MICROSEARCH ENVIRONMENTAL CORPORATION

INTERIM

PROJECT
HEALTH AND
SAFETY
PLAN

Signed: Ronald E. Brown Dated 4/1/96

1. Site: 2301 Encinal Ave 2. Project No: _____

3. Location: Alameda, CA

4. Plan Prepared: R G Brown Date: 3/15/96

5. Plan Approved: _____ Date: _____

6. Plan Revised: _____ Date: _____

7. Revision Approved: _____ Date: _____

8. Facility Description: _____

Status (active, inactive, unknown) _____

Surroundings (location with respect to residences, businesses, natural features, etc.)

Residences / Commercial

11. Site Map (attach map showing salient features, including location of MSE work and location of contaminated area)

12. Climate

12a Average wind speed and direction: _____

		Jul.	Oct.	Jan.	Apr.
12b	Mean high Temperature	65	65	65	65
		Jul.	Oct.	Jan.	Apr.
	Mean low Temperature	42	42	42	42

Site History (origin of contamination and history of injuries, exposure, complaints, etc.)

Previously a service station for leaded gasoline

14. Description of MSE's work (including location with respect to areas of known or suspected contamination): review subsurface contamination, conduct UST removal and or in-place capping of 1-1000 gallon tank and 2-500 gallon

15. Chemical Contaminants

15a. Have all chemical contaminants been identified that may be present on site?_____

15b. List chemical contaminants that have been identified or are suspected, their concentration, and the environmental media in which they are present. Hazardous property information for selected chemicals appears in the appendix. Review this information for all chemicals listed below. If chemical

Chemical	Environmental Media	Measured Minimum	Concentration Minimum
Lead gasoline, Benzene, Toluene, Ethyl Benzene, Zylene			

16. Hazard Analysis

List all task in the project Task Column and assign a number to each task (example 1. Groundwater Sampling).

Project Task	Mechanical	Electrical	Chemical

Temperature	Acoustical	Radioactive	O_2 Deficiency

17. Procedures to mitigate hazards

List all task with corresponding numbers identified in item 16 in the task summary below. Identify procedures to mitigate all hazards listed in item 16 by placing the task number next to the appropriate mitigating measure. Listing of standard procedures is not inclusive. A specific procedure must be entered to mitigate each hazard identified in item 16. If personal protective equipment is to be used, enter "PPE" and select equipment in section 18.

Task Summary

Task Number	Task Summary

Mechanical Hazards

1. Follow standard operating procedures for working around heavy equipment.
2. Stand out of reach of back hoe buckets, etc.
3. Verify that all equipment is in good condition.

Electrical Hazards

1. Locate and mark buried utilities before drilling.
2. Utilities located by:_____ on _____
3. Maintain at least 10 foot clearance from overhead power lines.
4. Contact local electrical utility company for minimum clearance high voltage power lines

5. If unavoidably close to buried or overhead power lines, have power turned off, with circuit breaker locked , tapped , and tagged.
6. Properly ground all electrical equipment.
7. Avoid standing in water when operating electrical equipment.
8. If equipment must be connected by splicing wires, make sure all connections are tapped.
9. Be familiar with specific operating instructions for each piece of equipment

Chemical Hazards

1. Use Personal Protective Equipment indicated in section 18.
2. Conduct air monitoring to evaluate respiratory and explosion hazards (list instrument, action level, monitoring location, and action to be taken in section 19).

Temperature Hazards

1. When temperature exceeds 70 degrees F, take frequent breaks in shaded area. Unzip or remove coveralls during breaks. Have water or electrolyte replenishment available in a squeeze bottle. Drink small amounts frequently to avoid dehydration. If pulse does not return to normal by end of break, reduce the length of work periods and increase frequency of breaks.

Acoustical Hazards

1. Use earplugs or ear muffs when noise level presents conversation in normal voice at a distance of three feet.

O_2 Deficiency - Confined Space Hazards

Confined space includes trenches, pits, sumps, elevator shafts, tunnels, or any other area where circulation of fresh air is restricted or ability to readily escape from the area is restricted:

1. Monitor O_2 and organic vapor s before entering. If following the values are exceeded, do not enter:

- O_2 less than 19.5 percent
- total hydrocarbons greater than 5 ppm above background, if all air contaminants have not been identified.
- concentrations of specific contaminants exceeding action level in section 19 if all air contaminants are identified.

Monitor O_2 and vapors continuously while inside confined space. If values cited in item 1 are exceeded, evacuate immediately.

2. If respirator is required, workers must wear safety lines.

3. At least one person must be on standby outside the confined space who is capable of pulling workers from confined space in an emergency.

4. Use portable fans or blowers to introduce fresh air to confined space whenever use of respirator is required.

5. Do not enter unshored excavation greater than 5 feet deep.

Radiation Hazards

Biohazards

18. Required Personal Protection Equipment:

Place the task number from section 17 next to each item of personal protection equipment required for that task.

Level: _____A _____B _____C _____D

Head: _____Hardhat Eye/Face: _____Safety Glasses

_____Face Shield
_____Goggles

Hands:_____Neoprene _____Nitrile _____PVC
_____Vitron _____Underglove _____Other_____

Body

_____Full Encapsulating Suit:_____
_____Two Piece Rainsuit, Material = _____
_____One Piece Splash Suit, Material = _____
_____Tyvek Suit_____Tyvek/Saranax Suit_____Tyvek/Polyethylene Suit
_____Cloth Coveralls _____Other_____

Lung

_____SCBA (open circuit, pressure demand):

_____Full Face Respirator, cartridge = _____

_____Half Mask Respirator, cartridge = _____

_____Other: _____

Ear

_____Earplug, type = _____

_____Earmuff, type = _____

Foot

_____Boots, type = _____

_____Disposable overboots, type = _____

19. Action Levels

A. Respiratory Protection

Instrument	Reading	Location	Action
		breathing zone	Don respirator (level C)
			Leave area (level C)
			Upgrade to level B
			Upgrade to level A

B. Explosion Hazard

Instrument	Reading	Location	Action
Combustion Gas	20% LEL	ambient air	Leave area

C. Oxygen Deficiency

Instrument	Reading	Location	Action
O_2 meter	19.5% O_2	ambient air	Do Not Enter

D. Other

Instrument	Reading	Location	Action
Combustion Gas	20% LEL	ambient air	Leave area

20. Site Control/Work Zones

Describe location of exclusion zone, hot line, contamination reduction zone, and decontamination area. Show location of site plan.

21. Decontamination Procedures

21a. Equipment Decontamination

21b. Personnel Decontamination

22. Investigation-Derived material D

Drill Cuttings/Well/Water_____

Decontamination Solutions:_____

Protective Equipment:_____

Other:_____

23. Site Resources

Drinking water Supply:_____

Telephone:_____

Radio:_____

Other:_____

24. Emergency Equipment Location

Safety Shower/Eyewash:_____

First Aid Kit:_____

Other:_____

25. Emergency Telephone Numbers

Ambulance: (911) _____

Police: (911) _____

Fire Department: (911) _____

Hospital: _____

Client Contact: _____

26. Emergency Routes: Attach map showing route to nearest hospital.

27. Contingency Plans: Describe contingency plans for emergencies, including signals and evacuation routes. If formal contingency plan documentation has been prepared, attach a copy.

28. Project Personnel List and Safety Plan Distribution Record

28a. MicroSearch Staff:
All project staff must sign, indicating receipt of copy of approved safety plan.

Name	Responsibility	Signature and Date

28b. Subcontractors:
Copy of Safety Plan must be distributed to all subcontractors

Firm Name	Responsibility	Signature and Date of Receipt of Safety Plan

ALAMEDA LOCK & GLASS
TANK CLOSURE PROJECT

SITE SPECIFIC HEALTH & SAFETY
AND ACCIDENT PREVENTION PLAN

Prepared By:
MICROSEARCH ENVIRONMENTAL CORPORATION
318 Harrison Street
Oakland, CA 94607

Prepared For:

ALAMEDA LOCK & GLASS
2301 Encinal Ave..
Alameda CA

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PROJECT HEALTH AND SAFETY PLAN

1.0 INTRODUCTION

This section of the Site Specific Health and Safety Plan (SSHSP) document defines general applicability and general responsibilities with respect to compliance MicroSearch Environmental Corp. (MSE) Health and Safety procedures.

1.1 Scope and Applicability of the Site Health and Safety Plan

This SSHSP establishes the policies and procedures which protect workers and the public from potential hazards posed by work at this site. MSE considers safety the highest priority during work at a site containing potentially hazardous materials and has established a policy of minimizing exposure which must be upheld on all projects. All project activities will be conducted in a manner that minimizes the probability of injury, accident or incident occurrence.

This SSHSP and all site activities will be in compliance with the following regulations and guidelines:

- United States Code of Federal Regulations, specifically sections:
  - ⇒ Title 29 CFR 1910.120
  - ⇒ Title 29 CFR 1910.1000
  - ⇒ Title 29 CFR 1910.1030
  - ⇒ Title 29 CFR 1910.1200
  - ⇒ Title 29 CFR 1926
  - ⇒ Title 40 CFR 261
  - ⇒ Title 40 CFR 264
  - ⇒ Title 49 CFR 171
  - ⇒ Title 49 CFR 172
- California Code of Regulations, specifically sections:
  - ⇒ Title 8 CCR 5194
  - ⇒ Title 8 CCR 5095-5100
  - ⇒ Title 8 CCR Chapter 4 Subsection 4
- USEPA Standard Operating Safety Guides, July 1988
- NIOSH/OSHA/USCG/USEPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985
- ACGIH, THRESHOLD LIMIT VALUES for Chemical Substances and Physical Agents AND BIOLOGICAL EXPOSURE INDICES, 1995
- NIOSH Pocket Guide to Chemical Hazards, June 1994
- MSE, Corporate Health and Safety Procedures Manual (Available on site)
- BAAQMD, 1994. Rules and Regulations 1 through 13

All personnel on site shall be informed of the site emergency response procedures and any potential fire, explosion, health, or safety hazards of the operation. This SSHSP summarizes those hazards in table 3.1, and defines protective measures planned for the site.

This plan must be reviewed and an agreement to comply with the requirements must be signed by all personnel prior to entering any portion of the site. Documentation of this review and the agreement to comply, as well as certification of 40 Hour HAZWOPER training (29 CFR 1910.120(e)(3)), annual refresher training, and fitness for work, shall be maintained by the MSE Health & Safety Officer (HSO).

1.2 Visitors

All visitors entering the site will be required to read and comply with the provisions of this SSHSP. In addition, visitors will be expected to comply with relevant OSHA requirements such as medical monitoring (Sec. 6.0), training (Sec. 4.0), and respiratory protection. Visitors will also be expected to provide their own protective equipment.

In the event that a visitor does not adhere to the provisions of the SSHSP, he/she will be required to leave the work area. All non-conformance incidents will be recorded in the site log.

2.0 IDENTIFICATION OF HEALTH AND SAFETY PERSONNEL

2.1 Key Personnel

The following personnel and organizations are critical to the planned activities at the project site. The organizational structure will be reviewed and updated periodically by the Project Manager and the Health & Safety Officer.

Name/Title	Organization/Branch	Address	Telephone
Ron Brown President	MSE,	318 Harrison Street Oakland, CA 94607	(510)490-3008
Larry Ford Proj Mngr	MSE	318 Harrison Street Oakland, CA 94607	(510)490-3008
David Sweet Proj Foremen	MicroSearch, Inc.	318 Harrison St Oakland, CA 94604	(510)452-5500
Mark Womack Architech	Architectural Edge Office	1201 Lincoln Ave. Alameda, CA 95691	(510)522-7038
Jim Owens Owner	Alameda Lock & Glass.	2301 Encinal Alameda, CA 94501	(510)521-5503

2.2 Site Specific Health and Safety Personnel

The Project Manager (PM) in charge of this project will be Larry Ford. All on-site personnel will report to the Project Manager. A complete organizational chart is provided as Figure 2.2.

The Site Health and Safety Officer (HSO) has total responsibility for ensuring that the non-radiological and radiological provisions of this SSHSP are adequate and implemented in the field. The HSO will be assisted by a Certified Industrial Hygienist as required. The HSO will report to the Project Manager, with the PM having ultimate responsibility for the site, for this project the PM and the HSO will be a "dual hat" position. Changing field conditions may require decisions to be made concerning the adequacy the program. The PM/HSO have the authority to STOP WORK at any time, if in his sole judgment, activities that are being conducted which could jeopardize worker health and safety or cause damage to the environment. Therefore, it is vital that the individual assigned as PM/HSO be experienced and meet the additional training requirements specified by OSHA in 29 CFR 1910.120(e)(4) (see Section 4.0 of this SSHSP). The PM/HSO is also responsible for conducting site inspections on a regular basis in order to ensure compliance with all aspects of these plans.

2.2.1 Project Manager

The Project Manager has responsibility for all field activities and enforces safe work practices by all crew members. He watches for any ill effects on any of the crew members, especially those symptoms caused by heat stress or chemical exposure. The Project Manager oversees the safety of any visitors who enter the site. The PM maintains communication with the client representative(s). In the absence of the HSO, the Project Manager assumes the HSO's duties.

The Project Manager or his designee will be responsible for completing the project safety checklist each week. A copy of this checklist is found in the MSE Corporate Health and Safety Procedures Manual.

2.2.2 Site Health and Safety Officer

MSE designates a Site Health and Safety Officer (HSO) who implements and enforces the project safety program and procedures. The HSO will conduct the daily safety meetings and will interface as required with other site representatives. The HSO takes the following action(s) when appropriate:

- Orders the immediate shut-down of site activities in the case of a medical emergency or unsafe practice.
- Ensures projective clothing and equipment are properly stored, used, and maintained.
- Ensures that the environmental and personnel monitoring operations are on-going and in accordance with technical specifications and required procedures.
- Restricts visitors from areas of potential exposure to harmful substances.
- Has the authority to enforce all rules and regulations in place during the performance of this contract.

A safety log will be kept for all MSE and subcontractor activities. This log will include daily safety meeting topics, training given, air monitoring information, first aid administered, visits of all outside personnel and any incidents of a health and safety nature.

The HSO has responsibility for implementing and enforcing the site safety program and procedures. He will oversee any personnel monitoring and will decide when action levels have been reached which require more stringent personnel protection. The HSO establishes and enforces the protective equipment to be used for various site activities. The HSO will maintain contact with the MSE Corporate Health and Safety Manager.

2.2.3 Equipment Operators

Equipment operators will be responsible for the maintenance, inspection, and safe operation of their equipment, including a written report detailing all of the aforementioned activities a the conclusion of the project.

NOTE: EMPLOYEE SAFETY RESPONSIBILITY

Although the employer is responsible for providing a safe and healthful workplace, each employee is responsible for his own safety as well as the safety of those around him. The employee shall use all equipment provided in a safe and responsible manner as directed by his supervisor. All MSE personnel and subcontractors will follow the policies set forth in the MSE Corporate Health and Safety Procedures Manual.

3.0 TASK/OPERATION SAFETY AND HEALTH RISK ANALYSIS

3.1 Historical Overview of Site

This SSHSP defines the known existing hazards and methods to protect personnel from those hazards as identified in the Scope of Work, background information, or on-site investigation. For a review of available historical information concerning the project site see the following documents:

3.1.1 Alameda Lock and Glass Tank Closure Project

3.2 Job Hazard Analysis

This section discusses chemical, physical, and environmental hazards to workers on the site.

3.2.1 Chemical Hazards

The chemicals listed in Table 3.1, believed to be on site, are based on information received from prior site investigations and initial MSE research. Material Safety Data Sheets (MSDS) for any additional chemicals found on site or brought on site will be acquired and reviewed with all personnel during daily safety meetings.

MSE's protective equipment requirements combined with the requirement to wash arms, face, and hands before eating or smoking prevent exposure to these chemicals. In addition, the Site Health and Safety Officer and Project Manager observe and warn the crew members to be aware of the initial symptoms of chemical exposure. The amount of exposure depends primarily on the specific activities undertaken and the care with which the activities are performed. Any crew member will be removed from the work site and placed under watch immediately if these initial symptoms persist:

- Dizziness or stupor
- Nausea, headaches, or cramps
- Irritation of the eyes, nose, or throat
- Euphoria
- Chest pains and coughing
- Rashes or burns

3.2.2 Hazard Communication Program

A written hazard communication program has been established for MSE The purpose of this program is to transmit information about the various chemical hazards in the work place to the workers using various media. The transmittal of information will be accomplished by means of a comprehensive hazard

communication program, which will include container labeling and other forms of warning, Material Safety Data Sheets, and employee training in accordance with 29 CFR 1910.120(e)(3) and 29 CFR 1910.1200.

The program will be available in the corporate Health and Safety Department for review by all employees. MSE will accomplish the hazard communication requirements through formal safety training, departmental safety meetings, and job site safety meetings.

Material Safety Data Sheets for chemicals likely to be encountered on this job site as well as for chemicals brought to the site by MSE are found attached to this plan.

3.2.3 Physical Hazards

In order to minimize physical hazards, MSE has developed standard safety protocols, which will be followed at all times. Failure to follow safety protocols or continued negligence of these policies will result in expulsion of a crew member from the site as well as possible termination of employment. Only the PM/HSO or the COE Representative has the authority to remove an MSE employee or subcontractor from the project site. The authority to terminate an employee is held solely by the PM/HSO for MSE.

All MSE personnel are familiar with the field activities which will be conducted at the site. They are trained to work safely under various field conditions. In addition, the Project Manager will observe the general work practices of each crew member and equipment operator, and enforce safe procedures to minimize physical hazards. Also, hard hats, safety glasses, and safety boots will be required in all areas of the site. The Corporate Health and Safety Procedures Manual will be available on site at all times.

3.2.3.1 Tripping, Slipping and Falling Hazards

MSE personnel and subcontractors will be reminded daily to maintain a sure footing on all surfaces. Full body harnesses with fall prevention lanyards will be required by any personnel working five feet above any surface, including manlifts. Use of hand rails when climbing stairs will be enforced, and handrails will remain secure until the support structure itself is removed and lowered to ground level.

In order to minimize tripping hazards caused by dismantlement debris, material will be removed daily form the work areas and stockpiled in their respective storage areas. This "house cleaning" effort will be enforced by the PM/HSO at the end of each day.

3.2.3.2 Head and Back Injuries

As minimum requirements, hard hats, and safety glasses will be conned prior to performing any site activities. This will prevent minor injuries caused by bumping one's head while working around and under piping and other process related structures. Personnel will be reminded not to lift heavy items without assistance. Compliance with the requirements of the Corporate H&S Manual and 40 Hour Training Course requirements for lifting will be enforced throughout the project.

3.2.3.3 Heavy Equipment and Traffic

The use of heavy equipment for debris removal, excavation, and lifting presents the greatest potential for injury to personnel. In order to minimize these hazards, designated routes will be established for mobilization through the facility and specific traffic patterns will be established. All trucks will have spotters for backing procedures.

Only qualified (licensed) personnel will operate heavy equipment. Those crew members directly involved with spotting for the operator will be the only personnel allowed in the vicinity of the heavy equipment. All others will remain a safe distance away from these operations.

Personnel needing to approach heavy equipment during operation will observe the following protocols.

- Make eye contact with the operator.
- Signal the operator to cease heavy equipment activity.
- Approach the equipment and inform the operator of intentions.

MSE and subcontractors will follow all traffic rules. Vehicles will yield to all bikes, pedestrians, and railroad crossings. All vehicles must come to a complete stop at all railroad crossings.

3.2.3.4 Site Pre-inspection of Equipment

MSE will only use heavy equipment that is in safe working order. To maintain this policy, all equipment brought onto the project site will be inspected for structural integrity, smooth operational performance, and proper functioning of all critical safety devices in accordance with Cal OSHA's specifications, and the contract specifications. This inspection will be performed by the MSE PM/HSO and the equipment operator.

All equipment not conforming to the operational and safety requirements set forth during this inspection will not be put into service until all necessary repairs are made to the satisfaction of the inspection group.

3.2.3.5 Operator Qualifications

Only qualified operators familiar with the equipment to be used will be permitted to operate. Subcontractors will supply proof of its operators capability and experience to operate the equipment in a safe manner. MSE reserves the right to remove from the project site any operator if there is question or doubt concerning the operators capabilities.

3.2.3.6 UXO/EOD Operations

Not Applicable

3.2.3.7 Electrical Hazards

In order to prevent accidents caused by electric shock, the MSE PM/HSO will inspect all electrical connections on a daily basis. He will shutdown and lockout any equipment which is found to have frayed or loose connections until a qualified electrician can be contacted. The equipment will be de-energized and tested before any electrical work is done. All equipment will be properly grounded prior to and during all work. In addition, Ground Fault Circuit Interrupters (GFCI) will be installed for each circuit between the power source and tool. In the event that generators are used to supply power, these generators will contain GFCI's.

Initial work at the site will include use of magnetometers to trace the tank outline and piping for excavation. As stated in the Project Work Plan these excavation routes will be marked to aid the excavation crews. Any underground interferences will also be marked so that additional precautions during excavation can be taken.

3.2.4 Environmental Hazards

3.2.4.1 Weather and Heat Stress

With the possible combination of ambient factors such as high air temperature, high relative humidity, low air movement, high radiant heat, and protective clothing, the potential for heat stress is a concern. The potential exists for:

- Heat rash
- Heat cramps

- Heat exhaustion
- Heat stroke

An action level for heat stress has been established. At 70 degrees Fahrenheit ambient temperature, the PM/HSO will become keenly aware of the effects of heat stress on the field crew, and will alert the crew to become aware of any symptoms. The PM/HSO will also advise the crew to increase the amount of salt on foods.

Heat stroke, heat cramps, and heat exhaustion are covered in detail during our 40 Hour OSHA 20 CFR 1910.120 approved pre-employment course. In addition, this information is discussed during a safety "tailgate" meeting before each workday. Workers are encouraged to increase consumption of water and electrolyte-containing beverages such as Gatorade during warm weather. Water and electrolyte-containing beverages will be provided on-site and will be available for consumption during work breaks.

At minimum, workers will break every 2 hours for 10 to 15 minute rest periods. In addition, workers are encouraged to take rests whenever they feel any adverse effects, especially those effects that may be heat-related. The frequency of breaks may need to be increased upon worker recommendation to the HSO. Also, if resting pulse rates exceed 110, then additional breaks will be taken.

MSE personnel are hazardous materials professionals, and through their extensive field experience, have become acclimated to heat and protective equipment requirements as well as recognizing when heat stress presents a health concern. In addition, they have been trained to recognize the symptoms of heat stress. Even with this experience, MSE still empathized heat stress awareness. During the safety "tailgate" meetings, the HSO will talk about heat stress, its symptoms, and the factors which affect a person's ability to handle heat stress.

Procedure 17 in the MSE Corporate Health and Safety Procedures Manual discusses heat stress in further detail.

3.2.4.2 Hearing Conservation Program

On projects where noise levels may exceed a time weighted average (TWA) of 85 DBA (decibels, A-scale), hearing protection will be made available to all exposed employees. Additionally, sound level monitoring will be conducted on-site. All MSE personnel have annual audio grams and will be restricted from high noise exposure when a standard threshold shift is present. MSE hearing conservation program as taught in the 40

Hour Haz Ops Training Program is in compliance with OSHA regulations found at 29 CFR 1910.95(c)(1).

3.3 Task by Task Risk Analysis

The evaluation of hazards is based upon the knowledge of site background presented in Section 3.1, and anticipated risks posed by the specific operation.

The following subsections describe each task/operation in terms of the specific hazards associated with it. In addition, the protective measures to be implemented during completion of those operations are also identified.

Table 3.1 provides a summary of the suspected chemical hazards and the regulatory (and governing agency/organization) action levels. Action levels to be enforced for this project as well as real time monitoring equipment are also designated on Table 3.1. Immediately following these tables are the Emergency Response and Medical Emergency Information sheets for the chemicals of concern for this project.

Table 3.2 summarizes the various categories of tasks anticipated for this project and any injuries/exposures possible along with the corrective actions necessary to prevent or minimize these occurrences. Specific Task Hazard Analyses for the listed tasks are included.

TABLE 3-1
TASK ANALYSIS: CHEMICAL HAZARDS OF CONCERN
STORAGE TANKS AT ALAMEDA LOCK & GLASS PROJECT
ALAMEDA, CA

Contaminant	OSHA PEL[a] (PPM)	NIOSH REL (PPM)	ACGIH TLV (PPM)	IDLH (PPM)	Ionization Potential (eV)	Routes of Exposure	Symptoms of Exposure
Benzene	1	0.1	10(A2)[e]	3,000	9.25	INH, ABS, CON, ING	Irritant to eyes, nose, and respiratory system: giddiness, headache, nausea, staggered gait, fatigue, anorexia, lassitude, dermatitis, bone marrow depressant, [Carcinogen].
Toluene	100	100	100	2,000	8.82	INH, ABS, CON, ING	Fatigue, Weakness, confusion, euphoria, dizziness, headache; dilated pupil; lacrimation, nervousness, muscle fatigue, insomnia, paresthesia, dermatitis.
Ethylbenzene	100	100	100	2,000	8.76	INH, CON, ING	Irritant to eyes, skin, and respiratory tract, headache, dermatitis, narcosis.
Xylenes (various isomers)	100	100	100	1,000	8.44 to 8.56	INH, ABS, CON, ING	Dizziness, excitement, drowsiness, incoherence; staggered gait, irritant to eyes, nose and throat; corneal vacuolization, anorexia, nausea, vomiting, abdominal pain, dermatitis.
Bunker C or Diesel Fuel		See Benzene,	toluene,	xylenes		INH, CON, ING	Headache, nausea, confusion, drowsiness, convulsions, coma, skin irritant, kidney damage, CNS depressant.
Benzo (a) pyrene	0.2mg/m^3[f]	0.1 mg/m^3	A2	700 mg/m^3	NA	INH, CON,	Dermatitis, bronchitis, carcinogen
Dioxin	NE	NE	NE	NE	NA	INH, CON, ING	Carcinogen, teratogen, potential immunotoxin, chloracne.
Silica-Quartz	0.1 mg/m^3	0.05 mg/m^3	0.1 mg/m^3	NE	NA	INH	Cough, wheezing, impaired pulmonary function, carcinogen.

[a] The lower of the Federal or California OSHA~PEL is listed
[b] Ca - Carcinogen designation
[c] NE - Not established
[d] NA - Not available'
[e] A2 - Suspected Human Carcinogen designation
[f] mg/m^3 - milligrams per cubic meter in air
[g] A1 Confirmed Human Carcinogen designation

INH - Inhalation
CON - Skin and/or eye contact
ING - Ingestion
ABS - Skin Adsorption
CNS - Central Nervous System

TABLE 3-2
JOB HAZARD ANALYSIS
ALAMEDA LOCK & GLASS
(Page 1 of 5)

Project Name: Alameda Lock & Glass Tank Closure project

Project Manager: Larry Ford

Contract No.: N/A

JOB HAZARD ANALYSIS

Project Activities

Task 1: Preparation for Tank Removal
Task 2: Tank Removal
Task 3: Confirmatory Soil Sampling
Task 4: Proper Use of Monitoring Equipment

Analyzed By/Date:

Reviewed By/Date:

Principal Task/Steps	Potential Hazards	Recommended Controls
Task 1: Preparation for Tank Removal	• Tools may cause physical pinch points during saw cutting procedures.	• Proper handling of tools.
a) Saw Cutting Floor	• Possible eye, skin, and lung irritation may be caused by cement and dust exposure.	• Adequate ventilation, monitoring. and PPE
	• Possible electric shock if tools are not handled correctly.	• Proper tools that have built in grounding to avoid external shock.
	• Personal injury due to improper tool handling.	• Proper training on tool use.
b) Jack hammering Floor	• Tools may cause physical pinch points during saw cutting procedures.	• Proper handling of tools.
	• Possible eye, skin, and lung irritation may be caused by cement and dust exposure.	• Adequate ventilation, monitoring, and PPE
	• Possible electric shock if tools are not handled correctly.	• Proper tools that have built in grounding to avoid external shock.
	• Personal injury due to improper tool handling.	• Proper training on tool use.

TABLE 3-2
JOB HAZARD ANALYSIS
ALAMEDA LOCK & GLASS
(Page 2 of 5)

Principal Task/Steps	Potential Hazards	Recommended Controls
Task 1 (continued): C) Hand Tools to Excavate Soil	• Tools may cause physical pinch points during saw cutting procedures.	• Proper handling of tools.
	Possible eye, skin, and lung irritation may be caused by cement and dust exposure.	• Adequate ventilation, monitoring, and PPE
	• Personal injury due to improper tool handling.	• Proper training on tool use.
d) Inerting the Tank	• Proper entry to add dry ice to tank for inerting.	• Add dry ice into tank from only the floor surface.
	• Insufficient ventilation.	• Proper use of electrical fans.
	• Requite more than two persons per tank.	• Adequate staff.

TABLE 3-2
JOB HAZARD ANALYSIS
ALAMEDA LOCK & GLASS
(Page 3 of 5)

Principal Task/Steps	Potential Hazards	Recommended Controls
a) Use of mechanical hoist to lift tank.	• Tank could possibly fall during removal. • No communication to field staff of how tank will be removed.	• Provide more than one strap to hold tank while being removed from excavation pit. • Schedule meetings before work begins to discuss plan. Provide at least three people per crew and encourage on-site communication during tank removal.
b) Backhoe arm used to remove tank from building.	• Tank could possibly fall during removal. • No communication to field staff of how tank will be removed.	• Provide more than one strap to hold tank while being removed from excavation pit. • Schedule meetings before work begins to discuss plan. Provide at least three people per crew and encourage on-site communication during tank removal.
c) Provide Shoring.	• The excavation pit may collapse. • Field staff could be buried under some amount of soil.	• Use hydraulic shoring to stabilize the walls of the excavation pit. • Absolutely no personnel should enter into the excavation pit without proper hydraulic shoring.
d) Saw Cutting and Spraying Tank.	• Personnel injury may occur due to improper use of equipment. • Personnel injury may occur due to spraying water as a deconing procedure.	• Proper training for tool use. • The proper protective equipment shall be worn. For example, goggles with side shields, face shield, hard hat, steel toed boots, gloves, and poly-Tyvek suit.

TABLE 3-2
JOB HAZARD ANALYSIS
ALAMEDA LOCK & GLASS
(Page 4 of 5)

Principal Task/Steps	Potential Hazards	Recommended Controls
Task 3: Confirmation Soil Sampling		
a) Slide hammer used to take soil samples.	• Tools may cause physical pinch points during sampling. • Personnel injury may occur due to falling into excavation pit.	• Proper handling of tools. • Use the "buddy system" to avoid mistakes from under staffing the crew. With more staff someone may not have an accident situation.
b) AST Sampling.	• The surface concrete drilling could cause injury.	• Proper handling of tools.
c) Groundwater in Excavation Pit.	• The groundwater in the pit could cause a slip, trip, and fall hazard. • Electric shock could occur if electrical tools fall into pit.	• Make sure all field staff are out of the excavation, if it fills with water. Use a sump pump to remove water. • Follow instructions above.
d) TPH Field Screening.	• Improper sample handling may cause further extension of contamination. • Contamination may spread on individual doing the field screening.	• Use of proper amount of visqueen to contain contamination at the work table. • Proper use of Level D shall be worn.
e) IDW Storage and Transportation.	• Improper tracking and handling of IDW. • Improper use of manifest forms.	• IDW shall be recorded correctly and handled properly before it is removed off site. • The manifest forms ate used as a way of tracking waste. The proper PSF person assigned shall be the only one to sign manifest forms.

TABLE 3-2
JOB HAZARD ANALYSIS
ALAMEDA LOCK & GLASS
(Page 5 or 5)

Principal Task/Steps	Potential Hazards	Recommended Controls
Task 4: Proper Use of Monitoring Equipment	Inspection Requirements	Training Requirements
a) Photoionization Detector ~ID) (organic vapors)	The PID shall be used to monitor organic vapors. Proper action levels must be understood before instrument is used.	Provide properly trained personnel with 40-hour training, CPR, first aid, and 8 hour refresher training.
b) Combustible Gas Indicator (CGI)	The CGI shall be used to monitor adequate oxygen levels, toxic gas levels, and explosive atmospheric levels.	Provide properly trained personnel with 40-hour training. CPR, first aid, and 8 hour refresher training.
c) Noise Meter (monitor dust levels)	Noise meter shall record all noise generated from the tank removal activities. The action levels must be known so that proper protection can be enforced.	Provide properly trained personnel with 40 hour training, CPR, first aid, and 8-hour refresher training.
d) Carbon Monoxide Monitoring	Carbon monoxide monitoring shall be used at a level of 0.5 PEL. Anything above 0.5 PEL shall require evacuation of site. Carbon monoxide could result from improper ventilation of work area.	Provide properly trained personnel with 40-hour training. CPR. first aid, and 8hour refresher training.

MSE.

4.0 PERSONNEL TRAINING REQUIREMENTS

All site personnel are required to be trained in accordance with OSHA 29 CFR 1910.120 regulation covering Hazardous Waste Operations and Emergency Response. The records of all personnel involved in on site work shall be maintained at the job site and shall include all training certificates (copies) and medical surveillance results (copies). All personnel are required to be trained to recognize the hazards on-site, the provisions of this SSHSP, and the contract specifications.

4.1 Pre-assignment and Annual Refresher Training

4.2 Site Supervisors Training

Consistent with OSHA 29 CFR 1910. 120(e)(4), individuals designated as site supervisors require an additional 8 hours of training and shall also complete AHERA Supervisors course work. The following individuals are identified as site supervisors:

Name	Title/Responsibility
Larry Ford	Project Manager/HSO, MSE
Ron Brown	Program Manager, MSE.

4.3 Training and Briefing Topics

The following items will be discussed by a qualified individual at the site pre-entry briefing(s), as well as daily or periodic site briefings.

Initial	Daily	Periodically	Type of Training
X			Site characterization and analysis Sec 3.0; j(29 CFR 191 10.120 (i)-)]
X	X	X	Physical hazards Table 3.2
X	X	X	Chemical hazards
X			Medical surveillance requirements Sec. 6.0; [(29 CFR 1910.120(f).)]
X	X	X	Symptoms of over exposure to hazards; 1(29 CFR 1910.120 (e),(2),(vi).)]
X			Animal bites and stings
X	X	X	Site control Sec. 8.0; [29 CFR 1910.120(d).]
X			Training requirements Sec. 4.0; [29 CFR 1910.120(e).]
X	X		Engineering controls and work practices, Sec. 8.5; [29 CFR 1910.120(g).]
X			Heavy machinery:
X			HM 181 [49 CFR 172.702]
X	X		FM Radio Operations and Procedures FCC 706)
X			Bloodbome Pathogens [29 CFR 1910.1030]
X			Crane
X		X	Tools [29 CFR 1910.242-247]
X	X		Overhead and underground utilities
X			Ladders [29 CFR 1910.25-.27 (a).]
X		X	Structural integrity
X			Pressurized air cylinders CFR 1910.101 (b).]
X	X	X	Personnel protective equipment Sec. 5.0; [29 CFR 1910.120(g), 29 CFR 1910.134].
X	X	X	Respiratory protection Sec. 5.8;*[29* CFR 19110.120 (g) ANSI Z88.2-1980.]
X	X	X	Air Monitoring Sec. 7.0, [29 CFR 1910.120 (h)]
X	X	X	Decontamination Sec. 9.0, [29 CFR 1910.120 (k)]
X		X	Emergency Response Plan Sec. 10.0, [29 CFR 1910.120 (l)]
X	X	X	Handling Drums and Containers Sec. [29 CFR 1910.120 (j)]
X		X	Confined Space Entry Procedure Sec. [29 CFR 1910.120 (b)(iv)]
X		X	Sanitation , [29 CFR 1910.120 (n)]
X		X	Spill Containment Sec. 12.0, [29 CFR 1910.120 (b)(4)(j)]

The following logs, reports, and records will be developed and maintained on site:

- Daily Safety meetings
- Training logs - site specific and visitors
- Weekly Safety inspection logs
- Employee/visitor sign-in
- Ambient and personal air monitoring results
- OSHA 200 log (inclusive of OSHA 101)

5.0 PERSONAL PROTECTIVE EQUIPMENT TO BE USED

This section describes the general requirements of the EPA designated Levels of Protection (A-D), and the specific levels of protection required for each task at the site.

5.1 Levels of Protection

Personnel shall wear protective equipment when response activities may involve known or suspected atmospheric contamination, vapors, gases, or particulates may be present or generated by site activities, or when direct contact with skin-affecting substances may occur. Full facepiece supplied air systems and/or respirators protect lungs, gastrointestinal tract, and eyes against airborne toxicants. Chemical-resistant clothing is designed to protect the skin from contact with skin-destructive and absorbable chemicals.

The specific levels of protection and necessary components for each have been divided into the two categories according to the degrees of protection afforded:

Level A: Should be worn when the highest level of respiratory, skin and eye protection is required. Specifically, Level A shall be worn in immediately dangerous to life and health (IDLH) areas.

Level B: Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection is required.

Level C: Should be worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is needed.

Level D: Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.

Modifications of these levels are permitted, and routinely employed during site work activities to maximize efficiency. For example, Level D respiratory protection and Level C skin protection may be required for a given task. Likewise the type of chemical protective ensemble (i.e., material, format) will depend upon contaminants and degrees of contact. If there is a potential for downgrading, the HSO will ensure that all hazardous materials related concerns have been addressed.

The Level of Protection selected is based upon the following:

- Type and measured concentration of the chemical I radiological substance in the ambient atmosphere and its toxicity.
- Potential for exposure to substances in air, splashes of liquids, or other direct contact with material due to work being done.
- Knowledge or suspension of contaminants on-site along with properties such as toxicity, route of exposure, and contaminant matrix.

In situations where the type of radionuclide/chemical, concentration, and possibilities of contact are not known, the appropriate Level of Protection must be selected based on professional experience and judgment until the hazards can be better identified.

5.2 Level A Personnel Protective Equipment

- Supplied positive pressure respirator, full-face, Grade 'D' breathing air (MSHA/NIOSH approved) egress line with 5 minute escape pack or Self Contained Breathing Apparatus (SCBA) set for positive pressure operation.
- Totally encapsulating one piece suit. Tyvek brand, Saranex® laminated full coverage bag suit with attached booties or butyl rubber sealed suit.
- Disposable one piece suit. Tyvek® brand, coveralls with attached booties.
- Torso heating or cooling vests as required (i.e. ice vests, liquid refrigerant vests or similar devices)
- Cotton shirts and pants, such as surgical scrub garments
- Gloves (outer): chemical resistant
- Gloves (inner): latex
- Gloves (outer cover): PVC coated, cotton lined, work gloves
- Boots (outer), rubber overshoe, calf high Bootie (middle), Tyvek® brand, Saranex®
- Boots (inner), steel toe
- Hard hat

5.3 Level B Personnel Protective Equipment

- Supplied positive pressure respirator, full-face, Grade "D" breathing air (MSHA/NIOSH approved) with 5 minute escape pack.
- Disposable one piece suit. Tyvek® brand, Saranex® laminated full coverage bag suit with attached booties.
- Disposable one piece suit. Tyvek® brand, coveralls with attached booties.
- Torso heating or cooling vests as required (i.e. ice vests, liquid refrigerant vests or similar devices)
- Cotton shirts and pants, such as surgical scrub garments
- Gloves (outer): chemical resistant Gloves (inner): latex
  Gloves (outer cover): PVC coated, cotton lined, work gloves
- Boots (outer), rubber overshoe, calf high
- Bootie (middle), Tyvek® brand, Saranex®

- Boots (inner), steel toe
- Hard hat

5.4 Level C Personnel Protective Equipment

- Air-purifying respirator (APR), full-face, cartridge-equipped (MSHA/NIOSH approved). MSE anticipates using full face respirators with combination HEPA & Organic Vapor/Acid Gases/Radon Daughter Cartridges where APR use is appropriate. The cartridges provide protection against: organic vapors, radionuclides, acid gases, asbestos, dust and other materials as listed in NIOSH certification literature.
- Disposable one piece suit. Regular tyvek [t1]bag suits[t1]
- Torso heating or cooling vests as required (i.e. ice vests, liquid refrigerant vests or similar devices)
- Cotton shirts and pants, such as surgical scrub garments Gloves (outer): latex, rubber, or nitrile
- Gloves (inner): cotton liners or latex
- Boots (outer), rubber overshoe
- Boots (middle), plastic, Tyvek or PVC 4 mil "bootie"
- Boots (inner), steel toe
- Hard hat (as required)

5.5 Modified Level C Personal Protective Equipment for Wet Work

- Air-purifying respirator (APR), full-face, cartridge-equipped (MSHAINIOSH approved). MSE anticipates using full face respirators with combination HEPA & Organic Vapor/Acid Gases/Radon Daughter Cartridges where APR use is appropriate. The cartridges provide protection against: organic vapors, radionuclides, acid gases, asbestos, dust and other materials as listed in NIOSH certification literature.
- Disposable one piece suit. Tyvek® brand, Saranex® laminated fill' coverage bag suit with attached booties.
- Disposable one piece suit. Regular tyvek "bag suits
- Torso heating or cooling vests as required (i.e. ice vests, liquid refrigerant vests or similar devices)
- Cotton shirts and pants, such as surgical scrub garments
- Gloves (outer): latex, rubber, or nitrile
- Gloves (inner): cotton liners or latex
- Boots (outer), rubber overshoe
- Boots (middle), plastic, Tyvek or PVC 4 mil "bootie"
- Boots (inner), steel toe
- Hard hat (as required)

5.6 Level D Personnel Protective Equipment

- Cotton shirts and pants
- Gloves, leather or cotton

- Boots/shoes, leather or chemical-resistant, steel toe
- Safety glasses
- Hard-hat
- Hearing Protection as required.

5.7 Reassessment of Protection Program

The Level of Protection provided by PPE selection shall be upgraded or downgraded based upon a change in site conditions or findings of investigations. The exact PPE requirements for any task will be specified in the Activity Hazard Analysis. Downgrades in PPE will be in accordance with Section 2.2.

When a significant change occurs, **ALL WORK SHALL STOP,** and the hazards shall be reassessed. Some indicators of the need for reassessment are:

- Change in job tasks during a work phase.
- Contaminants other than those previously identified are encountered.
- Change in ambient levels of contaminants.
- Change in work scope which effects the degree of contact with contaminants, such as engineering controls.

5.8 Work Mission Duration

Before the workers actually begin work in their PPE ensembles, the anticipated duration of the work mission should be established. Several factors could limit mission length, including:

- Air supply consumption, (if supplied air is used).
- Ambient temperature and weather conditions.
- Capacity of personnel to work in PPE.

5.9 Chemical Resistance and Integrity of Protective Material

Tyvek® brand, Tyvek® non-laminated suits were selected for the following reason: Based on the types and quantities of chemical related hazards anticipated at the project site this type of coverall will provide a sufficient barrier against skin contact with the potential chemical hazards. Based on information available to date, the Tyvek® brand, Tyvek® non-laminated suits should be effective in preventing skin contact with the anticipated contaminates suspected in the soils at the project site. Any materials splashed or spilled will need to be removed from outer clothing immediately, following Figure 9 donning/doffing procedures.

Gloves have a higher potential for contact with chemicals. Based on information available and expected potential hazards, nitrile chemical resistant outer gloves will be the primary source for hand protection. The latex (natural rubber) under gloves will be worn over cotton inner gloves.

The inner glove mainly provides for worker comfort, limited protection is obtained from inner gloves during the doffing procedures. Work gloves (Nitrile or Leather based upon the job hazard) will be worn over the outer gloves. The work glove will tend to provide protection for the integrity of the outer glove. Also, gross contamination can be removed immediately by removing the work gloves.

If a change of PPE is needed based on contaminant exposure, PPE will be doffed in accordance with OSHA requirements. In summary, if work gloves become contaminated, a new work glove will be placed over the outer glove, if the outer glove is not grossly contaminated, If the contamination is on the outer glove as well, then both the outer glove and the work glove will be replaced. For any contaminated PPE, don and doff in accordance with OSHA.

5.10 Standard Operating Procedures for Respiratory Protection Devices

The following subsections define standard operating procedures for air purifying respirators, egress line respirators and self-contained breathing apparatus.

5.10.1 Cleaning and Disinfecting Air Purifying, Egress Line Respirators or Supplied Air Respirators

Respirators shall be decontaminated after each use. They shall be cleaned and disinfected at least daily with a MSA cleaner/sanitizer solution, or with a non-alcohol based cleaner/sanitizer wipe. If respirators have become radiologically contaminated, they shall be surveyed and "free-released in accordance with Appendix A, prior to cleaning.

The steps to be followed for cleaning and disinfecting daily are as follows:

- Primary decontamination of respirators shall occur within the contamination reduction zone immediately following doffing procedures. A five stage decontamination procedure shall be used in accordance with the below directions.

- Stage 1: Respirator Disassembly. Respirators shall be taken to a clean location established within the contamination reduction zone. The filters, cartridges or canisters shall be removed, rendered useless to prevent accidental reuse, and discarded (used respirator filters are considered potentially contaminated and should be packaged and treated the same as other spent PPE). For thorough cleaning, the inhalation and exhalation valves, speaking diaphragm, and any hoses are removed.

- Stage 2: Cleaning. In most instances, the cleaning and disinfecting solution provided by the manufacturer is used, and is dissolved in warm water in an appropriate tub. Using gloves, the respirator is placed in the tub and swirled for a few moments. A soft brush may be used to facilitate cleaning.

- Stage 3: Rinsing. The cleaned and disinfected respirators are rinsed thoroughly in warm water to remove all traces of detergent and disinfectant. This is very important for preventing dermatitis.

- Stage 4: Drying. The respirators may be allowed to dry in room air on a clean surface. They may also be hung upside down like drying clothes, but care must be taken not to damage or distort the facepiece. The preferred method of hanging is to utilize the cotton chin strap attached to the respirator.
- Stage 5: Reassemble and Inspection. The clean, dry respirator facepiece should be reassembled and inspected in an area separate from the disassembly area to avoid any possible cross contamination. Special emphasis should be given to inspecting the respirators for detergent or soap residue left by inadequate rinsing. This appears most often under the seat of the exhalation valve, and can cause valve leakage or sticking.

5.10.2 Respirator Inspection and Checkouts

- Visually inspect the entire unit for any obvious damages, defects, or deteriorated rubber.
- Make sure that the facepiece harness is not damaged. The serrated portion of the harness can fragment which will prevent proper face seal adjustment.
- Inspect lens for damage and proper seal in facepiece.
- Exhalation Valve - pull off plastic cover and check valve for debris or for tears in the neoprene valve (which could cause leakage).
  Inhalation Valves (two)(if applicable) - visually inspect neoprene valves for tears. Make sure that the inhalation valves and cartridge receptacle gaskets are in place and threads are not worn or damaged.
- Make sure a protective cover lens is attached.
- Make sure the speaking diaphragm retainer ring is hand tight.
- Install the appropriate correct cartridge as determined by the HSO.
  Don and perform negative pressure test.

5.10.3 Supplied Air and Self Contained Respirator Inspection and Checkouts

- Visually inspect the entire unit for any obvious damages, defects, or deteriorated rubber.
- Make sure that the facepiece harness is not damaged. The serrated portion of the harness can fragment which will prevent proper face seal adjustment.
- Inspect lens for damage and proper seal in facepiece.
- Exhalation Valve - pull off plastic cover and check valve for debris or for tears in the neoprene valve (which could cause leakage).
- Inhalation Valves (two)(if applicable) - visually inspect neoprene valves for tears. Make sure that the inhalation valves and cartridge receptacle gaskets are in place and threads are not worn or damaged.
- Make sure a protective cover lens is attached.

- Visually inspect all hose connections for signs of wear or contamination, replace as needed.
- Test regulators for both the positive pressure and free flow settings. If inoperative replace complete assembly and return the inoperative unit to the manufacturer for replacement or repair.
- Visually inspect all fittings and exteriors of HP air delivery systems for signs of wear or damage, replace as needed.
- Visually inspect the air system harness for signs of wear or damage, replace as needed.

5.10.4 Storage of Respirators

OSHA requires that respirators be stored to protect against:

- Dust
- Sunlight
- Heat
- Extreme Cold
- Excessive Moisture
- Damaging Chemicals Mechanical Damage

Storage of respirators should be in a clean, secure area which minimizes the chance for contamination or unsanitary conditions, inside of plastic bags labeled "respirator".

5.11 Standard Operating Procedures for Personal Protective Clothing

5.11.1 Inspection

Proper inspection of PPE features several sequences of inspection depending upon specific articles of PPE and its frequency of use. The different levels of inspection are as follows:

- Inspection and operational testing of equipment received from the factory or distributor.
- Inspection of equipment as it is issued to workers.
- Inspection after use or training and prior to maintenance.
- Periodic inspection of stored equipment.
- Periodic inspection when a question arises concerning the appropriateness of the selected equipment, or when problems with similar equipment arise.

The primary inspection of PPE in use for activities at the project will occur immediately prior to use and will be conducted by the user. This ensures that the specific device or article has been checked-out by the user, and that the user is familiar with its use.

5.12 Specific Levels of Protection Planned for the Project

The following levels of protection will be utilized during activities the site:

___ Level A

___ Level B

_X_ Level C: X modified

_X_ Level D: modified

Table *5.2* presents the level of protection planned for the completion of individual task assignments and the specific components of each protective ensemble.

TABLE 5.1
SAMPLE PPE INSPECTION CHECKLISTS

CLOTHING

Before use:

Determine that the clothing material is correct for the specified task at hand
(refer to PWP for the task(s) to be performed.)
Visually inspect for:

- imperfect seams
- non-uniform coatings
- tears
- malfunctioning closures

Hold up to light and check for pinholes, for Level A suits - conduct inflation tests.

- Flex product:
  - observe for cracks
  - observe for other signs of shelf deterioration
- If the product has been used previously, inspect inside and out for signs of
  chemical attack:
  discoloration
  swelling
  - stiffness
- During the work task, periodically inspect for:
  Closure failure.
  Tears.
  - Punctures.
  - Seam Discontinuities.

GLOVES

Before use:

Visually inspect for:

- imperfect seams
- tears, abrasions
- non-uniform coating
- pressurize glove with air; listen for pin-hole leaks.

TABLE 5.2
SPECIFIC LEVELS OF PROTECTION PLANNED FOR THE TASK ASSIGNMENTS

- Level A Tasks:

NONE ANTICIPATED

- Level B Tasks:

NONE ANTICIPATED

- Level C Tasks:

Soil and water remediation activities, if required.

Downgrades will be in accordance with Section 2.2 and are anticipated for this contract after sufficient negative air sample results are obtained and recorded.

Packaging of contaminated material/equipment into containers, as required.

- Level D Tasks:

Mobilization

Demobilization

Tank excavation activities. Tank cleaning, removal, and transportation

activities. Sampling and surveys of soil.

Movement of waste materials to storage/transport trailers if containers are not externally contaminated.

6.0 MEDICAL SURVEILLANCE REQUIREMENTS

Medical monitoring programs are designed to track the physical condition of employees on a regular basis as well as survey pre-employment or baseline conditions prior to potential exposures. The medical surveillance program is a part of each employers Health and Safety program.

6.1 Baseline or Pre-assignment Monitoring

Prior to being assigned to a hazardous or a potentially hazardous activity involving exposure to toxic materials, each employee must receive a pre-assignment or baseline physical. The contents of the physical is to be determined by the employers medical consultant. As suggested by NIOSH/OSHA[USCG/EPA's *Occupational Safety & Health Guidance Manual for Hazardous Waste Site Activities,* the minimum medical monitoring requirements for work are as follows:

- Complete medical and work histories. Physical examination.
- Pulmonary function tests (FVC and FEV1).
- Chest X-ray (every 2 years).
- EKG.
- Eye examination and visual acuity.
- Audiometry.
- Urinalysis.
- Blood chemistry, including hematology, serum analyses.

The pre-assignment physical should categorize employees as fit-for-duty and able to wear respiratory protection and other personal protective equipment/clothing. Qualifications for the attending physician shall include the required certification by the American Board of Occupational Medicine.

6.2 Periodic Monitoring

In addition to a baseline physical, all employees require a periodic physical within the last 12 months unless the advising physician believes a shorter interval is appropriate. The pre-assignment medical outlined above is applicable.

All personnel working in contaminated or potentially contaminated areas will verify currency (within 12 months) with respect to medical monitoring.

6.3 Site Specific Medical Monitoring

The following specific tests will be required prior to individuals entering the Exclusion Zone or Contamination Reduction Zone:

No specialized testing will be required in addition to the standard medical exams required by 29 CFR 1910.120~(4) detailed in Section 6.1.

6.4 Exposure/Injury/Medical Support

As a follow-up to an injury or possible exposure above established exposure limits, all employees will seek medical attention and physical testing. Depending upon the type of exposure, it may be critical to perform follow-up testing 'within 24-48 hours. The MSE Corporate Health and Safety Manager shall consult with the employer's medical consultant to ensure appropriate medical monitoring in such cases.

7.0 FREQUENCY/TYPES OF AIR MONITORING/SAMPLING

The primary hazard associated with the project are the unidentified chemical hazard(s) within the work area, suspected chemicals include but are not limited to Diesel Fuels.

In summary the following hand held direct reading instruments and sampling frequencies shall be in use during on site operations;

INSTRUMENTS

Manufacturer	Model Number	Type	Performance	Serial Number
Thermo Instruments	580 B	PID/OVM	10.6 eV Lamp	41125-264
GasTech	GT 302	LEL/PPM/0_2/H_2 5	0.1 ppm/0.1%	9438298
GasTech	GX 86	LEL/0WIl$_2$ S/CO	0.1 ppm/0.1%	9437283
Foxboro Instruments	OVA 128	FD/OVM	n/a	57544

All operations involving excavation, cleaning, confined space entry, and tank removal shall be continuously monitored with the above mentioned instruments. 15 minute interval readings will be recorded in the project air monitoring log, maintained at the project site. Readings exceeding two times (2X) the mean average reading will be recorded in the log books at any time that the readings occur.

Any reading that exceeds the action level, as stated in Table 3.1, shall cause an immediate STOP WORK condition until the cause of the elevated readings can be determined and the effectiveness of the current PPE and Engineering Controls evaluated as they relate to the current site conditions.

Readings shall be recorded in the following fashion:

Date: Time Location: Instrument: Reading: Sampler:

8.0 SITE CONTROL MEASURES

The following section defines measures and procedures for maintaining site control. Site control is an essential component in the implementation of the site health and safety program.

8.1 Buddy System

During all activities the implementation of a buddy system is mandatory. A buddy system requires at least two people who work as a team; each looking Out for each other.

8.2 Site Communications Plan

Successful communications between field teams and contact with personnel in the support zone is essential. The following communications Systems shall be available during all work activities.

X Radios: Two way /FM Licensed

___ Intrinsically safe radios

___ Whistle

___ Megaphone

X Compressed air horn

X Hand signals:

Signal	Definition
Hands clutching throat	Out of air/can't breath
Hands on top of head	Need assistance
Thumbs up	OK/I'm all right// understand
Thumbs down	No/negative
Arms waving upright	Send backup support
Grip partners wrist	Exit area immediately

__Other:

8.3 Work Zone Definitions

The three general work zones established at the work site are the Exclusion Zone, Contamination Reduction Zone, and Support Zone.

The Exclusion Zone is defined as the area where contamination is either known or likely to be present, or because of activity, will provide a potential to cause harm to personnel. Entry into the Exclusion Zone requires the use of personnel protective equipment.

The Contamination Reduction Zone is the area where personnel conduct personal and equipment decontamination. It is essentially a buffer zone between contaminated areas and clean areas. Activities to be conducted in this zone will require personal protection as defined in the decontamination plan. At no time shall externally contaminated materials leave the Contamination Reduction Zone for movement into or across the Support Zone.

The Support Zone is situated in clean areas where the chance to encounter hazardous materials or conditions is minimal. Personal protective equipment, other than Level D, is therefore not required. The Support Zone contains material staging areas, office, training, eating, drinking and personal hygiene facilities and any other non-hazardous activity areas.

8.4 Nearest Medical Assistance

Figure 8.2 provides a map of the route to the nearest medical facility which can provide emergency care for individuals who may experience an injury or exposure on-site. The route to the hospital should be verified by the HSO, should be familiar to all site personnel and posted in the Support Zone. The support hospital for this contract is Highland Hospital located on 1411 E. 31st. Street in Oakland. Phone notification of the project and its hazards will be made by the Corporate Health and Safety Manager - David Sweet.

8.5 Safe Work Practices

Table 8.1 provides a list of Standing Orders for the Exclusion Zone.

Table *8.2* provides a list of Standing Orders for the Contamination Reduction Zone.

TABLE 8.1
STANDING ORDERS FOR THE EXCLUSION ZONE

- Site Management authorization to enter area is required.
- No smoking, eating, drinking, chewing or application of cosmetics in this zone.
- Activity observer (Over Watch) shall be stationed.
- No horse play.
- No matches, lighters or tobacco products in this zone.
- Check-in on entrance to this zone (sign the appropriate SSHSP and/or Confined Space Entry Permit).

Check-out on exit from this zone.

- Implement the communications system.
- Line of sight must be in position.
- Establish the buddy system, as required.
- Wear the appropriate level of protection as defined in the SSHSP.
- Conduct egress decontamination procedures in accordance with SSHSP and/or HSO directives upon departing the Exclusion Zone.
- No POVs are allowed in the Exclusion Zone.

TABLE 8.2
STANDING ORDERS FOR THE CONTAMINATION REDUCTION ZONE (CRZ)

- No smoking, eating, drinking, chewing or application of cosmetics in this zone.
- No horse play.

  No matches, lighters or tobacco products in this zone.
- Wear the appropriate level of protection as defined in the SSHSP.
- Completely doff all protective gear, other than Level D, before departing the ***CRZ.***
- Decontaminate, inspect, reassemble and properly store PPEs prior to departing the CRZ.
- Place all waste in the designated receptacles.
- Notify Site Supervision on exit CRZ. No POVs are allowed in the CRZ.

TABLE 8.3
STANDING ORDERS FOR THE SUPPORT ZONE

- Smoking, eating, drinking, chewing or application of cosmetics are authorized in designated areas only.
- No horse play.
- Place all waste in the designated receptacles.
- Notify Site Supervision on entrance and exit from the site.
- No POVs are allowed in the Support Zone.
- Visitors must notify Site Supervision on arrival and departure from site.

9.0 DECONTAMINATION PLAN

Table 5.2 lists the tasks and specific levels of protection required for each task. Consistent 'with the levels of protection required, Figures 9.1 through 9.3 provide a step by step representation of the personnel decontamination process for Levels A, B, C and Modified Level C.

9.1 Standard Operating Procedures

Decontamination involves the orderly controlled removal of contaminants. Standard decontamination sequences are presented in Figure 9. All site personnel should minimize contact with contaminants in order to minimize the need for extensive decontamination.

9.2 Levels of Decontamination Protection Required for Personnel

The levels of protection required for personnel assisting in the decontamination process will be modified Level D.

9.3 Equipment Decontamination

All equipment 'will be decontaminated to the free release levels, i.e. no detectable contaminates. The primary method used to prevent contamination of equipment is avoidance. Care should be exercised in the placement and operation of equipment so as to minimize the exposure risk and therefore any subsequent decontamination processes.

Equipment decontamination, if necessary, will consist of triple rinsing effected areas with a solution of trisodium phosphate and tap water. All visible contamination must be

removed. A sample of the final rinse water used shall be analyzed for contamination to verity the effectiveness of the decontamination procedure. Sample procedures outlined in the CDAP shall apply to all confirmation sampling operations.

FIGURE 9.1
LEVEL A,B,C, AND MODIFIED C DECONTAMINATION

Segregated equipment drop

Step 2 Tape removal

------ CRZLINE ------

Step 3 Outer Boot wash and removal

Step 4 Outer glove wash and removal

Step 5 outer garment wash, as applicable, and removal

Step 6 Breathing Apparatus removal

Step 7 Inner garment removal

Step 8 Inner bootie removal

Step 9 Dissemble, clean, inspect, monitor, reassemble and store breathing apparatus

Step 10 Inner glove removal

Step 11 Enter the Support Zone

------ SUPPORT ZONE LINE ------

Step 12 Hand and Face wash

10.0 EMERGENCY RESPONSE/CONTINGENCY PLAN

This section describes contingencies and emergency planning procedures to be implemented at the site. This plan is compatible with local, state and federal disaster and emergency management plans.

10.1 Pre-Emergency Planning

During the site briefings, all employees will be trained in and reminded of provisions of the emergency response plan, communication plan, and evacuation routes. Table 10.1 identifies the hazardous conditions associated with specific site activities.

10.2 Personnel Roles and Lines of Authority

The Project Manager has primary responsibility for responding to and correcting emergency situations. This includes taking appropriate measure to ensure the safety of site personnel and the public. Possible actions may involve evacuation of personnel from the site area. He is additionally responsible for ensuring that corrective measures have been implemented, appropriate authorities notified, and follow-up reports completed. The HSO may be called upon to act on the behalf of the Project Manager, and will direct responses to any medical emergency.

The Project Manager will notify MSE Management personnel of accidents/incidents of either a chemical or hazardous material nature.

10.3 Emergency Recognition/Prevention

Table 3.1 provides a listing of physical hazards on-site. Additional hazards as a direct result of site activities are listed in Table 10.1. Personnel will be familiar with techniques of hazard recognition from pre-assignment training and site specific briefings. The HSO is responsible for ensuring that prevention devices or equipment is available to personnel.

10.4 Evacuation Routes/Procedures

In the event of an emergency which necessitates an evacuation of the site, the following alarm procedures will be implemented: Three horn blasts

Personnel will be expected to proceed to the closest exit, with their buddy, and assemble at a safe distance along the designated evacuation route. Personnel will remain at the assembly location until *an authorized individual provides further instructions.*

Figure 10.1 provides a map depicting evacuation routes and assembly locations for the site and immediate area.

10.5 Emergency Contact/Notification System

The following list provides names and telephone numbers for emergency contact personnel. In the event of a medical emergency, personnel will take direction from the HSO and notify the appropriate emergency organization. In the event of a fire or spill, the site supervisor will notify the appropriate local, state, and federal agencies.

Organization	Contact	Telephone
Ambulance	N/A	911
Police	N/A	911
Fire	N/A	911
Hospital (Highland)	N/A	(510) 437-4800
Poison Control Center	N/A	(800) 366-8888
Region (9) EPA	Duty Officer	(415) 744-2000
National Response Center	N/A	(800) 424-8802
Center for Disease Control	N/A	(404) 488-4100
Chemtrec	N/A	(800) ***424-9555***
California EPA - TSCP	Duty officer	(916) 327-1848

10.6 Emergency Medical Treatment Procedures

Any person who becomes ill or injured in the Exclusion Zone must be decontaminated to the maximum extent possible without life threatening consequences. If the injury or illness is minor, full decontamination should be completed and first aid administered prior to transport. If the patient's condition requires treatment, decontamination may be abbreviated, but emergency response personnel must be apprised of the situation. First aid should be administered while awaiting an ambulance or paramedics. All injuries and illnesses must immediately be reported to the project manager.

Any person being transported to a clinic or hospital for treatment should take with them information on the materials they may have been exposed to at the site. This information is included in this plan. The PM/HSO, PHP and/or the Project EMT will accompany an injured person to the clinic or hospital.

Any vehicle used to transport contaminated personnel will be treated and cleaned as necessary.

10.7 Fire or Explosion

In the event of a fire or explosion, the Fire Department should be summoned immediately and site evacuation procedures initiated. Upon their arrival, the Project Manager or designated alternate will advise the Fire Marshal of the location, nature, and potential hazardous materials on-site.

If it is safe to do so, site personnel may:

Use fire fighting equipment available on-site to extinguish incipient stage fires; and, Remove or isolate flammable or other hazardous materials which may contribute to the fire.

NOTE:Extinguishing media available on site: Class A,B,C extinguisher for all fires.

10.8 Spill or Leaks

In the event of a spill or a leak, site personnel will:

Inform their supervisor immediately;

- Locate the source of the spillage and stop the flow, if it can be done safely; and begin containment and recovery of the spilled materials.

TABLE 10.1
EMERGENCY RECOGNITION/CONTROL MEASURES

Specific Condition Hazard	Location	Prevention\Control
Fire/Explosion	Site	A,B,C extinguisher and non-sparking tools
Spill	Tanks	Berms
		All other areas:
		Absorbent Materials, over pack drums, Haz-Cat Kit® and booms

TABLE 10.2
MSE INTERNAL CALL LIST

In the event of injury, accident, fire, explosion, spill, release, or other non-routine event, immediately contact one of the people starting with:

Name	Business #	Home #
1. Larry Ford	(512) 452-5500	(510) 233-6269
2. Ron Brown	(510) 452-5500	(415) 340-7297

11.0 SPILL CONTAINMENT PROGRAM

The procedures defined in this section comprise the spill containment program in place for project activities. Additional procedures are detailed in the Project Work Plan, as necessary based upon the planned activities, (see the sections pertaining to Pipeline Cleaning, Line Cutting, and Tank Removal).

- All waste and storage containers used shall meet the appropriate DOT, OSHA, and EPA regulations for the waste materials that they will contain.
- Containers shall be inspected and their integrity assured prior to being moved.
- Containers that cannot be inspected before being moved because of storage conditions, shall be positioned in an accessible location and inspected prior to further handling.
- All waste storage areas will be bermed and lined to prevent the spread of any leaks or spills from storage containers
- Operations on site will be organized so as to minimize the amount of container movement.
- Employees involved in the container operations shall be warned of the hazards associated with the containers.
- Where spills, leaks, or ruptures may occur, adequate quantities of spill containment equipment (absorbent diapers, bagged absorbent materials, boom, and squeegees) will be stationed in the immediate area. The spill containment materials must be sufficient to contain and isolate the entire volume of hazardous substances being transferred.
- Fire extinguishing equipment meeting 29 CFR Part 1910, Subpart I shall be on hand and ready for use to control incipient fires. This will consist of Class A,B,C, fire extinguisher.
- Containers in poor condition will be overpacked.

MSE Sample Data Sheet

Project Number: Alameda Lock & Glass Location: 2301 Encinal Ave., Alameda, CA

Sample ID: _____ Matrix Type: _____

Ambient Temperature: _____ ^{0}F/ C Precipitation: Yes / No

Sample Description: _____

Time: _____ Date: _____ Location: _____

Containers Used: 40 ml VOA 125 ml 250 ml 500 ml1000 ml (Plastic)

125 ml 250 ml 500 ml1000 ml (Glass)

Preservation Method: 4 ^{0}C HNO_3 H2SO _____ _____

Analysis Req: Headspace Immunoassay BTEX TRPH LEAD (Total)

Sample GPS Location*: _____ _____ _____ ft/m
Latitude Longitude
Altitude

Depth of Sample: _____in / ft Turbidity of Sample: _____

OVM / PID Result: _____ppm Filtered: Yes/No Size:_____ microns

Rad: n/a Alpha (~) n/a Beta (p) n/a Gamma (~)
DPM / CPM / mRem DPM / CPM / mRem DPM / CPM / mrem

Sample Shipment Date: _____ Report Due Date: _____

Technician _____Manager _____
Signature Reviewed

* Subject to accuracy degradation to 100m 2DRMS under the United States DoD imposed Selective Availability program. Due to satellite geometry, altitude error is typically two to three times the horizontal position error.)

Hot Work Permit

Active for this Date and Shift Only: _____ Shift Hours:_____

Location of Task: _____

Workers Authorized	Fire Watch	Type of Hot Work
_____	_____	_____
_____	_____	_____
_____	_____	_____

Description of Work:

_____

_____

_____

Training and Pre-Work Briefing:

1. Proper Protective Gear for Workers Date: _____
2. Fire Watch Responsibilities Date: _____
3. Atmospheric Monitoring Date: _____
4. Emergency Response Training Date: _____

Contractor/Subcontractor Notified of:

Permit Conditions	___Yes ___No
Potential Hazards	___Yes ___No
Emergency Response Procedures	___Yes ___No

Area Preparation:

1. Work area isolated by signs/barricades _____Yes
2. All potential fuel sources isolated and secured _____Yes
3. Fire extinguishers or other fire suppression in place and serviceable _____Yes
4. Crew responsibilities assigned _____Yes
5. Cuts or items to be removed marked/indicated _____Yes

Atmospheric Monitoring

		Reading	Time	Initials
1.	Test for Oxygen content	_____%02	_____	_____
2.	TestforCO2co~ent	_____%CO2	_____	_____
3.	Test for CO content	_____% CO	_____	_____
4.	Test for heat stress hazards	_____°F / °C	_____	_____
5.	Test for toxics content	_____ppm	_____	_____

Location of written Emergency / Rescue Plan: _____

Type of Emergency/Rescue Team needed: ___On Site ___Off Site Phone:_____

Site Health and Safety Officer Signature: _____Date/Time___

Confined Space Entry Permit

Active for this Date and Shift Only:_____ Shift Hours:_____

Location of Task:_____

Workers Authorized	Work Monitors	Fire Watch (If Necessary)
_____	_____	_____
_____	_____	_____
_____	_____	_____

Description of Work: _____

_____

_____

Training and Pre-Entry Briefing:
1.Safe Entry and Rescue Training _____Date
2.Mandatory Pre-Entry Briefing
_____Date
3.Special Training Required? Yes/ No

Contractor Notified Of: Permit Conditions:_____ Potential Hazards:_____

Lighting Requirements	Special Tools/Equipment	Communication Devices
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

1. All Electrical Devices Intrinsically Safe/Grounded? ___Yes ___No
2. Have all Power Cords and Tools been Inspected? ___Yes ___No

Area Preparation:

1. Work Area isolated with Signs and Barriers? ___Yes ___No
2. All Energy Sources Locked/tagged Out? ___Yes ___No
3. All Input Lines Capped/Plugged? ___Yes ___No
4. Vessel Contents Drained/Flushed/Neutralized? ___Yes ___No
5. Vessel Cleaned/Purged? ___Yes ___No

6. Ventilation Provided 30 Minutes Prior to Entry? ___Yes ___No

Pre-Entry Atmospheric Testing:

		Reading	Time	Initials
I.	Test for Oxygen Content:	____%02	_____	_____
2.	Test for Flammable Concentration:	____%IEL	_____	_____
3.	Test for Toxic Concentration:	____ppm	_____	_____
4.	Test for Heat Stress Hazard:	____ ^{0}F/C	_____	_____

Location of Written Emergency *I* Rescue Plan:_____

Type of Emergency I Rescue Team Needed:__On Site __Off Site _____ Phone

Site Health and Safety Officer Signature: _____

University of California, Berkeley

U N I V E R S I T Y E X T E N S I O N

This is to certify that

Ronald E. Brown

has attended the AHERA approved contractor/supervisor course
and satisfactorily passed the examination for

Practices and Procedures in Asbestos Control

and has completed the requisite training for asbestos accreditation under TSCA Title II

October 16–20, 1995

This certificate is valid until:
October 20, 1996

Examination date:
October 20, 1995

Certificate number *2331*

Deborah A. [illegible]

Chair,
Environmental Management
UC Berkeley Extension
2223 Fulton Street
Berkeley, CA 94720
(510) 643-7143

Texas Engineering Extension Service
The Texas A&M University System
Occupational and Environmental Safety Training Division

This is to certify that

Ron Brown

has satisfactorily completed 40 hours of
Underground Storage Tank License A&B Installer Remover Training
presented to National Association of Minority Contractors
conducted in Oakland, California

This course, TWC #TC001, satisfies the initial training requirements of 28 hours for the Class A and 12 hours for the Class B On-site Supervisor's Licenses as established by the Texas Natural Resource Conservation Commission in compliance with HB 183, 71st Texas Legislature.

February 27-March 3, 1995

Date

230-90-7939

Certificate Number

THE TEXAS A&M UNIVERSITY SYSTEM 1876

David C. Breeding
Division Head

M.K. Bennett
Director, Texas Engineering Extension Service
Associate Vice Chancellor for Engineering

CONFIDENTIAL

MEDICAL EVALUATION AND WORK RESTRICTIONS REPORT

☐ Preplacement/ Baseline ☐ Periodic Exam
☐ Return to Work Evaluation ☐ Exit

AmHEALTH
MEDICAL GROUP of CALIFORNIA, PC
384 Embarcadero West • Oakland, CA 94607
(510) 465-9565 • FAX (510) 465-3840

EMPLOYEE: BROWN, RONALD E

POSITION: _____

EMPLOYER: MICROSEARCH ENVIRONMENT

This employee was examined on 12/21/95. The original copy of this examination has been retained in this office. If previously arranged, a copy of the exam is enclosed for you in a sealed envelope, which is to be placed with the employee's confidential medical records. This is to be opened only by authorized personnel with a documented need to know.

The employee has been advised of the results of this examination and a full copy of the exam is routinely made available to the personal physician on request.

The following recommendation is based on a review of the medical and occupational history, diagnostic tests, physical examination and the specific requirements of the position. If no specific requirements of the position have been identified, these recommendations have been made based upon the applicant/employee's knowledge or perception of job duties and potential hazards. It should be understood that these are recommendations and suggestions only and the company has the final responsibility for work restrictions, taking in to account all relevant factors in the work situation. It should be noted that any additional medical information provided at any time henceforth might serve to modify these recommendations.

1. THE FOLLOWING SPECIFIC EVALUATIONS WERE PERFORMED:

☒ A. Respirator worker evaluation, ANSI Z88.6-1984 (29 CFR 1910-134) (CAL OSHA Title 8-5144). Recommendations regarding limitations on the use of personal protective respirators are:
☒ Class 1 - unrestricted ☐ Class 2 - restricted ☐ Class 3 - prohibited

RESPIRATOR FIT TESTING BY A QUALIFIED PROFESSIONAL IS MANDATORY. A Field Trial Of Respirator Tolerance Is Recommended.

☐ B. Audiometric booth test (ANSI S3.6 1969 Rev. 1973) (29 CFR 1910-95G3):
☐ Satisfactory ☐ Hearing impairment noted that may affect ability to safely perform required tasks

WORKERS EXPOSED TO EXCESSIVE NOISE SHOULD WEAR APPROPRIATE HEARING PROTECTIVE DEVICES.

☒ C. Asbestos clearance in accordance with (29 CFR 1926.58(m)), (CAL OSHA Title 8-5208):
☒ Qualified ☐ Unqualified Date of most recent chest X-ray: _____

☒ D. Chemical worker; SARA / TITLE III; (29CFR 1910.120) Exam; (CAL OSHA Title 8-5192) Exam
☒ Qualified ☐ Unqualified

☐ E. D.O.T. Driver medical certification
Certificate issued: ☐ Yes ☐ No ☐ Corrective Lenses ☐ Hearing Aid

☐ F. Drug Screen: ☐ Negative ☐ Positive ☐ Collection Only

☐ G. Breath Alcohol: ☐ Negative ☐ Positive

2. SUMMARY / RECOMMENDATIONS

☒ A. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training. He/she has no detected medical condition which would increase his/her risk of material health impairment from hazardous occupational exposures.

☐ B. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training.

☐ C. Suggested restrictions on work activities or exposures: _____

☐ D. Other _____

☐ E. This is a PRELIMINARY REPORT pending receipt of further information.

Physician's name A. SUNK, MD Signature _____ Date 12/29/95

CONFIDENTIAL

(A course consisting of 40 hours of instruction and meeting the Occupational Safety and Health Administration requirements under CFR 1910.120)

MICROSEARCH ENVIRONMENTAL CORPORATION

TRAINING CERTIFICATE

PRESENTED TO

DAVID SWEET

Has successfully completed
a training course for
Hazardous Waste Operations and Emergency Response
at Oakland, California

Presented this 4th day of October 19 95

This certificate is valid until:
October 6, 1996

Certificate number: CM0021

Ronald E. Brown REA
SIGNED

A600

CONFIDENTIAL

MEDICAL EVALUATION AND WORK RESTRICTIONS REPORT

☐ Preplacement/ Baseline ☐ Periodic Exam
☐ Return to Work Evaluation ☐ Exit

AmHEALTH
MEDICAL GROUP of CALIFORNIA, PC
384 Embarcadero West • Oakland, CA 94607
(510) 465-9565 • FAX (510) 465-3840

EMPLOYEE: Sweet, David

POSITION: Industrial Hygenist

EMPLOYER: Microsearch Environmental

This employee was examined on 1-25-96. The original copy of this examination has been retained in this office. If previously arranged, a copy of the exam is enclosed for you in a sealed envelope, which is to be placed with the employee's confidential medical records. This is to be opened only by authorized personnel with a documented need to know.

The employee has been advised of the results of this examination and a full copy of the exam is routinely made available to the personal physician on request.

The following recommendation is based on a review of the medical and occupational history, diagnostic tests, physical examination and the specific requirements of the position. If no specific requirements of the position have been identified, these recommendations have been made based upon the applicant/employee's knowledge or perception of job duties and potential hazards. It should be understood that these are recommendations and suggestions only and the company has the final responsibility for work restrictions, taking in to account all relevant factors in the work situation. It should be noted that any additional medical information provided at any time henceforth might serve to modify these recommendations.

1. THE FOLLOWING SPECIFIC EVALUATIONS WERE PERFORMED:

☒ A. Respirator worker evaluation, ANSI Z88.6-1984 (29 CFR 1910-134) (CAL OSHA Title 8-5144). Recommendations regarding limitations on the use of personal protective respirators are:
☒ Class 1 - unrestricted ☐ Class 2 - restricted ☐ Class 3 - prohibited

RESPIRATOR FIT TESTING BY A QUALIFIED PROFESSIONAL IS MANDATORY. A Field Trial Of Respirator Tolerance Is Recommended.

☐ B. Audiometric booth test (ANSI S3.6 1969 Rev. 1973) (29 CFR 1910-95G3):
☐ Satisfactory ☐ Hearing impairment noted that may affect ability to safely perform required tasks

WORKERS EXPOSED TO EXCESSIVE NOISE SHOULD WEAR APPROPRIATE HEARING PROTECTIVE DEVICES.

☒ C. Asbestos clearance in accordance with (29 CFR 1926.58(m)), (CAL OSHA Title 8-5208):
☒ Qualified ☐ Unqualified Date of most recent chest X-ray: _____

☒ D. Chemical worker; SARA / TITLE III; (29CFR 1910.120) Exam; (CAL OSHA Title 8-5192) Exam
☒ Qualified ☐ Unqualified

☐ E. D.O.T. Driver medical certification
Certificate issued: ☐ Yes ☐ No ☐ Corrective Lenses ☐ Hearing Aid

☐ F. Drug Screen: ☐ Negative ☐ Positive ☐ Collection Only

☐ G. Breath Alcohol: ☐ Negative ☐ Positive

2. SUMMARY / RECOMMENDATIONS

☒ A. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training. He/she has no detected medical condition which would increase his/her risk of material health impairment from hazardous occupational exposures.

☐ B. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training.

☐ C. Suggested restrictions on work activities or exposures: _____

_____

_____

_____

☐ D. Other _____

_____

_____

☒ E. ~~This is a PRELIMINARY REPORT pending receipt of further information.~~ [illegible]

Physician's name R SLINK, MD Signature _____ Date 1/25/96

CONFIDENTIAL

Presented By

CONDOR

MIKE RAYON

has completed a 40 Hour Course in
Hazardous Materials and Site Investigations
required by OSHA 29 CFR 1910.120

Presented this
January 11, 1996
CONDOR GEOTECHNICAL SERVICES, INC

Bob Pierce

BRADFORD PUBLISHING

NO. B.-R. 9

CONFIDENTIAL

MEDICAL EVALUATION AND WORK RESTRICTIONS REPORT

☐ Preplacement/ Baseline ☐ Periodic Exam
☐ Return to Work Evaluation ☐ Exit

AMHEALTH
MEDICAL GROUP of CALIFORNIA, PC
3384 Embarcadero West • Oakland, CA 94607
(510) 465-9565 • FAX (510) 465-3840

EMPLOYEE: RAYON, MICHAEL W
POSITION: LABORER
EMPLOYER: MICROSEARCH ENVIRONMENT

This employee was examined on 12/29/95. The original copy of this examination has been retained in this office. If previously arranged, a copy of the exam is enclosed for you in a sealed envelope, which is to be placed with the employee's confidential medical records. This is to be opened only by authorized personnel with a documented need to know.

The employee has been advised of the results of this examination and a full copy of the exam is routinely made available to the personal physician on request.

The following recommendation is based on a review of the medical and occupational history, diagnostic tests, physical examination and the specific requirements of the position. If no specific requirements of the position have been identified, these recommendations have been made based upon the applicant/employee's knowledge or perception of job duties and potential hazards. It should be understood that these are recommendations and suggestions only and the company has the final responsibility for work restrictions, taking in to account all relevant factors in the work situation. It should be noted that any additional medical information provided at any time henceforth might serve to modify these recommendations.

1. THE FOLLOWING SPECIFIC EVALUATIONS WERE PERFORMED:

☒ A. Respirator worker evaluation, ANSI Z88.6-1984 (29 CFR 1910-134) (CAL OSHA Title 8-5144). Recommendations regarding limitations on the use of personal protective respirators are:
☒ Class 1 - unrestricted ☐ Class 2 - restricted ☐ Class 3 - prohibited
RESPIRATOR FIT TESTING BY A QUALIFIED PROFESSIONAL IS MANDATORY. A Field Trial Of Respirator Tolerance Is Recommended.

☐ B. Audiometric booth test (ANSI S3.6 1969 Rev. 1973) (29 CFR 1910-95G3):
☐ Satisfactory ☐ Hearing impairment noted that may affect ability to safely perform required tasks
WORKERS EXPOSED TO EXCESSIVE NOISE SHOULD WEAR APPROPRIATE HEARING PROTECTIVE DEVICES.

☒ C. Asbestos clearance in accordance with (29 CFR 1926.58(m)), (CAL OSHA Title 8-5208):
☒ Qualified ☐ Unqualified Date of most recent chest X-ray: _____

☐ D. Chemical worker; SARA / TITLE III; (29CFR 1910.120) Exam; (CAL OSHA Title 8-5192) Exam
☐ Qualified ☐ Unqualified

☐ E. D.O.T. Driver medical certification
Certificate issued: ☐ Yes ☐ No ☐ Corrective Lenses ☐ Hearing Aid

☐ F. Drug Screen: ☐ Negative ☐ Positive ☐ Collection Only

☐ G. Breath Alcohol: ☐ Negative ☐ Positive

2. SUMMARY / RECOMMENDATIONS

☐ A. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training. He/she has no detected medical condition which would increase his/her risk of material health impairment from hazardous occupational exposures.

☒ B. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training.

☐ C. Suggested restrictions on work activities or exposures: _____

☐ D. Other _____

☐ E. This is a PRELIMINARY REPORT pending receipt of further information.

Physician's name WILLIAM PEREIRA, M.D. Signature _____ Date 1/3/96

CONFIDENTIAL

(A course consisting of 40 hours of instruction and meeting the Occupational Safety and Health Administration requirements under CFR 1910.120)

MICROSEARCH ENVIRONMENTAL CORPORATION

TRAINING CERTIFICATE

PRESENTED TO

GARY LOWE

Has successfully completed
a training course for

Hazardous Waste Operations and Emergency Response
at Oakland, California

Presented this 4th day of October 19 95

This certificate is valid until:

October 6, 1996

Certificate number:

REA-05579

Ronald E. Brown
SIGNED

A600

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CONFIDENTIAL
MEDICAL EVALUATION AND WORK RESTRICTIONS REPORT

☐ Preplacement/ Baseline ☐ Periodic Exam
☐ Return to Work Evaluation ☐ Exit

AmHEALTH
MEDICAL GROUP of CALIFORNIA, PC
3884 Embarcadero West • Oakland, CA 94607
(510) 465-9565 • FAX (510) 465-3840

EMPLOYEE: Lowe, Gary

POSITION: _____

EMPLOYER: Microsearch Environmental

This employee was examined on 11-6-95. The original copy of this examination has been retained in this office. If previously arranged, a copy of the exam is enclosed for you in a sealed envelope, which is to be placed with the employee's confidential medical records. This is to be opened only by authorized personnel with a documented need to know.

The employee has been advised of the results of this examination and a full copy of the exam is routinely made available to the personal physician on request.

The following recommendation is based on a review of the medical and occupational history, diagnostic tests, physical examination and the specific requirements of the position. If no specific requirements of the position have been identified, these recommendations have been made based upon the applicant/employee's knowledge or perception of job duties and potential hazards. It should be understood that these are recommendations and suggestions only and the company has the final responsibility for work restrictions, taking in to account all relevant factors in the work situation. It should be noted that any additional medical information provided at any time henceforth might serve to modify these recommendations.

1. THE FOLLOWING SPECIFIC EVALUATIONS WERE PERFORMED:

☒ A. Respirator worker evaluation, ANSI Z88.6-1984 (29 CFR 1910-134) (CAL OSHA Title 8-5144). Recommendations regarding limitations on the use of personal protective respirators are:
☒ Class 1 - unrestricted ☐ Class 2 - restricted ☐ Class 3 - prohibited
RESPIRATOR FIT TESTING BY A QUALIFIED PROFESSIONAL IS MANDATORY. A Field Trial Of Respirator Tolerance Is Recommended.

☐ B. Audiometric booth test (ANSI S3.6 1969 Rev. 1973) (29 CFR 1910-95G3):
☐ Satisfactory ☐ Hearing impairment noted that may affect ability to safely perform required tasks
WORKERS EXPOSED TO EXCESSIVE NOISE SHOULD WEAR APPROPRIATE HEARING PROTECTIVE DEVICES.

☒ C. Asbestos clearance in accordance with (29 CFR 1926.58(m)), (CAL OSHA Title 8-5208):
☒ Qualified ☐ Unqualified Date of most recent chest X-ray: 8-26-94

☐ D. Chemical worker; SARA / TITLE III; (29CFR 1910.120) Exam; (CAL OSHA Title 8-5192) Exam
☐ Qualified ☐ Unqualified

☐ E. D.O.T. Driver medical certification
Certificate issued: ☐ Yes ☐ No ☐ Corrective Lenses ☐ Hearing Aid

☐ F. Drug Screen: ☐ Negative ☐ Positive ☐ Collection Only

☐ G. Breath Alcohol: ☐ Negative ☐ Positive

2. SUMMARY / RECOMMENDATIONS

☐ A. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training. He/she has no detected medical condition which would increase his/her risk of material health impairment from hazardous occupational exposures.

☒ B. The examination indicates no significant medical impairment. The applicant/employee can be assigned any work consistent with skills and training.

☐ C. Suggested restrictions on work activities or exposures: _____

☐ D. Other _____

☐ E. This is a PRELIMINARY REPORT pending receipt of further information.

Physician's name WILLIAM PEREIRA, M.D. Signature _____ Date 11/21/95

CONFIDENTIAL

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)
7/28/95

PRODUCER
DEBRA BELL INSURANCE SERVICES
P.O. BOX 4768
OAKLAND, CA 94605
(510) 832-7896
(510) 832-8764 FAX

CODE SUB-CODE

INSURED
MICROSEARCH ENVIRONMENTAL
318 HARRISON STREET, 1A
OAKLAND, CA

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

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A CENTURY SURETY COMPANY
COMPANY LETTER B
COMPANY LETTER C
COMPANY LETTER D
COMPANY LETTER E

COVERAGES

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

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS
A	GENERAL LIABILITY				
	X COMMERCIAL GENERAL LIABILITY				GENERAL AGGREGATE $ 1,000,
	CLAIMS MADE OCCUR.	CCP126070	7/27/95	7/27/96	PRODUCTS-COMP/OPS AGGREGATE $ 1,000,
	OWNER'S & CONTRACTOR'S PROT.				PERSONAL & ADVERTISING INJURY $ 1,000,
					EACH OCCURRENCE $ 1,000,
					FIRE DAMAGE (Any one fire) $ 50,
					MEDICAL EXPENSE (Any one person) $
A	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT $ 1,000,
	ANY AUTO				
	ALL OWNED AUTOS				BODILY INJURY (Per person) $
	SCHEDULED AUTOS	CCP126070	7/27/95	7/27/96	
	HIRED AUTOS				BODILY INJURY (Per accident) $
	X NON-OWNED AUTOS				
	GARAGE LIABILITY				PROPERTY DAMAGE $
	EXCESS LIABILITY				EACH OCCURRENCE $ / AGGREGATE $
	OTHER THAN UMBRELLA FORM				
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY $ (EACH ACCIDENT) $ (DISEASE—POLICY LIMIT) $ (DISEASE—EACH EMPLOYEE)
A	OTHER PROFESSIONAL LIABILITY	CPP126070	7/27/95	7/27/96	$1,000,

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

THE CERTIFICATE HOLDER IS NAMED AS ADDITIONAL INSURED AS RESPECTS THEIR INTEREST IN THE NAMED INSURED.

CERTIFICATE HOLDER

IT CORPORATION
4585 PACHECO BLVD.
MARTINEZ, CA 94553
ATT: MRS. DAYELLE CHASE

CANCELLATION

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

AUTHORIZED REPRESENTATIVE

Debra A Bell

ACORD 25-S (3/88)

NB

STATE COMPENSATION INSURANCE FUND

P.O. BOX 807, SAN FRANCISCO,CA 94101-0807

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

ISSUE DATE: **12-01-95**

POLICY NUMBER: **1406853 - 95**
CERTIFICATE EXPIRES: **12-01-96**

ALLIED TECHNICAL GROUP
ATTN: MR. ERICK SU
47375 FREMONT BLVD.
FREMONT CA 94538

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon **10** days' advance written notice to the employer.

We will also give you **10** days' advance notice should this policy be cancelled prior to its normal expiration.

This certificate of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

Kenneth C Bollier
PRESIDENT

EMPLOYER'S LIABILITY LIMIT INCLUDING DEFENSE COSTS: $1,000,000.00 PER OCCURRENCE.

EMPLOYER

LEGAL NAME

MICRO SEARCH ENVIRONMENTAL CORP.
318 HARRISON ST. #1A
OAKLAND CA 94607

MICRO SEARCH ENVIRONMENTAL CORPORATIO

PRINTED: **11-18-95** P0409

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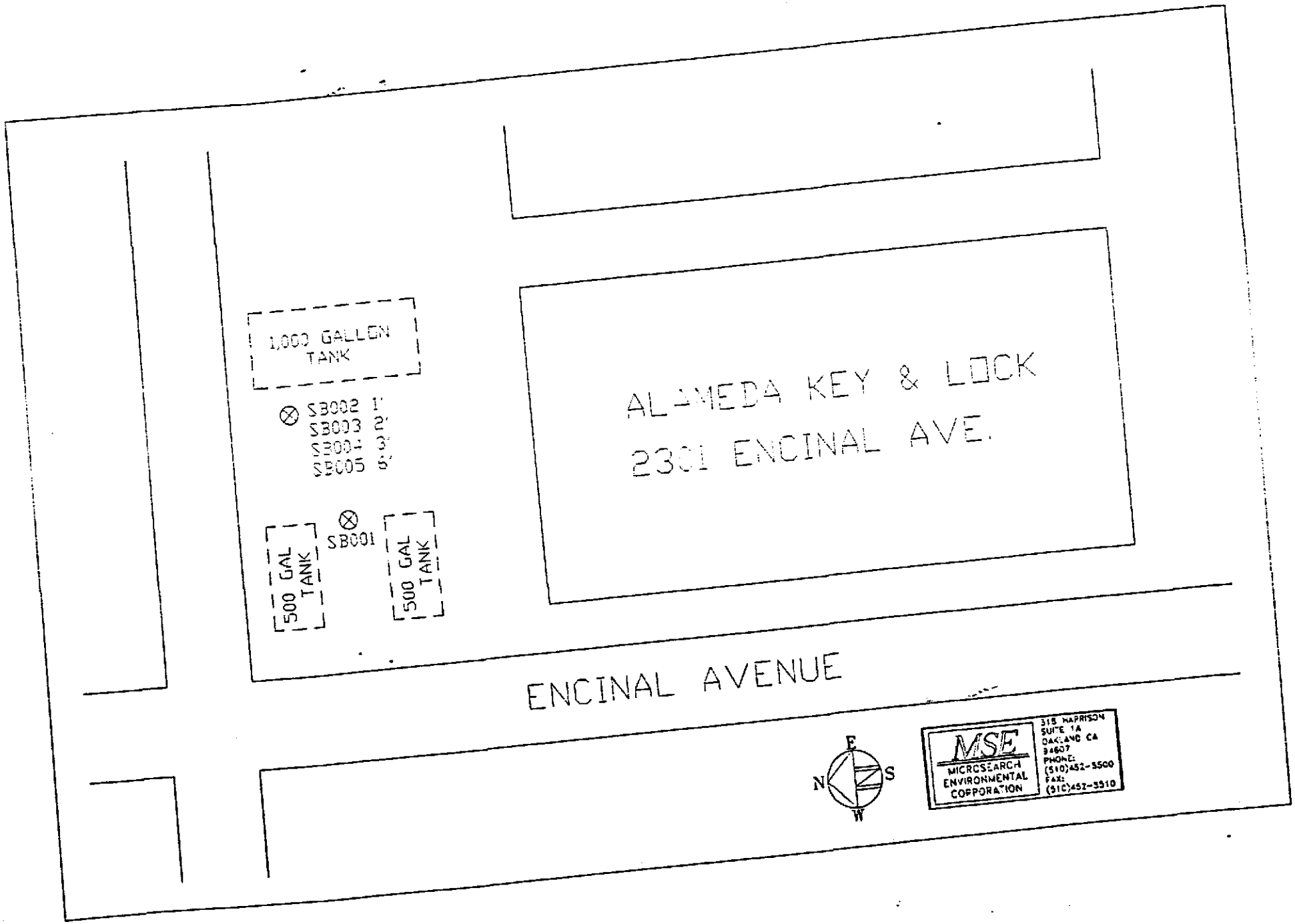
1,000 GALLON TANK
SB002 1'
SB003 2'
SB004 3'
SB005 6'
SB001
500 GAL TANK
500 GAL TANK
ALAMEDA KEY & LOCK
2301 ENCINAL AVE.
ENCINAL AVENUE
E
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W
MSE
MICROSEARCH ENVIRONMENTAL COPPORATION
315 HARRISON SUITE 1A OAKLAND CA 94607
PHONE: (510)452-5500
FAX: (510)452-5510

Consumer Affairs

State of California
CONTRACTORS STATE LICENSE BOARD
ACTIVE LICENSE

License Number 634365 Entity INDIV

Business Name LAWRENCE CONSTRUCTION COMPANY

Classification(s) A HAZ B ASB

Expiration Date 12/31/97

STATEMENT
OF
QUALIFICATIONS

ERICKSON, Inc. LOCATIONS

C A L I F O R N I A

255 PARR BLVD.
RICHMOND, CA 94801
(510) 235-1393
FAX (510) 235-3709

13738 SLOVER AVE.
FONTANA, CA 92337
(909) 355-5601
FAX (909) 355-5912

N E V A D A

1350 E. GREG ST, STE 3
SPARKS, NV 89431
(702) 358-5551
FAX (702) 358-5598

U T A H

503 WEST 400 SOUTH
SALT LAKE CITY, UT 84101
(801) 359-6861
FAX (801) 359-6637

SERVICES AND HOURS

SERVICE	RICHMOND (510) 235-1393	FONTANA (909) 355-5601	SALT LAKE CITY, UT (801)363-9533	SPARKS, NV (800)472-0466
Underground Storage Tank Disposal	Karen Ruffin Dave Sato	Linda Allen Ext. 13	Dean Hinton Tom Pritchett	Tom Hammond Sally Chapin
Underground Storage Tank Degassing	Harry Stockton BAAQMD Reg. 8, Rule 5	Harry Stockton SCAQMD Rule 1149	Harry Stockton	Tom Hammond Sally Chapin
Manifesting Questions	Harry Stockton	Darwin Hall Ext. 11	Harry Stockton	Harry Stockton
Compliance Questions	Harry Stockton	Harry Stockton	Harry Stockton	Harry Stockton
Vacuum Truck Services	Rich Lodge	Lee Barrigan Ext. 16 Pager 909-783-8580	Dean Hinton Tom Pritchett	Sally Chapin Tom Hammond
Roll-Off Transportation Holding Tank/Waste Bin Rentals	Rich Lodge	Lee Barrigan Ext. 16 Pager 909-783-8580	Dean Hinton Tom Pritchett	Sally Chapin Tom Hammond
Contaminated Soil Removal and Disposal	Rich Lodge Tyron Carter	Don Hubbard Ext. 17 Pager 909-424-6039	Tom Pritchett Dean Hinton	Tom Hammond Sally Chapin
Site Closure	Ron Reis	Darwin Hall Ext. 11	David Nielsen	David Nielsen
PCB Management	Ron Reis	Darwin Hall Ext. 11	Ron Reis	Ron Reis
Drum Management Services	DeDe Martinez	Darwin Hall Ext. 11	Tom Pritchett Dean Hinton	Sally Chapin Tom Hammond
Customer Service Representative (Quality Assurance)	Sash Migay	Linda Allen Ext. 13	Tom Pritchett Dean Hinton	Sally Chapin Tom Hammond
Emergency Spill Response	Darla Adams	Don Hubbard Ext. 17 Pager 909-424-6039	Tom Pritchett Dean Hinton	Sally Chapin Tom Hammond
Refinery Labor Services	Tom Forrester	Darwin Hall Ext. 11	Tom Pritchett	
Labor Services	Rich Lodge	Darwin Hall Ext 11	Tom Pritchett Dean Hinton	Sally Chapin Tom Hammond
Chemical Cleaning	Ron Reis	Ron Reis	Ron Reis	Ron Reis
Carbon Management	Bill Grant	Don Hubbard Ext. 17 Pager 909-424-6039	Tom Pritchett Dean Hinton	Tom Hammond Sally Chapin
Waste Treatment	Alex Vainer	Darwin Hall Ext. 11	Tom Pritchett Dean Hinton	Tom Hammond Sally Chapin
Soap / Detergent	Bob Blain	Darwin Hall Ext. 11	Tom Pritchett Dean Hinton	Tom Hammond Sally Chapin

Service hours at all locations are 24 hours a day. Calls placed during off hours (before 6 a.m. or after 6 p.m.) are handled by an answering service which will put you in contact with the Erickson On-Call Supervisor.

If you have any questions or if you have a problem that needs to be resolved, please contact the Customer Service Representative in your area.

RONALD J REIS
PROJECTS DIRECTOR
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Managed environmental and operational activities during operations shutdown and site closure.

Hazardous waste minimizaiton/treatment project development & management.

Technical or operations representative for operations improvements and various major plant turnarounds in crude units, hydrocracking, chemicals manufacturing and hydrogen manufacturing facilities.

Responsible for optimization of lube oil additives manufacturing site until closure.

Implemented supplier quality certification process for lube oil and fuel additives manufacturing division.

EMPLOYMENT HISTORY

Projects Director, Erickson, Inc. (Present)
Director of Operations, Erickson, Inc. (1993 - 1994)
President, Erickson, Inc dba Erickson Environmental (1992 - 1993)
Supplier Quality Alliance Coordinator and Technical/Operation Supervisor, Chevron Chemical (1989 - 1992)
Refinery technical and operations responsibilities, Chevron U.S.A. (1980 - 1989)

EDUCATION

B.S., Chemical Engineering, Washington State University, 1980

ADDITIONAL TRAINING

Registered Professional Engineer, California - Chemical Branch
40 Hour OSHA Training for Hazardous Waste Site Workers

THOMAS L. FORRESTER
DIRECTOR OF SERVICES
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Responsible for Refinery Labor Services, UGST Tank Processing, Emergency Response, Technical Services Group and Risk Management and Safety.

EMPLOYMENT HISTORY

Director of Services, Erickson, Inc. (1994 - Present)
Director of Risk Management & Safety, Erickson, Inc. (1991 - Present)
Director of Environmental Risk Management, Pacific Gas & Electric Company (1986 - 1989)
Senior Industrial Hygienist/Public & Environmental Health Advisor/Project Manager, Pacific Gas & Electric Company (1975 - 1986)

EDUCATION

M.S., Environmental Toxicology, University of San Francisco, 1981.
M.E.S., Environmental Science, University of Oklahoma, 1973
B.S., Laboratory Technology/Microbiology, University of Oklahoma, 1971

ADDITIONAL TRAINING

Certified Industrial Hygienist, (CIH) Certification # 2355
Certified Safety Professional, (CSP) Certification # 12951
Certified Risk Management, (ARM)
Certified Instructor in CPR and First Aid
Certified Safety Coordinator, California Trucking Association
Certified Lead Inspector, Monitor, Assessor, & Supervisor, California Department of Health services, Cert #I,M &S-74.
Certified instructor in Public Safety and Ecology by California Community Colleges No. 100865
Registered Environmental Assessor, (REA) State of California, Reg. # 02003
40 and 8 Hour SARA Training Instructor
MSHA Certified Instructor

DARLA ADAMS
EMERGENCY RESPONSE COORDINATOR
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Field and Technical Representative for operations involving hazardous waste clean-ups, proper packaging, transporting, and disposal.

Responsible to ascertain the technical tasks necessary to complete each job by determining available resources and predicting job scope changes - scheduling of manpower and equipment.

Bring resolve to crisis situations during emergency responses concerning the containment and clean-up operation.

EMPLOYMENT HISTORY

Emergency Response Coordinator, Erickson, Inc. (1993 - Present)
Field Supervisor, Disposal Control Services, Inc. (1993)
Field Lead II, American Environmental Health Management Corporation (1987 - 1993)

EDUCATION

Environmental Hazardous Materials Technology, Cosumnes River College)
Hazardous Materials Incidents and Ports, University Extension, U.C. Davis
General Chemistry Challenge - Hazard Analysis, University Extension, U.C. Davis
Tank Truck - Liquid Pipeline Emergency, University Extension, U.C. Davis

ADDITIONAL TRAINING

40 Hour Hazardous Waste Operations and Emergency Response (OSHA 29 CFR)
Hazardous Waste Supervisory Course
Confined Space Supervisor's Course
Uniform Hazardous Waste Manifest Training
HM 181 Certification Training
Chemical Hazards and Awareness Training

ALEXANDER VAINER
WASTE TREATABILITY MANAGER
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Provided technical support and recommendations for various industrial wastewater treatment projects for plastics, pigment and synthetic rubber manufacturing facilities.

Researched and developed treatment and recycling technology for heavily polluted rinse waters.

Provided technological solutions for reducing the amount of waste and/or utilizing them.

Developed the necessary sensing, monitoring and controlling devices and methods using various physio-chemical and chemical methods os analysis.

Developed innovative extraction technology for the remediation of PCB contaminated soils with simultaneous PCB dechlorination.

Designed and conducted extensive sampling and speciation program to determine all the major sources of selenium and heavy metals.

Task leader in the treatment plant reconstruction project for major Bay Area refineries.

EMPLOYMENT HISTORY

Waste Treatability Manager, Erickson, Inc. (1993 - Present)
Senior Engineer, Bechtel Environmental, Inc. (1990 - 1993)
Senior Chemical Research Engineer, Clean Harbors Environmental Engineering Corp. (1988 - 1990)
Senior Consulting Engineer, Municipal department of Environmental Management (1983 - 1987)

EDUCATION

M.S., Chemical Engineering, Leningrad Institute of Technology
B.S., Organic Chemistry, Leningrad Institute of Technology

HARRISON L. STOCKTON
TECHNICAL SUPPORT SUPERVISOR
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Prepared procedures for chemicals manufacturing. Responsibilities included job costing, scheduling, material specification, quality control and assurance, supervision of plant operation, and responsible for process control.

In charge of trouble shooting projects and problem solving of hard to handle wastes, waste sampling, testing and chemical analysis, facility regulatory compliance.

EMPLOYMENT HISTORY

Erickson, Inc., Richmond, CA (1984 - Present)
Ark Distributing Company, Martinez, CA (1983 - 1984)
Fairchild Semiconductor, San Rafael, CA (1980 - 1982)
Chemical and Pigment Company, Pittsburg, CA (1977 - 1978)
University of Wyoming, Chemistry Department (1973 - 1975)

EDUCATION

B.A., Chemistry, with Honors, University of Wyoming, 1974

AFFILIATIONS

American Chemical Society
Association of Official Analytical Chemists
Hazardous Waste Association of California

DAVE NIELSEN
SENIOR PROJECT ENGINEER
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Obtained RCRA Part B, State Hazardous Waste Facility, BAAQMD, Sanitary District, and County Land Use permit for a 30,000 ton per year treatment and storage facility.

Labpacked over 1,500 drums of waste laboratory chemicals from graduate chemistry labs and College of Chemistry chemical library.

Performed field chemistry analysis, packaging according to DOT requirements, manifesting, and brokering of final disposal sites.

Responsible for regulatory compliance, permitting, report preparation, and department management.

Cleaned and removed a waste water treatment system.

Excavated and transported for off-site disposal of contaminated soil. Backfilled and resurfaced excavations.

EMPLOYMENT HISTORY

Project Engineer, Erickson, Inc. (1989-Present)
Project Supervisor, Ensco Environmental Services (1988-1989)
Field Technician, Claypro USA, Chevron Refinery (1985-1988)

EDUCATION

B.S., Chemical Engineering, University of California, Berkeley, CA, 1988

ADDITIONAL TRAINING

40 hour OSHA Training for Hazardous Waste Site Workers
8 hour OSHA Supervisor Training
24 hour DOT Compliance and Manifest Training
Engineer in Training, CA license no. XE082571

MARY BOYD
PROJECT ENGINEER
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Developed and implemented company safety policies.

Prepared AB-2185 business plans, Injury and Illness Prevention Plan, and hazard communication program for Excel Trans and outside clients.

Correctly packaged, profiled, labeled, and manifested waste shipments for disposal.

Evaluated disposal versus on-site treatment options for waste generated during remediation.

Developed and implemented company safety policies for Excel Trans.

Provided cost analysis/engineering review for site remediation projects.

Prepared drilling permit application and supervised sub-surface investigation of the property as a Site Safety Director for plating shop decommissioning project.

EMPLOYMENT HISTORY

Project Engineer, Erickson, Inc. (1993 - Present)
Safety Director, Erickson, Inc./Excel Trans, Inc. (1991 - 1993)
Lab Pack Supervisor, Chem Waste Management, Inc. (1990)

EDUCATION

B.S., Chemical Engineering,California State University, San Jose, 1990

ADDITIONAL TRAINING

40 hour OSHA Training for Hazardous Waste Site Workers
40 hour Site Safety Officer Training
32 hour DOT Compliance and Manifest Training
UC Davis Haz Cat Chemical Identification Course

DAVE D. SATO
PROJECT MANAGER
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Responsible for TSDF Operations, TSDF specifically handles underground and above ground storage tanks.

Site remediation and emergency response. To include excavation, sampling and disposal of contaminated soils for refineries, Count Department of Hazardous Materials and property owners.

Underground storage tank removal, including permitting, organizing field operations and subcontract negotiations.

Consulting resource for realtors, banks and property owners on matters of site remediation and property transactions.

TSDF Safety Committee Team Leader.

EMPLOYMENT HISTORY

Manager, TSDF Tank Cleaning Facility, Erickson, Inc. (1992 - Present)
Supervisor, Field Operations, Erickson, Inc. (1989 - 1992)
Manager, Field Operations, Robert J. Miller Co. (1986 - 1989)
Project Manager, Bay Cities Excavators (1982 - 1986)

EDUCATION

B.S., Business Administration, California State University, Hayward, 1982
Hazardous Material Certificate Program - U.C. Berkeley, (1992)

ADDITIONAL TRAINING

40 Hour SARA Certification with subsequent 8 Hour Refreshers
DOT Driver Training Certification
Confined Space Certification
"Q" Emergency Response Training
BATT Safety Orientation

MARTIN P. JEPPESON
ENVIRONMENTAL HEALTH & SAFETY MANAGER
ERICKSON, INC.
RICHMOND, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Monitored legislation for potential impact on corporate operations in the environmental, health and safety arena.

Performed detailed analyses of job sites for compliance with federal and state health and safety codes.

Analyzed recruiting requirements and programmed organizational resources to more effectively support needs.

Launched analysis, research and initial planning steps to support interstate relocation of multimillion dollar asset package.

Developed and managed annual budgets.

Streamlined comprehensive 7 week training program for new employees; reduced manpower requirements by 25%.

Planned annual recruiting support activities.

EMPLOYMENT HISTORY

Environmental Health & Safety Manager, Erickson, Inc. (1991 - Present)
United States Army - retired as Lieutenant Colonel. (1966 - 1990)

EDUCATION

Auburn University, AL. (1985) - M.P.S., Political Science
University of Albuquerque, NM (1975) - B.S., Business Administration

ADDITIONAL TRAINING

University of California, Davis, CA. (1991) - Hazardous Materials Management Certificate
AirCommand & Staff College (1984) - Advanced professional development (Strategic planning, decision making, situation analysis, leadership)
40 Hour SARA, 8 Hour Supervisor
Hazardous Materials Management Certificate (1991)
Associate Safety Professional (ASP) (1994)
CTA Safety Coordinator Course (1994)

DARWIN HALL
SOUTHERN CALIFORNIA DISTRICT MANAGER
ERICKSON, INC.
FONTANA, CALIFORNIA

REPRESENTATIVE EXPERIENCE

Management of TSDF operations, hazardous waste, transportation disposal and business development.

Expertise includes planning and implementation of the following:

-Facility decontamination using technologies ranging from bead blasting, high pressure water and dry ice blasting.
-Cleaning of storage tanks ranging in size up to 5 million gallons including oil, acid, and caustic tanks.
-Storage tank degassing, decontamination, decommissioning and recycling.
-Waste minimization and phase separation of various waste streams using decanting centrifuges and recessed filter presses.
-Treatment and filtration of various industrial chemicals.
-Spill response, land and marine.
-Groundwater clean up and soil venting.
-Oil well downhole cleaning - Hyperclean and foam cleaning and drilling.

EMPLOYMENT HISTORY

Erickson, Inc. Fontana, California
OHM Remediation Services Corporation, Anaheim, California
Chemical Processors, Inc. (CHEMPRO) Long Beach, California
Pool Well Servicing Company, Garden Grove & Bakersfield, California
Hopper, Inc. Bakersfield, California

EDUCATION

B.S., Business Administration, Cal State University/Bakersfield

ADDITIONAL TRAINING

Certificate In Hazardous waste Management, UC Irvine
Certificate Environmental Site Assessment & Remediation, UC Irvine
40 hour OSHA Training for Hazardous Waste Site Workers
8 hour OSHA Supervisor Training
24 hour DOT Compliance and Manifest Training

SALLY CHAPIN
DISTRICT MANAGER
ERICKSON, INC.
SPARKS, NEVADA

REPRESENTATIVE EXPERIENCE

Responsible for all transportation, clean-up, operational and administrative activities.

Developed and implemented a comprehensive hazardous waste management sales and marketing program.

EMPLOYMENT HISTORY

Division Manager, Erickson, Inc. (1993 - Present)
Operations Manager, Excel Trans (1989 -1993)
Sales Representative, Eticam, (1987 - 1989)

ADDITIONAL TRAINING

Transportation 49 CFR700/126F/181 # 1165, Hazmacon
Hours of Service and Log Supervision, California Trucking Association
16 Hour Hazardous Waste Compliance and Safety Training, Erickson
40 Hour Hazardous Waste Compliance, Erickson
8 Hour Hazardous Waste Manifest Review, Erickson
American Environment, Eticam

TOM PRITCHETT
DISTRICT MANAGER
ERICKSON, INC.
SALT LAKE CITY, UTAH

REPRESENTATIVE EXPERIENCE

Responsible for all operational and administrative activities within the inter-mountain region.

Developed a waste oil program within the state of Utah.

Develop technologies for waste minimization.

Project Manager for remedial projects.

Coordinate transportation services within the inter-mountain region.

EMPLOYMENT HISTORY

District Manager, Erickson, Inc. (1993 - Present)
Sales Representative, Riedel Environmental Services Inc. (1992 - 1993)
Customer Service Manager, USPCI Grassy Mountain Facility (1989 - 1992)

EDUCATION

B.S., College of Business Management, University of Utah, 1989

ADDITIONAL TRAINING

40 Hour OSHA 29 CFR 1910.120
29 CFR 1910.120 Health/Safety MRMT, 1993
24 Hour OSHA Training, 1991
40 Hour RCRA Regulatory Training, 40 CFR, Permitting, 1990
Certified Hazcat Chemical Identification System, 1991
Hazardous Materials Training, State Fire Academy, 1991
Chemistry of Hazardous Materials, Salt Lake Community College, 1992
First Aid, CPR

AFFILIATIONS

Utah Hazardous Materials Association.
The Rocky Mountain Association of Environmental Professionals.

EQUIPMENT BY LOCATION

RICHMOND, CA - EPA # CAD 009 466 392

VACUUM TRUCKS

22 - 130 BBL Vacuum Trucks (5,000 gallons)
- 15 - Carbon Steel
- 7 - 316 Stainless Steel

10 - 38 BBL Vacuum Trucks (1,500 gallons)
- 5 - Carbon Steel
- 3 - 316 Stainless Steel
- 2 - Dump Hoist

2 - 70 BBL Vacuum Trucks (3,000 gallons)

ROLLOFF TRUCKS AND EQUIPMENT

14 - Rolloff Trucks
- 3 - 3 Axle Units
- 11 - 5 Axle Units:
  - 5 Truck/Trailer Units with 2 Box Capability
  - 6 Semi Units with 1 or 2 Box Capability

2 - 40 Yd. End Dumps

305 - Rolloff Equipment
- 265 - Hazardous Waste Certified Bins (10 - 20 yd^3)
- 20 - Liquid Holding Tanks (4,000, 6,000 and 8,000 gallon)
- 20 - Liquid Holding Tanks (20,000 gallon)
- 1 - EZ Dump Trailer
- 25 - 4 Yd. EZ Dump Bins

FLATBEDS

23 - Flatbed Trucks
- 2 - 40' Drum Trailer with Power Liftgate and Secondary Containment
- 2 - 40' Flatbed with Removable Sides
- 12 - 45' Flatbeds
- 2 - 45' Lowboy Flatbed
- 2 - 18' Flatbed Truck with Power Liftgate
- 1 - 16' Flatbed with hoist
- 2 - 23' Gooseneck Flatbed

VACUUM LOADERS

3 - Wet/Dry Heavy Materials Vacuum Loaders
- 1 - Skid Mounted 5,000 CFM Unit
- 2 - Chassis Mounted 5,000 CFM Units
  (One has a swing out cyclone to load boxes, bags, or drums.)

30 - Vacuum Intercept Boxes for Hazardous Waste

2 - 1000 Cubic Foot Pneumatic Trailers

VANS

12 - Semi Van Trailers

RICHMOND, CA - continued

EMERGENCY RESPONSE

1- Fully Equipped Emergency Response Van (Certified for Haz Waste Transportation)

1 - Fully Equipped 1 Ton Emergency Response Truck (Certified for Haz Waste Transportation)

1 - 18' Emergency Spill Response Trailer

1 - 12' Emergency Spill Response Trailer

3 - Explosion Proof Airlights

8 - Oxygen/Combustible Meters (2 with H_2S Monitoring)

1 - Portable Air Charged Emergency Eye Wash/Shower Station

3 - Hazcat Kits with Soil, Water and Sludge Sampling Equipment

1 - Top Entry Tripod with Fall Arrest

Miscellaneous Emergency Response Equipment

Tyveks
Acid Suits
Fully Encapsulating Level A Suits
S.C.B.A.'s with Backup Bottles
Airline Supplied Respirators and Fresh Air Bottles
Cartridge Respirators (½ Face and Full Face)
Beryllium and Aluminum Spark Proof Tool Sets

Inventoried Supplies

Solid-A-Sorb Absorbent (2,500 bags)
Absorbent Pads (40 bundles of 18" x 18")
Absorbent Booms (20 bundles)
55 gallon 17H drums (100)
85 gallon overpack drums (100)

SPECIALIZED EQUIPMENT

1 - Carbon Dioxide pressure blaster (Cold Jet)

1 - 900 C.F.M. air compressor (350 p.s.i.)

3 - Submersible hydraulic sludge pumps (4" and 6")

1 - Mobile Drum Crusher (8 to 1 compaction ratio with 1 minute cycle time)

2 - Portable 800 CFM Wet Scrubbers

1 - 10,000 p.s.i. pressure washer

5 - 3,000 lb. Hot Water Pressure Washers

5 - Forklifts (25,000 lb., 8,000 lb. and 5,000 lb.)

8 - Plate and Frame Presses (60 cu. ft. to 7 cu. ft.)

2 - Chemical Circulating Units

1 - Decontamination Trailer

2 - Tool Trailers

1 - Vacuum Trailer

1 - 1-1/2 Meter portable belt press

Assorted mixing tanks and explosion proof mixers

FONTANA, CA - EPA # CAD 982 484 933

- 2 - Semi Rolloff Trucks (for heavy bins)
- 1 - 3 Axle Rolloff Truck
- 1 - 18' Flatbed Truck With Liftgate
- 2 - 45' Flatbed Trucks
- 50 - Hazardous Waste Certified Bins (20 yd^3)
- 1 - VR Systems Degassing Unit (SCAQMD Rule 1149 Compliance)
- 1 - 130 BBL Stainless Steel Vacuum Truck
- 1 - 30 BBL Stainless Steel Vacuum Truck
- 1 - 38 BBL Vacuum Truck
- 1 - 15 BBL Vacuum Trailer
- 1 - 130 BBL Carbon Steel Vacuum Truck
- 1 - 45' Lowboy Flatbed
- 1 - Emergency Response Trailer

SPECIALIZED EQUIPMENT

- 1 - Mobile Drum Crusher (8 to 1 compaction ratio with 1 minute cycle time)
- 1 - 185 C.F.M. air compressor
- 1 - 3,000 lb. Hot water pressure washer
- 1 - 25,000 lb. Forklift

SALT LAKE CITY, UTAH - EPA # CAD 981 982 663

- 2 - Semi Rolloff Units - 1 or 2 Box Capabilities
- 1 - Truck/Trailer Rolloff Unit - 2 Box Capabilities
- 15 - Hazardous Waste Bins (10-20 yd^3)
- 3 - 6,500 Gallon Stainless Steel Tanker
- 1 - 120 BBL Vacuum Truck
- 2 - 130 BBL Vacuum Truck Stainless Steel
- 1 - 7 Cubic foot Plate and Frame Press

RENO, NEVADA - EPA # CAD 981 982 663

- 2 - 40 yd End Dumps
- 1 - Semi Rolloff Unit
- 10 - Hazardous Waste Bins
- 1 - 45' Flatbed
- 1 - 18' Bobtail Van
- 1 - 3 Axle Roll-Off Unit

PERMITS AND REGISTRATIONS

1. CONTRACTORS STATE LICENSE BOARD, A B HAZ, State of California, Department of Consumer Affairs, License Number 168067

2. HAZARDOUS WASTE HAULER REGISTRATION, State of California, Department of Toxic Substances Control, Hauler Registration No.0019

3. HAZARDOUS MATERIALS TRANSPORTATION, Department of California Highway Patrol, License Number 49188, CHP Carrier Number 163, Control Number 98636.

4. ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY, (Richmond), EPA Identification Number CAD 009 466 392

5. CALIFORNIA AIR QUALITY PERMITS, Department of Health Services

6. HAZARDOUS MATERIAL HANDLER, Environmental Health Services Department, County of San Bernardino, California

7. HAZARDOUS WASTE GENERATOR, Environmental Health Services Department, County of San Bernardino, California

8. ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY, (Fontana), EPA Identification Number CAD 982 484 933

9. DEPARTMENT OF TRANSPORTATION #462177 Safety Rating

10. ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY, (Salt Lake City, UT and Sparks, NV) EPA Identification Number CAD 981 982 663

11. INTERSTATE COMMERCE COMMISSION PERMIT

12. SCAQMD Rule 1149, Degassing Permit

13. STATE REGISTRATIONS AND PERMITS (Permitted to transport hazardous waste in 21 states)

14. TRANSPORTABLE TREATMENT UNIT PERMIT, California Department of Toxic Substances Control

California Environmental Protection Agency

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Hazardous Waste Facility Permit

Facility: Erickson Treatment Transfer Station
2565 Goodrick Avenue
Richmond, CA 94801

Operator: Erickson Treatment Transfer Station
2565 Goodrick Avenue
Richmond, CA 94801

EPA ID Number:	CAD 982 417 560
Effective Date:	September 8, 1991
Modified:	May 21, 1993
Expiration Date:	September 8, 2001

Pursuant to Section 25200 of the California Health and Safety Code, this Hazardous Waste Facility Permit is hereby issued to Erickson Treatment Transfer Station.

The issuance of this permit is subject to the conditions set forth in Attachment A which consists of 49 pages (and any other exhibits).

Charlene F. Williams

Charlene F. Williams, Acting Chief
Facility Permitting Branch
Region 2

Date: May 21, 1993

STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
7[illegible] HFINZ AVE., SUITE 200
8[illegible], CA 94710-2737
1[illegible] 540-3734

October 4, 1993

Mr. Oscar Erickson
Erickson Enterprises
3033 Richmond Parkway, Suite 300
Richmond, California 94806

ERICKSON TREATMENT TRANSFER STATION (ETTS)

Dear Mr. Erickson:

This letter is to inform you that all administrative review and administrative adjudication procedures have been completed for the permit modification for ETTS, as of October 4, 1993. The RCRA-equivalent permit for ETTS is now final and fully effective, pursuant to 22 California Code of Regulations section 66271.18.

Please feel free to call me if you have any questions.

Sincerely,

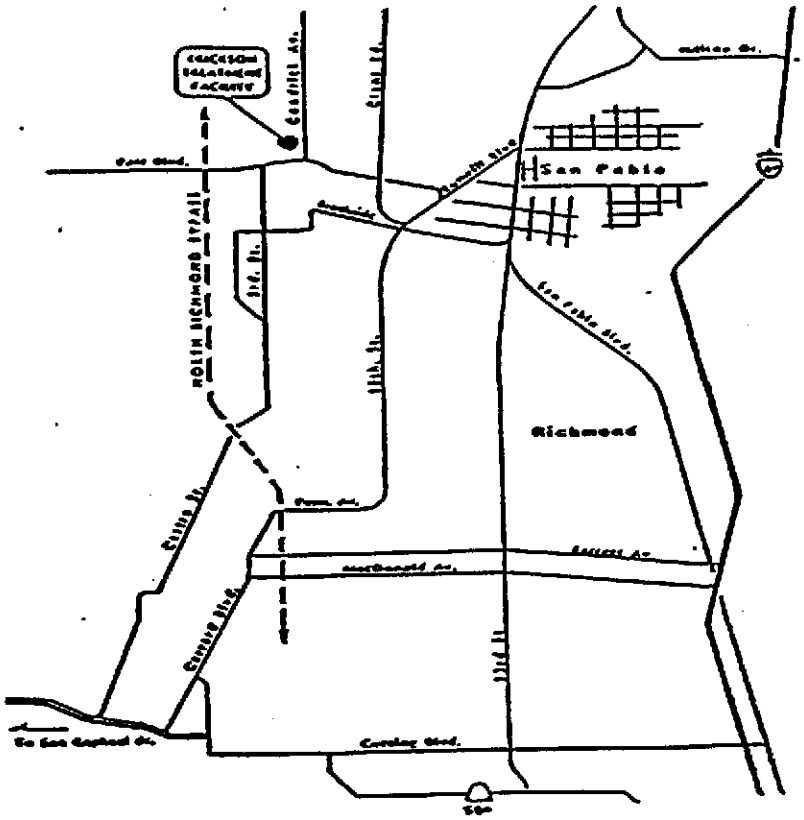
Charlene F. Williams

Charlene F. Williams, Chief
Facility Permitting Branch
Region 2

ERICKSON TREATMENT TRANSFER STATION

2565 GOODRICK AVE.
RICHMOND, CALIFORNIA
(415)234-3111

LOCATION :



General Area Map of Erickson TSD

OPERATING CAPACITY: 30,000 ton annually

STORAGE CAPACITY: 1440 Drums and 80,000 Gallon in Bulk.

TREATMENT: NEUTRALIZATION, HEAVY METAL REMOVAL, FILTRATION, OIL/WATER SEPARATION, SOLIDIFICATION, CONSOLIDATION, RECYCLING.

WASTE ACCEPTED: ACIDS, ALKALINE, SOLVENTS, OILY/ORGANIC, GAS AND WATER, REACTIVE. PLEASE SEE LIST ON BACK.

PROHIBITIVE WASTES : PCB's, BURNING WASTES, DIOXINS, INFECTIOUS WASTE, RADIOACTIVES, EXPLOSIVES.

EPA I.D. Number (enter from page 1): A D 9 8 2 4 1 7 5 6 0

Secondary ID Number (enter from page 1): N / A

IV. Description of Hazardous Wastes (continued)

Line number	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES (1) PROCESS CODES (enter)	(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	D001	17,000	T	S01 S02 S03 S04	
2		** Additional waste codes listed on attached sheets			
3	D002	11,500	T	S01 S02 S03 S04	
4		** Additional waste codes listed on attached sheets			
5	D003	1,500	T	S01 S02 S03 S04	
6		** Additional waste codes listed on attached sheets			
7					

Continuation of waste codes under line 1:

D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043

F001, F002, F003, F004, F005, F024, F025, F037, F038, F039

K001, K009, K010, K011, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K026, K027, K028, K029, K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041, K042, K043, K048, K049, K050, K051, K052, K060, K073, K083, K084, K085, K086, K087, K093, K094, K095, K096, K097, K098, K099, K101, K102, K103, K104, K105, K107, K108, K109, K110, K111, K112, K113, K114, K115, K116, K117, K118, K123, K124, K125, K126, K131, K132, K136

P001, P002, P003, P004, P005, P007, P008, P014, P016, P017, P018, P022, P023, P024, P026, P027, P028, P034, P036, P037, P039, P040, P041, P042, P043, P044, P045, P046, P049, P050, P051, P054, P057, P058, P059, P060, P062, P064, P066, P067, P068, P069, P070, P071, P072, P075, P077, P082, P084, P085, P088, P089, P092, P093, P094, P097, P101, P102, P108, P109, P110, P111, P112, P116, P118, P123

U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U028, U030, U031, U034, U035, U036, U037, U038, U039, U041, U042, U043, U044, U046, U047, U048, U049, U050, U051, U052, U053, U055, U056, U057, U058, U059, U060, U061, U062, U063, U064, U066, U067, U068, U069, U070, U071, U072, U073, U074, U076, U077, U078, U079, U080, U081, U082, U083, U084, U085, U086, U087, U088, U089, U090, U091, U092, U093, U094, U095, U097, U098, U099, U101, U102, U103, U105, U106, U107, U108, U109, U110, U111, U112, U113, U114, U116, U117, U118, U119, U120, U122, U123, U124, U125, U126, U127, U128, U129, U130, U131, U132, U133, U136, U137, U138, U139, U140, U141, U142, U143, U144, U146, U147, U148, U149, U150, U152, U154, U155, U156, U157, U158, U159, U160, U161, U162, U164, U165, U166, U167, U168, U169, U170, U171, U172, U173, U174, U176, U177, U178, U179, U180, U181, U182, U183, U184, U185, U186, U187, U188, U190, U191, U192, U193, U194, U196, U197, U200, U201, U202, U203, U206, U207, U208, U209, U210, U211, U213, U214, U218, U219, U220, U221, U222, U223, U225, U226, U227, U228, U235, U236, U237, U238, U239, U240, U243, U244, U247, U248, U328, U353, U359

Continuation of waste codes under line 3:

D001 (Oxidizers), D003, D004, D005, D006, D007, D008, D009, D010, D011

K002, K003, K004, K005, K006, K008, K031, K046, K060, K061, K062, K069, K071, K090, K091, K100, K106

P010, P011, P012, P087, P103, P113, P114, P115, P119, P120

U032, U134, U145, U151, U204, U215, U216, U217

Continuation of waste codes under line 5:

F006, F007, F008, F009, F010, F011, F012, F019

K007, K011, K013, K027, K088

P006, P013, P021, P029, P030, P033, P074, P098, P099, P104, P105, P106, P107, P112, P121

U033, U096, U189, U205, U217, U246, U249

STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

EG
00 AVE., SUITE 200
RKELEY, CA 94710-2737

May 21, 1993

RECD MAY 25 1993

CERTIFIED MAIL
Mr. Bill Wahbeh
Erickson Treatment Transfer Station
2565 Goodrick Avenue
Richmond, California 94801

Dear Mr. Wahbeh:

APPROVAL OF MODIFIED HAZARDOUS WASTE FACILITY PERMIT FOR ERICKSON TREATMENT TRANSFER STATION, CAD 982 417 560

The Department of Toxic Substances Control has made a decision to issue a modified Hazardous Waste Facility Permit for the Erickson Treatment Transfer Station facility located in Richmond, California, in Contra Costa County. The waste management activities regulated under the California Code of Regulations (Cal. Code Regs.), title 22, division 4.5, include storage and treatment in containers, storage and treatment in tanks, and a truck and equipment washout area. Storage and treatment of hazardous wastes will consist of consolidation of similar wastes in containers or tanks, solidification/ stabilization in containers, crushing of empty containers, and treatment of wastes in tanks by one or more of the following methods; neutralization, oil/water separation, precipitation, oxidation and reduction.

This letter serves as a notification of our decision. Enclosed is a copy of the modified permit signed on May 21, 1993, and issued on the date of this letter. This action constitutes a final permit decision under Cal. Code Regs., title 22, section 66271.14. The modified permit becomes effective on June 21, 1993, unless the permit decision is appealed.

The decision may be appealed in accordance with Cal. Code Regs., title 22, section 66271.18. Anyone who filed comments on the draft decision or who spoke at the public hearing on the decision may file an appeal. Appeals to this decision must be filed within thirty (30) calendar days of the date the permit is issued and must be directed to Mr. Ted N. Rauh, Acting Deputy Director, Hazardous Waste Management, Department of Toxic Substances Control, P.O. Box 806, Sacramento, California 95812-0806.

A copy of the final administrative record for the decision is available for review at the Department's Region 2 office in Berkeley. You may contact Chris Nepomuceno at (510) 540-3800 to arrange an appointment to review the administrative record. Also enclosed are the final responses prepared by the Department to comments received on the draft permit.

ACORD CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY) 6/20/94

PRODUCER

RMH of Northern California
One Market
Spear Street Tower Ste. 2100
San Francisco, CA 94105
415-543-9360

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

INSURED

Erickson, Inc.
255 Parr Blvd.
Richmond
CA 94801

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A	National Union Fire - Seattle
COMPANY LETTER B	C.E. Heath Comp. & Liability
COMPANY LETTER C	National Union Fire - SF
COMPANY LETTER D	
COMPANY LETTER E	

COVERAGES

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

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR. [ ] OWNER'S & CONTRACTOR'S PROT. [X] $100,000 SIR	GL5438899	5/01/94	5/01/95	GENERAL AGGREGATE PRODUCTS-COMP/OP AGG. PERSONAL & ADV. INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED. EXPENSE (Any one person)	$ 1900000 $ 1900000 $ 900000 $ 900000 $ 100000 $ 5000
A	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [X] HIRED AUTOS [X] NON-OWNED AUTOS [ ] GARAGE LIABILITY [X] Deductible	CA5438800 $50,000 COMM/$15,000	5/01/94	5/01/95	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	$ 5000000 $ $ $
	EXCESS LIABILITY [ ] UMBRELLA FORM [ ] OTHER THAN UMBRELLA FORM				EACH OCCURRENCE AGGREGATE	$ $
B	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY	C0101469	7/01/94	7/01/95	[X] STATUTORY LIMITS EACH ACCIDENT DISEASE-POLICY LIMIT DISEASE-EACH EMPLOYEE	$ 1000000 $ 1000000 $ 1000000
C	OTHER Contractors Pollution	7732969	5/01/94	5/01/95	$1,000,000 Occur. $5,000,000 Agg. $50,000 Ded.	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

The $5,000,000 occurrence/aggregate limit under the general liability portion applies to tank cleaning operations only.

CERTIFICATE HOLDER

SAMPLE

CANCELLATION

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

AUTHORIZED REPRESENTATIVE Florrie J Elder

822491000

ACORD 25-S (7/93) © ACORD CORPORATION 1993

STATE OF CALIFORNIA—CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
400 P STREET, 4TH FLOOR
P.O. BOX 806
SACRAMENTO, CA 95812-0806
(916) 323-3219

HAZARDOUS WASTE TRANSPORTER REGISTRATION
RESTRICTED REGISTRATION

NAME AND ADDRESS OF REGISTERED TRANSPORTER:

Erickson, Inc.
255 Parr Boulevard
Richmond, California 94801

TRANSPORTER REGISTRATION NUMBER: 0019

EXPIRATION DATE: May 31, 1996

This is to certify that the firm named above is duly registered to transport hazardous waste in the State of California in accordance with the provisions of Chapter 6.5, Division 20 of the California Health and Safety Code (H&SC) and Chapter 13, Division 4.5 of Title 22 of the California Code of Regulations.

Please note that this registration is restricted, requiring the inspection and certification of your vehicles/containers on their first trip entering California, and must be carried with the vehicles/containers used to transport hazardous waste. This restricted registration also meets the requirements of California Vehicle Code, section 34100 for the transportation of flammable or combustible liquids in a tank of proper Department of Transportation (DOT) specification, provided that a certification inspection appointment has been made with the California Highway Patrol (CHP).

To arrange for this inspection and certification, you must contact the Hazardous Materials Section, California Highway Patrol, P.O. Box 942898, Sacramento, California 94298-0001, telephone (916) 327-3310, to set up an inspection date. This must be completed at least three State working days before the vehicle(s)/container(s) are to enter the State. "State working days" do not include weekends or State holidays.

When transport vehicles laden with hazardous waste or flammable/combustible liquids enter the State of California, the driver must be prepared to provide the following information to any authorized person upon request:

1. This Hazardous Waste Transporter Restricted Registration, and
2. The telephone number of the California Highway Patrol, Motor Carrier Safety Unit that will be inspecting your vehicle and/or container, and
3. The date, time and location of your scheduled inspection appointment.

NOTE: This provision is only to allow a laden vehicle or container to enter the State and be presented for inspection. It is illegal to load and transport hazardous waste or flammable/combustible liquids in vehicles/ containers in California prior to inspection and certification.

(AUTHORIZED SIGNATURE)

MAY 2 4 1995
(DATE)

cc: CHP Hazardous Materials Section

STATE OF CALIFORNIA—CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
400 P STREET, 4TH FLOOR
P.O. BOX 806
SACRAMENTO, CA 95812-0806

(916) 323-3219

*** HAZARDOUS WASTE TRANSPORTER REGISTRATION ***

NAME AND ADDRESS OF REGISTERED TRANSPORTER:

Erickson Inc.
255 Parr Boulevard
Richmond, California 94801

TRANSPORTER REGISTRATION NO: 0019

EXPIRATION DATE: May 31, 1996

THIS IS TO CERTIFY THAT THE FIRM NAMED ABOVE IS DULY REGISTERED TO TRANSPORT HAZARDOUS WASTE IN THE STATE OF CALIFORNIA IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 6.5, DIVISION 20 OF THE HEALTH AND SAFETY CODE AND DIVISION 4.5, TITLE 22 OF THE CALIFORNIA CODE OF REGULATIONS.

THIS REGISTRATION CERTIFICATE MUST BE USED IN CONJUNCTION WITH VEHICLES AND/OR CONTAINERS WHICH HAVE BEEN CERTIFIED PURSUANT TO SECTION 25169.1, HEALTH AND SAFETY CODE, OR A VARIANCE ISSUED BY THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL FOR HIGHWAY TRANSPORT WITH THE EXCEPTIONS OF TRANSPORT SOLELY BY WATER, RAIL OR AIR.

THIS REGISTRATION CERTIFICATE MUST BE CARRIED IN THE VEHICLE USED TO TRANSPORT HAZARDOUS WASTE.

(AUTHORIZED SIGNATURE)

MAY 19 1995

(DATE)