

Comprehensive Long-Term Environmental Action Navy (CLEAN) II
Contract No. N62742-94-D-0048
Contract Task Order No. 0068



Final
Addendum 2-Preliminary Assessment, Building 307
Health and Safety Plan

Site 24 Vadose Zone Remediation

Volatile Organic Compound Source Area
Marine Corps Air Station, El Toro, California

Prepared for:



Department of the Navy
Commander, Southwest Division
Naval Facilities Engineering Command
San Diego, California 92132-5190

Prepared by:



EARTH TECH, Inc.
700 Bishop Street, Suite 900
Honolulu, Hawaii 96813

August 2001

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By signing below, I acknowledge that I have reviewed and hereby approve the Health and Safety Plan Addendum 2, Preliminary Assessment of Building 307, for the Site 24 Vadose Zone Remediation at Marine Corps Air Station, El Toro, California. This addendum is written for the specified site conditions, dates, and personnel, and must be amended if these conditions change.

Approved By:



Robert M. Poll, CIH, CSP
CLEAN Health and Safety Manager
Earth Tech, Inc., Long Beach

8/31/01

Date



Crispin Wanyoike, P.E.
CTO Manager
Earth Tech, Inc., Long Beach

8/31/01

Date

PAGE NO. ii

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HEALTH AND SAFETY PLAN
SITE 24 SVE TREATMENT SYSTEM
OPERATION AND MAINTENANCE

DATED 13 APRIL 1999

THIS RECORD IS ENTERED IN THE DATABASE AND FILED
AS

RECORD NO. M60050_004184

CONTENTS

APPROVAL PAGE	i
SIGNATURE PAGE	iii
ACRONYMS AND ABBREVIATIONS	vii
1. INTRODUCTION	1-1
1.1 Regulatory Requirements	1-1
2. DESCRIPTION OF WORK AND HAZARD ASSESSMENT	2-1
2.1 Preliminary Assessment- Building 307	2-1
2.2 Description of Work	2-1
2.3 Classification of Activities and Hazard Assessment	2-1
2.3.1 Classification of Activities	2-1
2.3.2 Hazard Assessment	2-1
2.3.3 Hazards of Environmental Contaminants	2-1
2.3.4 Task Hazard Analyses	2-1
3. SAFE WORK REQUIREMENTS	3-1
3.1 Slips, Trips, Falls, and Protruding Objects	3-1
3.2 Hazardous Noise Environments	3-1
3.3 Underground Utilities	3-1
3.4 Personal Protective Equipment	3-1
3.5 Exposure Monitoring Procedures	3-3
4. REFERENCES	4-1

ATTACHMENTS

Attachment A	Direct-Push Rig Checklist <i>Safety Certification</i>
Attachment B	Task Hazard Analyses

PAGE NO. vi

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ACRONYMS AND ABBREVIATIONS

Bgs	below ground surface
CCR	California Code of Regulations
CLEAN	Comprehensive Long-Term Environmental Action Navy
CTO	contract task order
DBA	decibels, A-weighted scale
HAZWOPER	Hazardous Waste Operations and Emergency Response
H&SP	health and safety professional
HSP	health and safety plan
IRP	Installation Restoration Program
NIOSH	National Institute of Occupational Safety and Health
PACNAVFACENCOM	Pacific Division, Naval Facilities Engineering Command
PCE	tetrachloroethene
PPE	personal protective equipment
RI	remedial investigation
SSO	site safety officer
THAs	task hazard analyses
VOCs	volatile organic compounds
WP	work plan

1. INTRODUCTION

This addendum supplements the *Health and Safety Plan for Site 24 SVE Treatment System Operation and Maintenance, Volatile Organic Compounds Source Area, Marine Corps Air Station, El Toro, California* (Earth Tech, April 1999) for performance of SVE Treatment System operations and maintenance at El Toro Marine Corps Air Station, California. This addendum addresses additional tasks related to the Preliminary Assessment at Building 307 which is within Installation Restoration Program (IRP) Site 24, Volatile Organic Compounds (VOCs) Source Area boundary. *Except where indicated in this Addendum, all requirements of the existing HSP will be followed.* A copy of this addendum and the HSP will be on site at all times during the Preliminary Assessment of Building 307, regardless of duration or extent.

This project was authorized by the United States (U.S.) Navy, Pacific Division, Naval Facilities Engineering Command (PACNAVFACENGCOM) under contract task order (CTO) no. 0068 of the Comprehensive Long-Term Environmental Action Navy (CLEAN) II program, contract number N62742-94-D-0048.

No change to this addendum that could affect the health or safety of personnel, the community, or the environment may be made without prior approval of the Earth Tech CTO manager and the assigned health and safety professional (H&SP) or the CLEAN health and safety manager (H&SM). If requirements in the *HSP* or this addendum should conflict with other safety documentation or requirements, or federal, state, or local regulations, then the most stringent rule will apply.

1.1 REGULATORY REQUIREMENTS

This addendum and the *HSP* meet the requirements and follow the guidelines established by the *CLEAN Health and Safety Program Manual* (Earth Tech 1996), U.S. Navy and State of California regulatory agencies in the following documents:

- *Safety and Health Requirements Manual*, U.S. Army Corps of Engineers, EM-385-1-1
- California General Industry Safety Orders, found in Title 8, Chapter 4, Subchapter 7 of the California Code of Regulations (8 CCR), with special attention to 8 CCR §5192
- *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, National Institute of Occupational Safety and Health NIOSH 85-115, 1985
- *Standard Operating Safety Guides*, U.S. EPA, November 1984

2. DESCRIPTION OF WORK AND HAZARD ASSESSMENT

2.1 PRELIMINARY ASSESSMENT- BUILDING 307

The purpose of this Preliminary Assessment is to identify the possible presence of tetrachloroethene (PCE) in the environment (soil and groundwater) as a result of laundry and dry cleaning operations at Building 307.

2.2 DESCRIPTION OF WORK

Data collected during this investigation will be evaluated to determine the appropriate response actions for the site. Direct-Push technology will be used to accomplish the following tasks:

Soil gas samples: Shallow samples will be collected at 5-foot intervals from 5 feet to 15 feet bgs, at up to 35 locations. Deep samples will be collected at 45 feet, 60 feet, and 90 feet below ground surface (bgs), at designated locations.

Groundwater Hydropunch sample collection: Groundwater Hydropunch samples will be collected at approximately 90-foot bgs locations.

2.3 CLASSIFICATION OF ACTIVITIES AND HAZARD ASSESSMENT

2.3.1 Classification of Activities

The Preliminary Assessment activities are considered to be hazardous waste operations as defined in 8 CCR §5192 (a). Therefore, all personnel participating in this work must be qualified as Hazardous Waste Operations and Emergency Response (HAZWOPER) workers (see *HSP* Sections 4.1 and 4.2).

2.3.2 Hazard Assessment

Performance of the above work presents the following hazards to personnel:

Chemical Exposure: Personnel may be exposed to PCE present in soil or groundwater during sample collection and decontamination.

Hazardous Noise: The direct-push rig being used may produce noise levels in excess of 85 A-weighted decibels (dBA).

2.3.3 Hazards of Environmental Contaminants

Section 5.2.1 in the *HSP* discusses the hazards associated with PCE.

2.3.4 Task Hazard Analyses

The following tasks have been identified with the Preliminary Assessment:

- Site Reconnaissance
- Direct-push subsurface soil gas and groundwater sample collection
- Equipment decontamination

- Investigation-derived waste (IDW) management/drum handling

Attachment B provides task hazard analyses (THAs) for the tasks to be performed. Each THA identifies the specific hazards associated with performance of the work, as well as the appropriate hazard control/mitigation procedures.

3. SAFE WORK REQUIREMENTS

The following requirements will be implemented as appropriate during work (see THAs located in Attachment B).

3.1 SLIPS, TRIPS, FALLS, AND PROTRUDING OBJECTS

Hazards from protruding objects, careless movements, or placement of materials on paths or foot traffic areas present a problem with regard to slips, trips, falls, and puncture wounds. Personnel will use a reasonable amount of effort to ensure the prevention of such injuries.

3.2 HAZARDOUS NOISE ENVIRONMENTS

Working around large equipment often creates excessive noise. The effects of noise can include physical damage to the ear, pain, and temporary and/or permanent hearing loss. Workers can also be startled, annoyed, or distracted by noise during critical activities.

Earth Tech has compiled noise monitoring data which indicate that work locations within 25 feet of operating heavy equipment (drill rigs) can result in exposure to hazardous levels of noise (levels greater than 90 dBA). Accordingly, all personnel are required to use hearing protection (earplugs or earmuffs) within 25 feet of the Cone Penetration Testing (CPT) rig (when in operation).

The health and safety professional may also monitor employee exposure to hazardous noise levels as part of Earth Tech's Hearing Conservation Program.

3.3 UNDERGROUND UTILITIES

Various forms of underground utility lines or pipes may be encountered during intrusive work. Prior to the start of intrusive operations, the following steps will be taken:

1. Underground Service Alert (Dig Alert) will be contacted at least 48 hours prior to the work.
2. Geophysical clearance will be performed.
3. Authorization will be obtained from all concerned public utility department offices.

Should intrusive operations cause equipment to come into contact with utility lines, the site safety officer (SSO) and the H&SP will be notified immediately, and a Supervisor's Report of Incident form (see Attachment A) will be completed. Work will be suspended until the appropriate actions for the particular situations can be taken.

3.4 PERSONAL PROTECTIVE EQUIPMENT

Each task hazard analysis (see Attachment B) provides requirements for personal protective equipment (PPE); however, in general personnel performing Preliminary Assessment activities will utilize a Level D ensemble. Where the use of chemically protective gloves is specified below, the following items will be acceptable:

Inner Gloves

- Best Safety Model N-Dex gloves (nitrile rubber)
- Other models approved on a case-by-case basis by the H&SP

Outer Gloves

- North Model Solvex gloves (nitrile rubber)
- Other models approved on a case-by-case basis by the H&SP

Upgrades in PPE ensembles (Modified Level D, Level C, Level B or Level A) are not anticipated due to the low hazard potential associated with site contaminants (see Addendum Section 2.2.2). If site conditions present a more significant inhalation or skin contact hazard than anticipated, work will cease and the H&SP will be contacted for additional guidance and development of revised/supplemental documentation.

Level D Ensemble

Level D protection is the lowest level of personal protection allowed on site. Respiratory protection is not required, since concentrations of airborne contaminants are expected to be below applicable action levels. The ensemble will consist of

- A hard hat
- A short-sleeved shirt (tank tops are not acceptable)
- Long pants (shorts or cut-offs are not acceptable)
- Safety-toed work boots
- Safety glasses

For all intrusive operations and the collection and handling of samples, personnel will use nitrile rubber protective gloves (Best Safety N-Dex or Solvex gloves (as desired) or equivalent).

Modified Level D Ensemble

The use of Modified Level D PPE will be required for onsite operations where contact with potentially contaminated soils and groundwater can be expected (i.e., sample collection, soil handling and containerization). The Modified Level D ensemble provides moderate skin protection against chemical contact, but no respiratory protection. The Modified Level D ensemble will consist of

- Chemical resistant disposable outer coveralls (Tyvek or polyethylene-coated Tyvek)
- Chemical resistant outer gloves (taped to outer coveralls)
- Chemical resistant inner gloves
- A hard hat
- A short sleeved shirt (tank tops are not acceptable)

- Long pants (shorts or cut-offs are not acceptable)
- Safety-toed work boots
- Safety glasses

Level A, Level B and Level C Ensembles

The need for the use of Levels A, B or C protective equipment during site work is considered to be highly unlikely. Should conditions be encountered for which Level D/Modified Level D is inadequate, work operations will cease and the H&SP will be contacted for guidance. Work will not resume until the H&SP has approved supplemental exposure mitigation procedures.

3.5 EXPOSURE MONITORING PROCEDURES

No air monitoring will be required due to the expected low concentrations of contaminants in vapor and dusts, and the limited vapor exposure and dust generation effects of the selected sample collection techniques.

4. REFERENCES

Earth Tech, Inc. 1999. *Final Health and Safety Plan, Site 24 SVE Treatment System Operation and Maintenance, Marine Corps Air Station, El Toro, California*. Honolulu: PACNAVFACENGCOM. April.

Earth Tech, Inc. (Earth Tech), 1996. *CLEAN Health and Safety Program Manual*. Honolulu: PACNAVFACENGCOM. September.

Attachment A

Direct-Push Rig Safety Certification

Direct-Push Rig Safety Certification

Date _____ Equipment Model/Type _____
 Project # _____ Serial or License # _____
 Location _____ Owner/Operator _____

Place a (✓) in the “Yes” column if the requirement has been met. If a “No” is encountered, equipment must be removed from operation until the deficiency has been corrected. Describe deficiencies on page two of this form. Use the Comment column to note any additional information needed to certify the equipment.

Item Name	Requirement	Yes	No	Comment
Hydraulic systems controls and levers	No leak fittings or connections. Levers are in good operating condition. Fluid levels are full.			
Fuel, oil, water, and coolant lines	No leaks.			
Hoses	No leaks in hoses or connections. No signs of excessive wear, kinked or bent hoses.			
Gauges	Operational and visible to operator.			
Emergency kill switch and life line	Operational and accessible to operator.			
Shear pins	In place.			
Drive chains	No signs of excessive wear, broken or defective links.			
Parking brakes	Set and operational.			
Outriggers	No leaks. Set on pads (as necessary to avoid damage).			
Windshield Wipers	Operational.			
Lights (head, tail and running lights)	Operational and without cracked lenses.			
Back-up alarm	Operational, spotter used.			
Cables and ropes	No fraying, birdnesting, flattening, stretching. Must be braided or properly clamped at connections.			
Pulleys, drums and spools	No excessive wear or cracking.			
Derrick/Mast	Locked in position. Frame is not cracked or bent.			
Hoists	Properly spooled cable, rated to lift loads.			

Direct-Push Rig Safety Certification

Item Name	Requirement	Yes	No	Comment
Safety equipment	Safety harness, fire extinguisher, flares, safety reflectors, first aid kit, grounding wire for fueling, and spill response equipment (for fueling and repairs).			
Guards	Power take-offs (PTOs) and all rotating parts designed with guards. Guards must have warning labels.			
Miscellaneous (as applicable)	Diverter systems; auger and head seals; cyclones; grout plant guards; etc. (list): • • •			

DEFICIENCIES (Explain all negative response and list corrective actions; all deficiencies must be corrected before the rig is entered into service):

- 1.
- 2.
- 3.
- 4.
- 5.

Other Repairs or Routine Maintenance

Inspection Conducted and Certified by:
(Owner/Operator)

Signature _____ Date _____

Print Name: _____

Checklist Reviewed by:
(Earth Tech SSO or FM)

Signature _____ Date _____

Print Name: _____

Attachment B
Task Hazard Analyses

Evaluated by: Christopher Rhodes, CSP, CHMM

Date: August 2001

TASK NAME

SITE RECONNAISSANCE

TASK DESCRIPTION		CHEMICAL EXPOSURE HAZARDS
Personnel will walk all areas of the site to identify sample locations. Utility and geophysics inspections will be conducted at each sample location.		None
PPE	OTHER SAFETY EQUIPMENT	PHYSICAL HAZARDS
Level D Ensemble (Addendum Section 3.4) <ul style="list-style-type: none"> • Hard Hat • Short Sleeve Shirt • Full-length Pants • Safety-toe Boots • Safety Glasses 	<ul style="list-style-type: none"> • First aid kit (located in vehicle) • Fire extinguisher (located in vehicle) 	<ul style="list-style-type: none"> • Slips, trips, and falls
APPLICABLE OPERATIONAL SAFETY PROCEDURES		ADDITIONAL SAFETY CONSIDERATIONS
<ul style="list-style-type: none"> • Slips, Trips, Falls, and Protruding Objects (Add. Section 3.1) 		None

MONITORING PROCEDURES

No monitoring required.

Evaluated by: Christopher Rhodes, CSP, CHMM

Date: August 2

TASK NAME

SUBSURFACE SOIL GAS AND GROUNDWATER GRAB SAMPLING (DIRECT PUSH)

TASK DESCRIPTION	CHEMICAL EXPOSURE HAZARDS
<ol style="list-style-type: none"> Determine sampling location and set rig and control zone. Don Tyvek coveralls and chemical resistant inner and outer rubber gloves for any activity that may involve contact with moist/wet soils or groundwater. Collect and log samples at intervals per work plan. Upon completion of sampling, decontaminate equipment as necessary and remove PPE as necessary and discard in separate containers from other trash. Move rig/equipment to next location and repeat steps as necessary. 	<ul style="list-style-type: none"> Perchloroethylene (Inhalation, skin exposure)

PPE	OTHER SAFETY EQUIPMENT	PHYSICAL HAZARDS
<p>Level D Ensemble (Addendum Section 3.4)</p> <ul style="list-style-type: none"> Hard Hat Short Sleeve Shirt Full-length Pants Safety-toe Boots Safety Glasses Hearing Protection (ear plugs or muffs) <p>Note: Personnel will wear inner chemically-protective gloves when collecting/handling samples or removing push rods.</p>	<ul style="list-style-type: none"> Hand/face washing supplies (One 5-gallon bucket, soap, paper towels). Sample equipment decontamination supplies. First aid kit (located in vehicle) Fire extinguisher (located in vehicle) 	<ul style="list-style-type: none"> Slips, trips, falls, and protruding objects Hazardous noise

APPLICABLE PROJECT SAFETY PROCEDURES	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> Slips, Trips, Falls, and Protruding Objects (Add. Section 3.1) Hazardous Noise (Add. Section 3.2) 	<ol style="list-style-type: none"> Before use the direct push rig will be inspected, and the inspection documented on the <i>Direct Push Rig Certification</i> form (Attachment A) Establish responsibilities and roles of all personnel involved. Document roles/responsibilities in log book.

MONITORING PROCEDURES

No monitoring required

Evaluated by: Christopher Rhodes, CSP, CHMM

Date: August 2001

TASK NAME

EQUIPMENT DECONTAMINATION AND IDW MANAGEMENT

TASK DESCRIPTION

CHEMICAL EXPOSURE HAZARDS

Personnel will decontaminate direct push rods and sampling equipment using a steam cleaner system. All decontamination water will be collected and placed in a 55-gallon drum. The drum will be labeled as to contents and collection date, and prepared for off-site disposal by a third-party vendor.

None

PPE

OTHER SAFETY EQUIPMENT

PHYSICAL HAZARDS

Level D Ensemble (Addendum Section 3.4)

- Hard Hat
- Short Sleeve Shirt
- Full-length Pants
- Safety-toe Boots
- Safety Glasses

Note: Personnel will wear Solvex gloves when performing decontamination.

- Hand/face washing supplies (One 5-gallon bucket, soap, paper towels)
- First aid kit (located in vehicle)
- Fire extinguisher (located in vehicle)

None

APPLICABLE OPERATIONAL SAFETY PROCEDURES

ADDITIONAL SAFETY CONSIDERATIONS

None

None

MONITORING PROCEDURES

No monitoring required.