepared a Soil Vapor Assessment Work Plan (work plan) to assess the threat to indoor air quality from residual released fuel-related chemicals in the subsurface. This assessment has been required by the Alameda County Department of Environmental Health (ACDEH) for consideration of closure of the release from former underground storage tanks (USTs) at the Rodding Cleaning Services facility at 2585 Nicholson Street, in San Leandro, California (Site).

1.2 Site Characterization

Client Name: Bank of America, Sketchley Trust

Location of Site: 2585 Nicholson Street, San Leandro, California

Client Contact Person(s):

Name: Mr. Fred Schifferle, B of A Sketchley Trust Manager

Topography of the area surrounding the site:

Hilly ___ Flat _X__ Hummocky ____ Marshy ____ Mountainous ___ Other ____

Area affected:

Urban __X__ Rural ___ Residential ____ Industrial____ Commercial ___
Other ____

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

Stream ____ River ____ Pond ____ Lake ____ Bay __ _
Ocean ____ Other __X_(stormwater canal)_ None ___

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

Yes _X_ No __

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. The site safety plan follows the guidelines set forth in the Corporate Health and Safety Manual; the Injury and Illness Prevention Program (IIPP); and the

Medical Monitoring Program. Additionally, 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. All Versar personnel shall perform work in compliance with standards set forth in the Corporate Health and Safety Manual and the IIPP.

1.5 Hazard Determination

Serious ____ Moderate ___ Low __X_ Unknown ____

1.6 Level of Protection

__X_ Modified level D

The minimum acceptable level of protection at this site is a Modified Level D, as described in Section 5.0 entitled "Health and Safety Requirements."

1.7 Amendments

Any change in the scope of this project and/or site conditions must be amended in writing in Section 8.2 entitled Site Safety Plan Amendment Sheet and approved by the Regional Health and Safety Officer.

Proposed time frame for site work: Summer 2009

2.0 PROJECT PERSONNEL

Versar will oversee and act accordingly during all phases of the project. The following management structure will be instituted for the purpose of successfully and safely completing this project.

2.1 Project Manager: Tim Berger

The Project Manager will be responsible for implementing the project, the site safety plan, and the IIPP, and obtaining any necessary personnel or resources for the completion of the project. Specific duties will include:

- providing authority and resources to ensure that the Site Safety Officer is able to implement and manage safety procedures;

- preparing reports and recommendations about the project to clients and affected Versar personnel;

- ensuring that all persons allowed to enter the site (i.e. EPA, contractors, state officials, visitors) are made aware of the potential hazards associated with the substances known or suspected to be on site and are knowledgeable as to the on-site copy of the specific site safety plan;

- ensuring that the Site Safety Officer is aware of all of the provisions of this site safety plan and is instructing all personnel on site about the site practices and emergency procedures defined in the plan; and

- 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 Regional Health and Safety Officer: Larry Kleinecke

The Regional Health and Safety Officer 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 as required in the Corporate Health and Safety Manual, the IIPP, and the Medical Monitoring Program;

- evaluating weather 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 and Medical Monitoring Program requirements); and

- 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: Dave Sendek

The Site Safety Officer shall be responsible for the implementation of the site safety plan and IIPP 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;

- routinely inspecting PPE and clothing to ensure that it is in good condition and is being stored and maintained properly;

- stopping work on the site or changing work assignments or procedures if any operation threatens the health and safety of workers or the public;

- monitoring personnel who enter and exit the site and all controlled access points;

- reporting any signs of fatigue, work-related stress, or chemical exposures to the Project Manager and the Regional Health and Safety Officer within 24 hours, as directed in the Corporate Health and Safety Manual and the IIPP;

- dismissing field personnel from the site if their actions or negligence endangers themselves, co-workers, or the public and reporting the same to the Project Manager and the Regional Health and Safety Officer within 24 hours, as directed in the Corporate Health and Safety Manual and IIPP;

- reporting accidents or violations of the site safety plan to the Project Manager and/or Regional Health and Safety Manager within 24 hours, as directed by the Corporate Health and Safety Manual and the IIPP;

- knowing emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire and police departments, per the site safety plan;

- ensuring that all project-related personnel have signed the personnel agreement and acknowledgments form contained in this site safety plan;

- coordinating, upgrading, and downgrading of PPE with the Regional Health and Safety Officer, as necessary, due to changes in exposure levels, monitoring results, weather, and other site conditions; and

- performing air monitoring with approved instruments in accordance with requirements stated in this site safety plan.

2.4 Field Team Leader: Dave Sendek

In the event that the Project Manager and the Site Safety Officer are not on the site, the Field Team Leader will assume all responsibility for enforcing safety procedures, as covered in this site safety plan, the Corporate Health and Safety Manual, and the IIPP.

2.5 Field Personnel

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

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. First aid equipment is 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 Regional Health and Safety Officer about the situation.

3.1 Emergency Telephone Numbers

Immediate Emergencies:

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

Medical Emergency (see attached figure for route to hospital):

San Leandro Hospital
13855 East 14th Street
San Leandro, CA 94578
Phone: (510) 357-6500

(See attached map and driving directions at back of health and safety plan)

Environmental Emergency:

Versar, Inc., Tim Berger	(916) 863-9323
F. Schifferle, Schetchley Trust	(925) 675-1978
Randy Muller, BofA	(770) 513-9263
OSHA	(800) 648-1003
Poison Control Center	(800) 532-2222
National Response Center	(800) 424-8802

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 Regional Health and Safety Officer 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 and have another person inform the hospital, at the nearest phone, of the route taken to the hospital and description of transporting vehicle.

B. Send/take this site safety plan, with the attached Material Safety Data Sheet (MSDS) if available, to the medical facility with the injured person. Complete the required forms.

C. If the injury is minor, proceed to administer first aid, and notify the Site Safety Officer, the Project Manager, and the Regional Health and Safety Officer. Complete the required forms.

D. Notify the Site Safety Officer, Project Manager, and Regional Health and Safety Officer of all accidents, incidents, or near miss situations. Ensure that all required procedures in the Corporate Health and Safety Manual and IIPP are followed.

3.3 Emergency Treatment

When transporting an injured person to a hospital, bring this site safety plan to assist medical personnel with injury 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 **911**

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. Refer to Material Safety Data Sheet for additional specific information. If necessary, transport the victim to the nearest

hospital as soon as possible and have someone contact the hospital with the description of the transporting vehicle and route taken to the hospital.

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 and notify the hospital of the route taken to their facility and the description of the transport vehicle.

4.0 CHEMICALS OF CONCERN

4.1 Chemical Hazards

Potential effects of any exposure are dependant on several factors such as: toxicity of substance, time frame of exposure, concentration of substance producing the exposure, general health of person exposed, and individual use of hazardous reduction methods.

4.1.1 Gasoline

Gasoline is a complex mixture of hydrocarbons and additives. Chronic exposures or exposures to a high concentration of gasoline vapor may cause unconsciousness, coma and possibly death from respiratory failure. Exposure to low concentrations of gasoline vapor may produce flushing of the face, slurred speech, and mental confusion.

Gasoline constituents can be divided into five major groups: alkanes, alkenes, cycloalkenes, aromatics, and additives. The aromatics are the constituents generally regarded to be of the greatest toxic concern. The major aromatics in gasoline i.e. benzene, toluene, and xylenes. Of these, benzene is considered to be the most potent. All of these chemicals can also irritate the skin if repeated or prolonged skin exposure occurs.

4.1.2 Benzene

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.

4.1.3 Toluene

Inhalation exposure to toluene vapor can produce effects such as central nervous system depression. Depending on exposure factors, signs and symptoms can include headache, dizziness, fatigue, muscular weakness, lack of coordination, drowsiness, collapse, and possible coma. Studies have noted anemia could be a possible effect of chronic exposure to toluene. Toluene can be a skin and mucous membrane irritant and has been shown to cause liver and kidney damage when overexposure is significant.

4.1.4 Ethylbenzene

Ethylbenzene is an eye, mucous membrane, respiratory tract, and skin irritant. High air levels can cause central nervous system depression, sense of chest constriction, headache and dizziness.

Skin contact may cause irritation, inflammation and first or second degree burns.

4.1.5 Xylenes

Depending on exposure factors, inhalation of xylenes vapor may produce central nervous system excitation followed by depression. Exposure to xylene vapor can produce dizziness, staggering, drowsiness, and unconsciousness. At very high concentrations, xylenes vapor may produce lung irritation, nausea, vomiting, and abdominal pain. Xylene is not known to possess the chronic bone marrow toxicity of benzene, but liver enlargement and nerve cell damage have been noted from chronic overexposure. Ingestion exposures to xylenes can produce temporary liver damage and should be avoided.

4.1.6 Methyl tert-Butyl Ether

MtBE is a flammable liquid with a distinctive, disagreeable odor. It is made from blending chemicals such as isobutylene and methanol, and has been used since the 1980s as an additive for unleaded gasolines to achieve more efficient burning. Breathing small amounts of MtBE for short periods may cause nose and throat irritation. Some people exposed to MtBE while pumping gasoline, driving their cars, or working in gas stations have reported having headaches, nausea, dizziness, and mental confusion. However, the actual levels of exposure in these cases are unknown. In addition, these symptoms may have been caused by exposure to other chemicals.

4.2 Physical Hazard

The physical hazards are those typically associated with general construction. Slips, trips, and falls are of primary concern in accident prevention. The contractor will exercise care to maintain good housekeeping practices within the work area. Each drill site will be closed off with caution tape and barricades when work is not in progress.

4.2.1 Heavy Equipment

The more severe accidents will be related to the use of heavy equipment. During activities, drilling and steam cleaning equipment will be used. All heavy equipment used on this project will be in good working order and operated in accordance with recognized industry standard and Cal-OSHA Title 8, Subchapter 4, Construction Safety Orders. Safety maintenance checks of all equipment shall be conducted just prior to the start of each work day. All chains, cables, grounding equipment, lifting machinery shall be of sufficient grade or rating to handle the weights and conditions at the site. Employers and workers at the site shall comply with all Cal

OSHA requirements including personal protection, safety, training, and safety planning rules. Drilling activities that pose imminent hazard to site personnel will not be permitted. All cables, slings, and locks will be inspected daily by the contractor to insure that they are in safe working order.

5.0 HEALTH AND SAFETY REQUIREMENTS

5.1 Work Zone Access

Access in the situation that significant contamination is encountered 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

Formal exclusion zones are not expected to be required. Unauthorized personnel will not be permitted near the work zone area.

Decontamination Zone

A formal decontamination zone may be required. 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 as reported in the corporate Health and Safety Manual.

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 petroleum vapors and/or airborne dust through inhalation; and

2) Exposure to chemical contamination and/or airborne dust - through skin contact and ingestion.

In the event that soil and/or groundwater petroleum hydrocarbon contamination is encountered, ongoing air monitoring during project tasks will provide data to ensure that vapor concentrations are within acceptable ranges and will provide adequate selection criteria for respiratory and dermal protection.

- If PID readings in the breathing zone exceed 100 units, 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 readings in the breathing zone exceed 500 units, Level B protection will be required. Personnel must leave the site immediately and contact the Site Safety Officer or the Regional Health and Safety Manager for further instructions.

- 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 100-500 units	LEVEL B >500 units

5.4 PPE

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 with disposable nitrile liner (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)
- respiratory protection (as necessary)

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 Regional Health and Safety Officer 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

First aid equipment for this site is the responsibility of the Site Safety Officer.

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
- complete first aid kit

5.5 Decontamination Procedures

All operations conducted at this site have the potential to contaminate field equipment and 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 solution of Alconox or Green Soap and thoroughly rinsed with water prior to leaving the site. This must be done outside a 10-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 nitrile liner 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 nitrile liner 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
- remove disposable nitrile liner gloves

5.6 Drilling Procedures

A digsafe number (Underground Service Alert - USA) must be obtained from appropriate agency prior to drilling, excavation or trenching. To determine presence of subsurface metal utility lines, tanks and/or drums, a metal detector should be used before drilling on a site.

During the operation, two persons (one designated as "operator" and the other as the "helper") must be present at all times. The helper (whether Versar, Inc. 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 drilling operations whenever a hazardous situation is deemed present.

The arm of any equipment should maintain a preferred clearance of 20 feet from any overhead electrical cables, with 10 feet being the minimum. All operations will immediately cease during any hazardous weather conditions. Hard hats and safety boots 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 wells 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. No open flame or spark is allowed in any area containing petroleum products or other flammable liquids.

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.

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 exposures are required to participate in an initial minimum of 40 hours of training to recognize, evaluate, and control 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
- PPE
- IIPP

7.0 MEDICAL MONITORING PROGRAM

All Versar, Inc. 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.

8.0 DOCUMENTATION

8.1 Site Safety Plan Agreement

In the situation that contamination is encountered which could come into contact with site development personnel, all details of this site safety plan will be implemented. 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 site 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 site safety plan and my individual responsibilities.

B. I agree to abide by the provisions of the site safety plan.

Name Company Date Signature

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

8.2 Site 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 _____
Regional Health & Safety Officer

Declined By:_____ Date _____

Amendment Effective Date _____

FIGURE 1

Hospital Route Map

MAPQUEST

Total Time: 5 minutes **Total Distance: 2.26 miles**

A: 2585 Nicholson St, San Leandro, CA 94577-4216

START	**1:** Start out going NORTHWEST on NICHOLSON ST toward REPUBLIC AVE.	0.1 mi
	**2:** Turn RIGHT onto REPUBLIC AVE.	0.1 mi
	**3:** Turn LEFT onto MERCED ST.	0.2 mi
	**4:** Turn RIGHT onto MARINA BLVD.	1.0 mi
	**5:** Turn SLIGHT RIGHT onto SAN LEANDRO BLVD.	0.8 mi
	**6:** Turn RIGHT onto E 14TH ST/CA-185.	0.1 mi
END	**7:** End at 13855 E 14th St San Leandro, CA 94578	

B: San Leandro Hospital: 13855 E 14th St, San Leandro, CA 94578, (510) 357-6500

Total Time: 5 minutes **Total Distance: 2.26 miles**