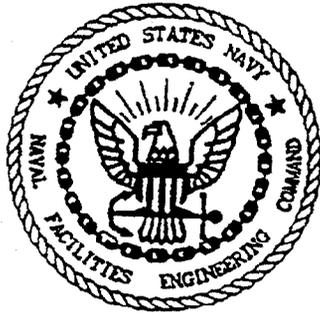


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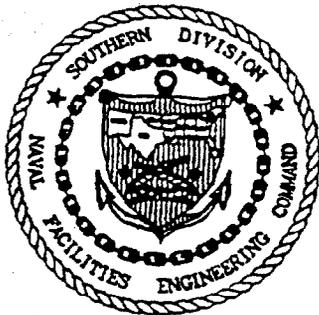
INTERIM REMEDIAL ACTION FOR STUDY AREAS 8, 9, 52 NTC ORLANDO FL  
6/17/1997  
NAVY SHIPBUILDING, CONVERSION AND REPAIR

18.02.03.0002

1D 00439



**INTERIM REMEDIAL ACTION FOR  
SA 8, SA 9, SA 52  
NAVAL TRAINING CENTER  
ORLANDO, FLORIDA**



Prepared for:

**DEPARTMENT OF THE NAVY  
SOUTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
CHARLESTON SC**



Prepared by:

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June 17, 1997

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## APPENDICES

- A. SITE DESCRIPTION/HISTORY
  - B. SITE SPECIFIC HEALTH AND SAFETY PLAN
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PREPARER: Surry & Lewis 6/17/97

APPROVAL (DETACHMENT): [Signature] 6/17/97

## INTERIM REMEDIAL ACTION

SA 8, SA 9, SA 52

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### 1. WORKPLAN OBJECTIVE

Southern Division Naval Facilities Engineering Command (SOUTHDIV) has tasked Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Va. Environmental Detachment Charleston (DET) to provide an Interim Remedial Action (IRA) Work Plan for Study Areas (SA) 8, 9 and 52 at the Naval Training Center (NTC) and McCoy Annex, Orlando, Florida. The objective of this IRA is to excavate and dispose of the arsenic, pesticide and benzo(a)pyrene contaminated soils at these three areas. The sites will be backfilled, graded and reseeded to meet the surrounding area.

The arsenic contaminated soil at SA 8 will be excavated to dimensions specified by ABB Environmental Services (ABB-ES) in their letter to SOUTHDIV dated April 14, 1997.

The soils at SA 9 and SA 52 will be excavated until the sampling program indicates with reasonable confidence that the concentrations of pesticide and benzo(a)pyrene at the sites are less than the residential limits specified by the Florida Department of Environmental Protection (FDEP) Soil Cleanup Goals (SCG), dated 29 September 1995 as shown in the table below.

CONTAMINANT	SCG RESIDENTIAL $\mu\text{g}/\text{kg}$
DDD	4500
DDE	3000
DDT	3100
alpha-Chlordane	800
gamma-Chlordane	800
Dieldrin	70
Heptachlor	200
Heptachlor Epoxide	100
Benzo(a)pyrene	100

This IRA may not necessarily be the final remedial action taken at this site. Additional actions may be required as determined by the Remedial Investigation/Feasibility Study

## INTERIM REMEDIAL ACTION

### SA 8, SA 9, SA 52

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(RI/FS) process. This IRA is consistent with the ultimate cleanup of this site and is not intended to circumvent the public participation process inherent within environmental cleanup under RCRA.

Appendix A provides a description of the site including information on current conditions and past investigations.

Appendix B provides the Site Specific Health and Safety Plan (SSHSP).

## 2. WORK PLAN IMPLEMENTATION

**2.1 SA 8** Excavate 4 each 6' X 6' by 2' in depth arsenic contaminated areas at sample locations 08S002-005. Excavate a 20' X 20' by 2' in depth arsenic contaminated area defined by sample locations 08S006-008. The sample locations will be marked by ABB-ES prior to excavation. The total volume of excavated soil at SA 8 is approximately 40 cubic yards. Confirmation samples will not be required for this site. However, information samples will be taken from the side walls prior to backfilling the excavations. After backfill, the site will be graded to surrounding area and reseeded. See Figure 1 for site and excavation locations.

Several storage lockers and a 250 gallon above ground storage tank may be temporarily relocated on the site during excavation. All interference will be returned to their original locations upon completion of site restoration. Excavation will be kept at least 3 feet away from Building 2134 to prevent undermining of the foundation.

**2.2 SA 9** Immunoassay (IA) testing will be used around the 5' X 5' perimeter of sample location 09S001 to determine if the suggested excavation area will be sufficient to remove the benzo(a)pyrene and chlordane contaminated soil. If the test results indicate the site is larger, IA testing will continue until the extent of the contamination is determined. This site will be excavated to a 2' depth. Excavation area and volume will be

## INTERIM REMEDIAL ACTION

### SA 8, SA 9, SA 52

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determined upon completion of IA testing. If the excavation exceeds twice the suggested area, the Project Engineer will confer with Orlando Partnering Team (OPT) to re-evaluate the site. Excavation will continue until confirmatory sampling results verify cleanup levels specified in the Section 1 of this IRA. Backfill, grade and reseed the excavation to surrounding conditions. See Figure 2 for site and excavation location.

**2.3 SA 52** Excavate a 120' X 80' area of pesticide contaminated soil to a depth of 2' around the perimeter sloping down to a depth of 4' at the center where one of the subsurface samples indicated elevated pesticide concentrations. The total volume of excavated soil at SA 52 is approximately 1000 cubic yards. Immunoassay kits will be utilized for site screening analysis to determine if further excavation is required. Excavation will continue until confirmatory results verify cleanup levels specified in Section 1 of this IRA. Sixteen confirmation samples will be taken as shown in figure 4 to yield a 95% confidence level that 85% of the site will be less than FDEP SCGs. This statistical analysis is based on United States Environmental Protection Agency (EPA) protocol, EPA 230/C2-89-042. If the excavation exceeds twice the expected volume, the Project Engineer will confer with OPT to re-evaluate the site. Backfill, grade and reseed the excavation to surrounding conditions. See Figure 3 for site and excavation location.

### **3. SAMPLING**

Confirmatory sampling at the sites to validate the goals of Section 1 will consist of an adequate number of samples conducted at Data Quality Level III to demonstrate the sites are clean. Analysis will be conducted by a Florida State Certified Laboratory to confirm that the site meets acceptable cleanup levels for the contaminants of concern as specified by the OPT.

Information samples at SA 8 and confirmatory samples at SA 9 and SA 52 will be taken within the first foot on the side walls of the excavations. The sample locations will be surveyed by ABB-ES and the results forwarded to them for inclusion in the RI/FS.

## INTERIM REMEDIAL ACTION

SA 8, SA 9, SA 52

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### 4. WASTE MANAGEMENT

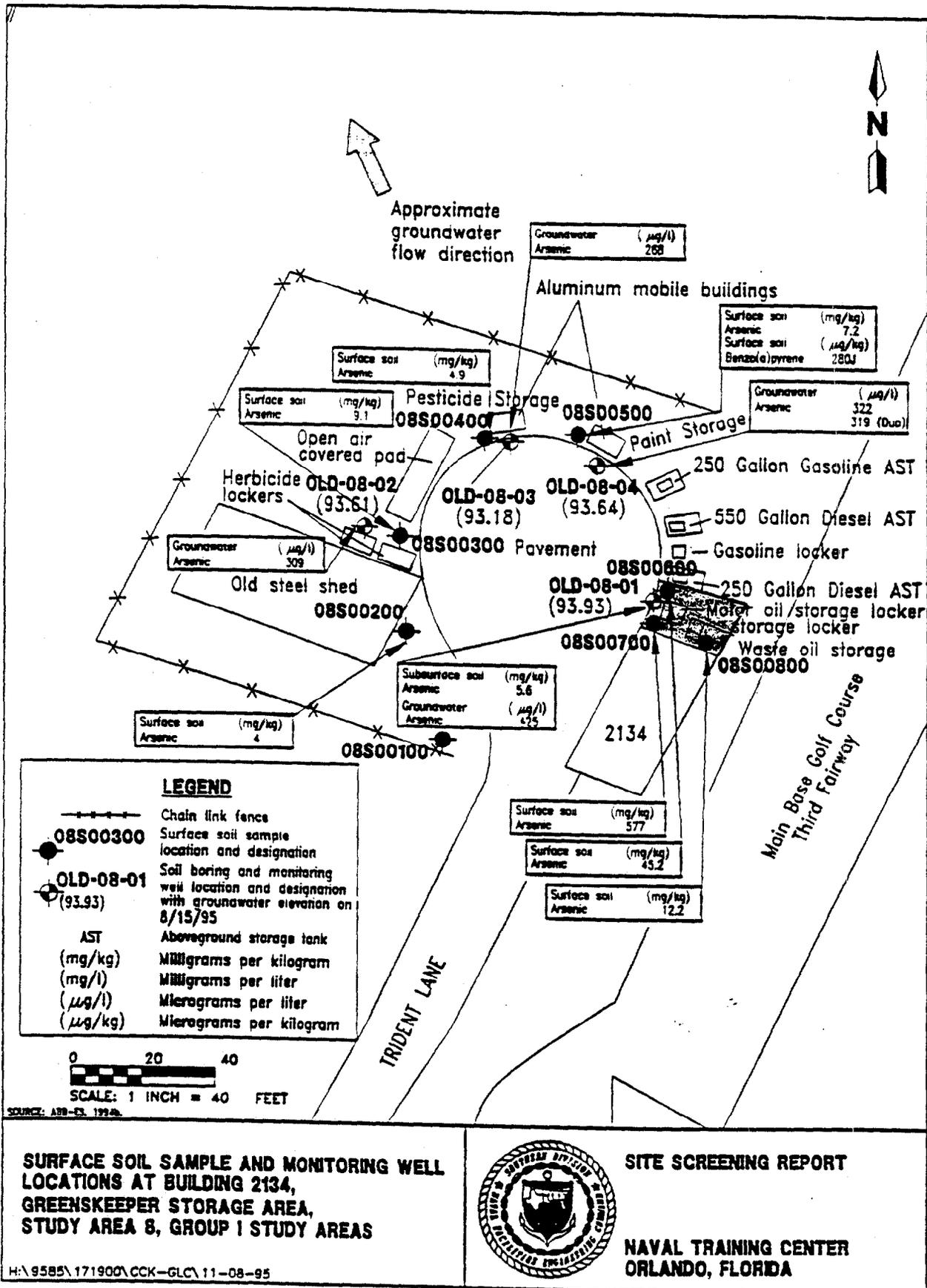
Contaminated soils from SA 9 and SA 52 have been characterized as U listed hazardous wastes and will be sent to a permitted Treatment, Storage and Disposal Facility (TSDF) in accordance with 40 CFR 264.

Waste characterization analysis for arsenic will be performed on soils excavated from SA 8 in accordance with 40 Code of Federal Regulations (CFR) 261.3. Soils that are characterized as non-hazardous will be sent to a Subtitle D landfill. Soils that are characterized as hazardous will be sent to a permitted Treatment, Storage and Disposal Facility (TSDF) in accordance with 40 CFR 264.

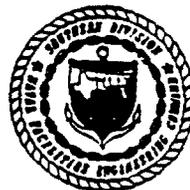
Investigative Derived Waste (IDW) such as plastic sheeting, decontamination water and personal protective equipment generated through excavation, sampling or decontamination evolutions will be disposed of similarly.

### 5. COMPLETION REPORT

A completion report will be submitted within 90 days after SOUTHDIV agrees the IRA at the SAs is complete (Review of Data and Walk-through). This report will summarize actions taken and report the following as required: Excavated volumes, nature of wastes generated, waste disposal, sampling evolutions, sample results, site photographs, problems encountered, and any other information that could be helpful in future remediation or reuse of the site.



**SURFACE SOIL SAMPLE AND MONITORING WELL LOCATIONS AT BUILDING 2134, GREENSKEEPER STORAGE AREA, STUDY AREA 8, GROUP I STUDY AREAS**



**SITE SCREENING REPORT**

**NAVAL TRAINING CENTER  
ORLANDO, FLORIDA**

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FIGURE 1



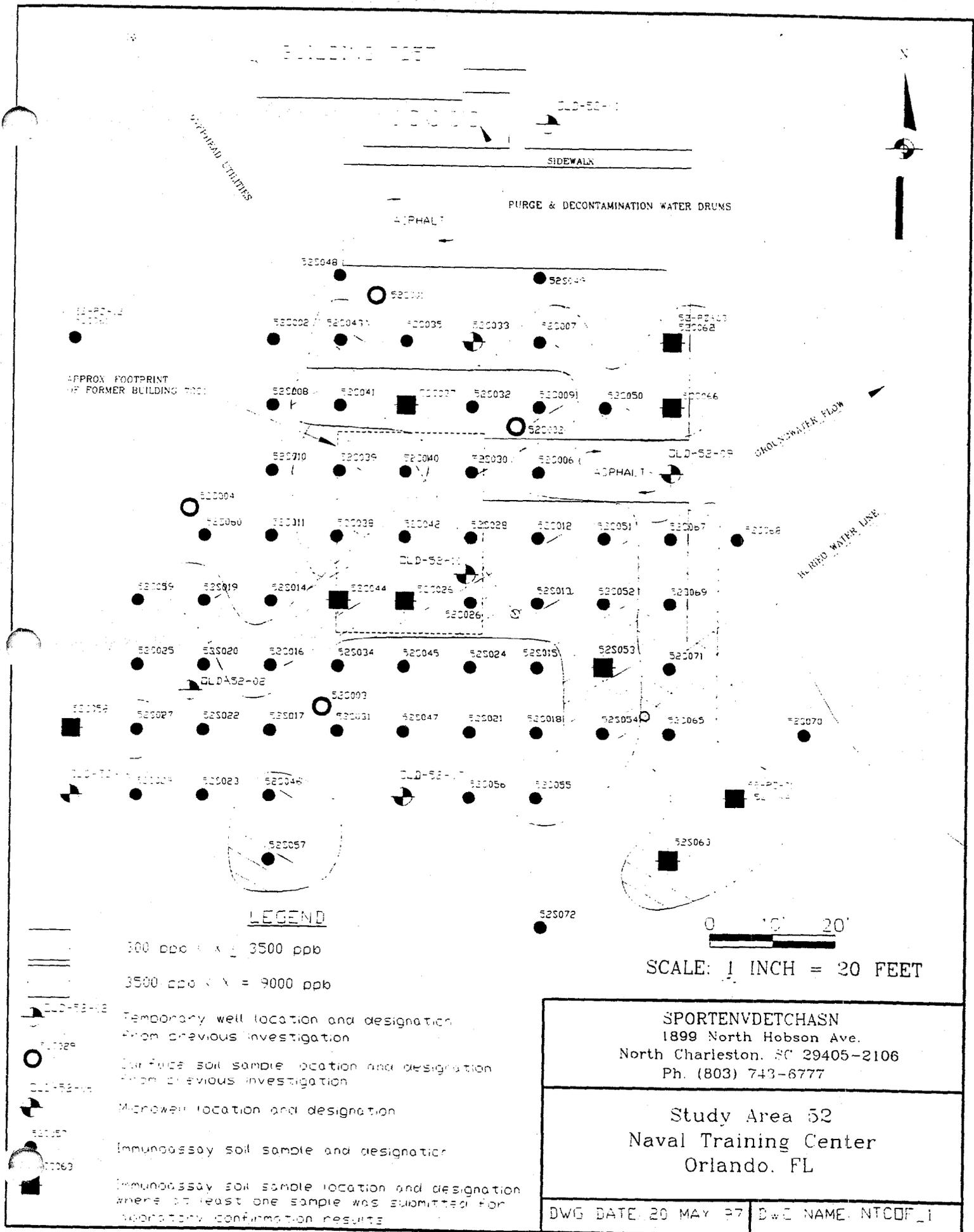
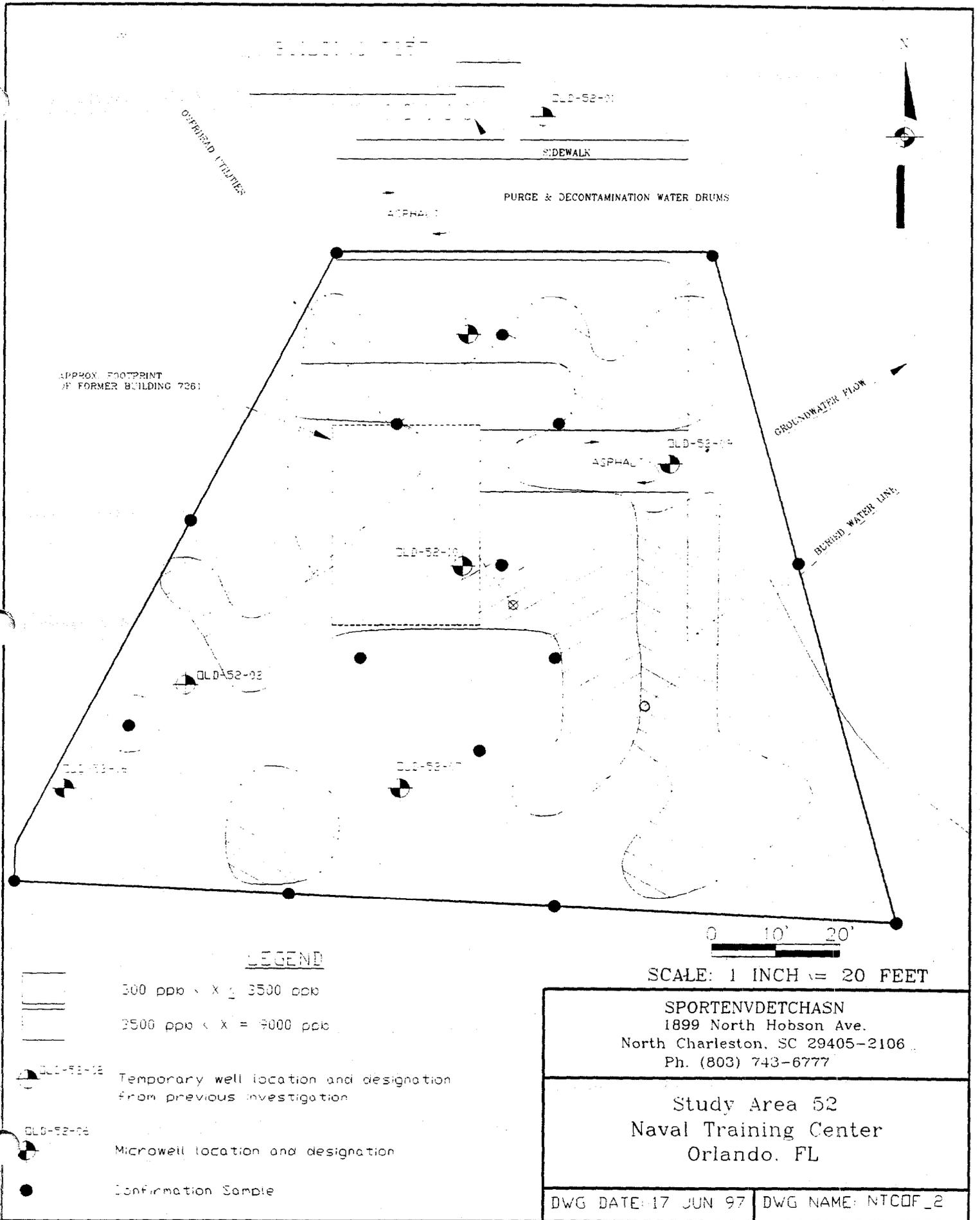


Figure 3



LEGEND

-  300 ppb < x < 3500 ppb
-  3500 ppb < x = 9000 ppb
-  QLD-52-02 Temporary well location and designation from previous investigation
-  QLD-52-06 Microwell location and designation
-  Confirmation Sample

SCALE: 1 INCH = 20 FEET

SPORTENVDETHASAN  
 1899 North Hobson Ave.  
 North Charleston, SC 29405-2106  
 Ph. (803) 743-6777

Study Area 52  
 Naval Training Center  
 Orlando, FL

DWG DATE: 17 JUN 97

DWG NAME: NTCDF\_2

Figure 4  
 8

# APPENDIX A

## SITE DESCRIPTION/HISTORY

# INTERIM REMEDIAL ACTION

## SA-8, SA-9, SA-52

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### 1.0 INTRODUCTION

Southern Division Naval Facilities Engineering Command (SOUTHDIV) has tasked Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Va. Environmental Detachment Charleston (DET) to provide an Interim Remedial Action (IRA) Work Plan for Study Areas (SA) 8, 9 and 52 at the Naval Training Center (NTC) and McCoy Annex, Orlando, Florida.

### 2.0 SITE CONDITIONS / PAST INVESTIGATIONS

#### 2.1 SA - 8

SA-8 is located on Trident lane, at the southern end of the golf course and east of Lake Baldwin. It is the greenskeeper's storage area and consists of Building 2134, several smaller storage sheds with various containers of pesticides, paints, oils, and portable fuel storage tanks.

Surface soil samples taken by ABB Environmental Services, Inc. (ABB-ES) in 1995 indicated elevated levels of arsenic at 7 sample locations. This is thought to be the result of pesticide containing arsenic that was used for golf course maintenance.

SAMPLE ID NUMBER	ARSENIC mg/kg
08S00200	4
08S00300	9.7
08S00400	4.9
08S00500	7.2
08S00600	45.2
08S00700	577
08S00800	12.2

## INTERIM REMEDIAL ACTION

### SA 8, SA 9, SA 52

#### 2.2 SA - 9

SA - 9 is located on Trident Lane near the southeastern shore of Lake Baldwin. The site was the location of a pesticide and herbicide storage building used by the Air Force and Navy between the early 1950's to 1972. The building was demolished in 1981. Surface soil samples taken by ABB-ES in 1995 indicated only one sample location with elevated levels of benzo(a)pyrene, alpha and gamma chlordane.

SAMPLE ID NUMBER	CONTAMINANT $\mu\text{g}/\text{kg}$
09S00100	Benzo(a)pyrene 780
09S00100	alpha-Chlordane 2300
09S00100	gamma-Chlordane 2400

#### 2.3 SA - 52

SA - 52 is the former entomology laboratory, Building 7261, located on the central part of the McCoy Annex of the Naval Training Center. Background information indicates the lab was in use from approximately 1960 to 1980. The building has since been demolished. The initial site screening investigation conducted in April 1996 indicated 2 sample locations with elevated levels of chlorinated pesticides.

CONTAMINANT $\mu\text{g}/\text{kg}$	52S00201	52S00301
DDT	11000	
alpha-Chlordane	110000	
gamma-Chlordane	110000	
Dieldrin	53000	150
Heptachlor	17000	

To further define the area of contamination, ABB-ES conducted an extensive field investigation of this site using immunoassay (IA) test kits capable of detecting chlordane and structurally similar chlorinated pesticides. DDT, DDE, and DDD could not be detected with these kits, but are not the primary concern due to the low levels seen in the

## INTERIM REMEDIAL ACTION

SA 8, SA 9, SA 52

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initial screening samples. DDT and derivatives are assumed to be present when other pesticides were detected with the IA kits. The IA test results were used to generate a contour map of total chlorinated pesticides and determine the dimensions of the proposed excavation. Three subsurface samples were taken to vertically delineate the area. Only one of these indicated pesticides to be greater than the screening levels. Thirteen percent of the IA samples were split and sent to a Florida certified laboratory for pesticide analysis to confirm the accuracy of the IA test results. Ninety percent of the of the split samples were consistent with the IA samples results.

# **APPENDIX B**

## **SITE SPECIFIC SAFETY AND HEALTH PLAN**

## INTERIM REMEDIAL ACTION

### SA 8, SA 9, SA 52

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#### 1. PURPOSE

This plan provides supplemental site specific information for soil remediation at Orlando, Florida, and is to be used with the Detachment Comprehensive Health and Safety Plan.

#### 2. WORK LOCATION

SA 8 is the greenskeeper's storage area at the southern end of the golf course and east of Lake Baldwin on the Naval Training Center. Contaminant of concern is arsenic in the soil.

SA 9 is the former pesticide and herbicide storage area near the southeastern shore of Lake Baldwin on the Naval Training Center. Contaminants of concern are benzo(a)pyrene, alpha and gamma chlordane.

SA 52 is the former entomology laboratory located on the McCoy Annex. Contaminants of concern are chlorinated pesticides.

#### 3. WORK SCOPE BRIEF

Removal and disposal of arsenic and chlorinated pesticide contaminated soils. See work plan for complete details.

#### 4. HAZARDS

The primary health hazard is inhalation of dust and dermal contact generated by dirt removal.

**Chlorinated Pesticides** such as Chlordane and DDT have an OSHA PEL of  $0.05\text{mg}/\text{m}^3$ . They are considered to be a human carcinogen and can have chronic health effects that occur at some time after exposure. Acute exposures can cause headaches, mental

## INTERIM REMEDIAL ACTION

SA 8, SA 9, SA 52

confusion, GI disturbances, dermatitis. Routes of entry include inhalation, ingestion and dermal contact.

**Arsenic** has an OSHA PEL of  $0.01\text{mg}/\text{m}^3$ . The symptoms of overexposure are ulceration of the nasal septum, dermatitis, GI disturbances and peripheral neuropathy. Target organs are the liver, lungs, kidneys, skin and lymphatic system. Routes of entry include inhalation, ingestion and dermal contact.

**Safety Hazards** include:

- personal injury risks from heavy equipment operation
- dangers from underground and above ground electrical wires
- strains and sprains from improper lifting and bending while moving heavy objects

### 5. PERSONAL PROTECTIVE EQUIPMENT

Use Level D, modified of the DET Comprehensive Health and Safety Plan for soil sampling.

Wear tyvek coveralls with boot, and rubber, nitrile or nitron gloves. Respirators, 3-M 6000, or equal with HEPA filters and head covers are required during dust producing evolutions and are optional at other times. Standard safety equipment such as hard hats, safety glasses, steel-toed shoes and ear plugs are required.

### 6. TRAINING QUALIFICATIONS

- hazwoper training
- hazard communications, including Modules 2 and 8
- lead worker training to include arsenic
- JLG and heavy equipment operators training for specific equipment

## INTERIM REMEDIAL ACTION

SA 8, SA 9, SA 52

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### 7. OCCUPATIONAL SAFETY AND HEALTH PRECAUTIONS

The area must be checked for the presence of above and below ground utilities. Removed of interference will be required before excavation operations begin.

Equipment operator should be positioned upwind when possible. When dust producing operations are planned, a method of water misting must be present at the job site. Water should be applied as a standard practice at the start of each workday.

For temporary electrical circuits and all work in wet areas, use Ground Fault Circuit Interrupter (GFCI) protection.

Monitor the operation of heavy equipment to avoid collapse of adjacent structures either from excavations that can undermine foundations or from placement of equipment near supporting walls.

For excavations greater than 5 feet in depth, shoring, sloping or trench boxes must comply with 29 CFR 1926. Gas testing is required for personnel entry.

Ensure facilities for washing hands and face are available personnel.

### 8. MATERIAL SAFETY DATA SHEETS

MSDS for arsenic and chlorinated pesticides will be in the official work folder.

### 9. MEDICAL SURVEILLANCE

Respirator (A10), Hazardous Waste Worker (B27). These codes refer to NAVHOSPCAHASN Medical Surveillance Classifications.