N00639.AR.001845
NSA MID SOUTH
5090.3a

INTERIM MEASURES WORK PLAN FACILITY INVESTIGATION SOLID WASTE MANAGEMENT UNIT 45 (SWMU45) REVISION 1 MILLINGTON SUPPACT TN
11/4/1994
ENSAFE/ALLEN & HOSHALL

00385

17

INTERIM MEASURES WORK PLAN
RCRA FACILITY INVESTIGATION
NAVAL AIR STATION MEMPHIS

SWMU 45
S-142 HAZARDOUS WASTE ACCUMULATION POINT

Revision: 01

CTO-076
Contract No. N62467-89-D-0318

Prepared for:

Department of the Navy
Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina

Prepared by:

EnSafe/Allen & Hoshall
5720 Summer Trees Drive, Suite 8
Memphis, Tennessee 38134
(901) 383-9115

November 4, 1994

INTERIM MEASURES WORK PLAN
RCRA FACILITY INVESTIGATION
NAVAL AIR STATION MEMPHIS

SWMU 45
S-142 HAZARDOUS WASTE ACCUMULATION POINT

Revision: 01

CTO-076
Contract No. N62467-89-D-0318

Prepared for:

Department of the Navy
Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina

Prepared by:

EnSafe/Allen & Hoshall
5720 Summer Trees Drive, Suite 8
Memphis, Tennessee 38134
(901) 383-9115

November 4, 1994

Table of Contents

1.0 INTRODUCTION 1

2.0 ENVIRONMENTAL SETTING 1

3.0 SOURCE CHARACTERIZATION 1

4.0 CHARACTERIZATION OF HAZARDOUS CONSTITUENT RELEASES 4
- 4.1 Previous Inspections 4
- 4.2 Soil Investigation 4
- 4.3 Concrete Slab Investigation 6
- 4.4 Analytical Requirements 6
- 4.5 Sample Management 7
- 4.6 Sample Custody 7
- 4.7 Quality Assurance/Quality Control 7
- 4.8 Decontamination Procedures 7
- 4.9 Investigation-Derived Waste 7

5.0 POTENTIAL RECEPTORS 7

6.0 QUALITY ASSURANCE PLAN 8

7.0 DATA MANAGEMENT PLAN 8

8.0 HEALTH AND SAFETY PLAN 8

9.0 REFERENCES 8

List of Figures

Figure 1 Vicinity Map 2
Figure 2 Site Map 3

List of Appendices

Appendix A RCRA Facility Assessment, SWMU 45
Appendix B Project Time-Line Schedule

1.0 INTRODUCTION

This Interim Measures Work Plan (IMWP) outlines procedures that will be used to implement a Confirmatory Sampling Investigation for SWMU 45 (Building S-142 Hazardous Waste Accumulation Point) at NAS Memphis in Millington, Tennessee. The investigation is being implemented earlier than originally planned because SWMU 45 is in an area where construction is scheduled to begin in January 1995. The planned construction will support the relocation of the Navy Bureau of Personnel to NAS Memphis, as part of the realignment and partial closure of NAS Memphis under the Base Closure and Realignment Act of 1990.

The primary references for this work plan are: (1) the *NAS Memphis RCRA Facility Assessment* (included as Appendix A) and (2) the *Comprehensive RFI Work Plan* (E/A&H, 1994).

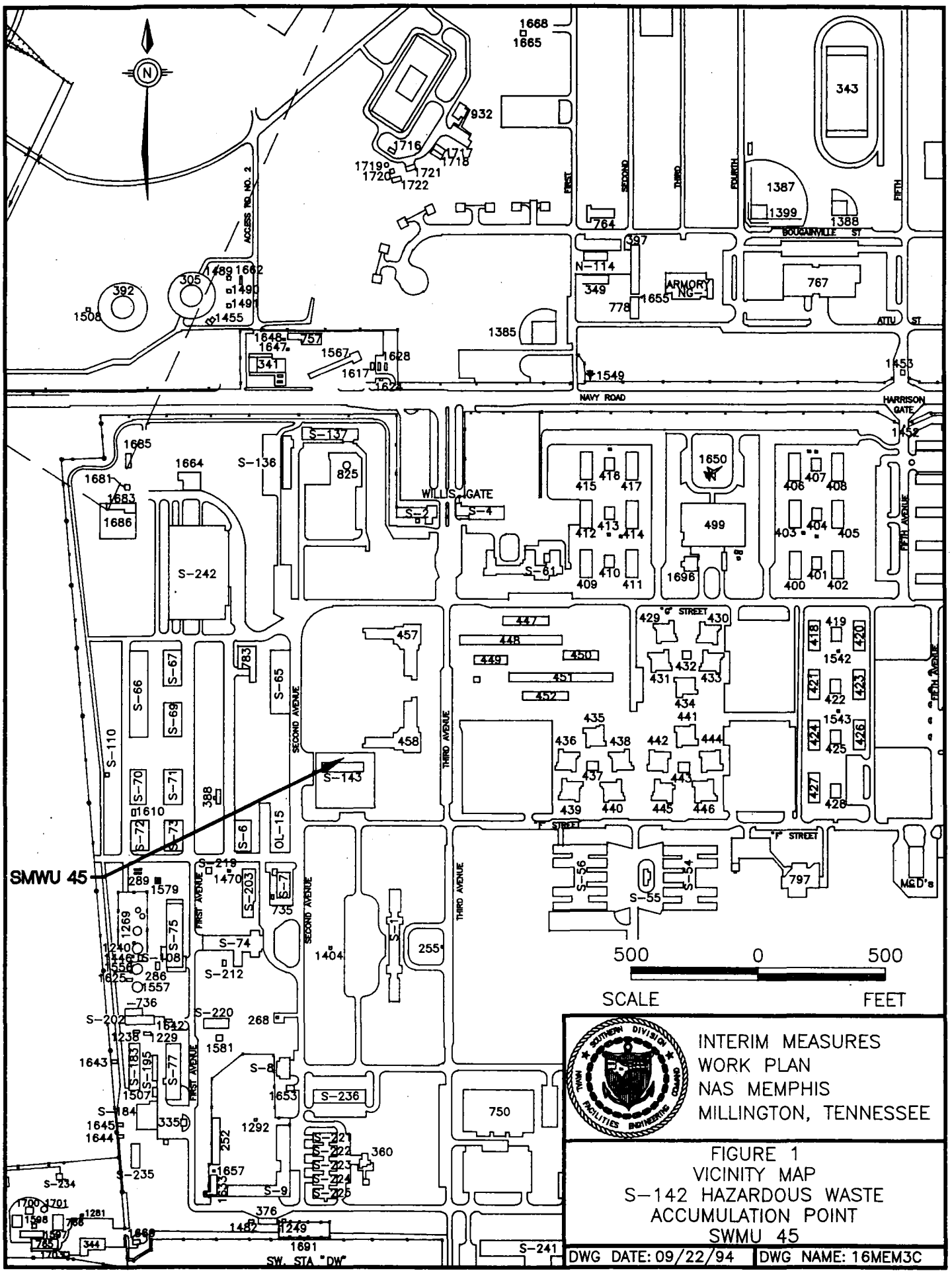
A project time-line schedule for the Interim Measures activities is included as Appendix B.

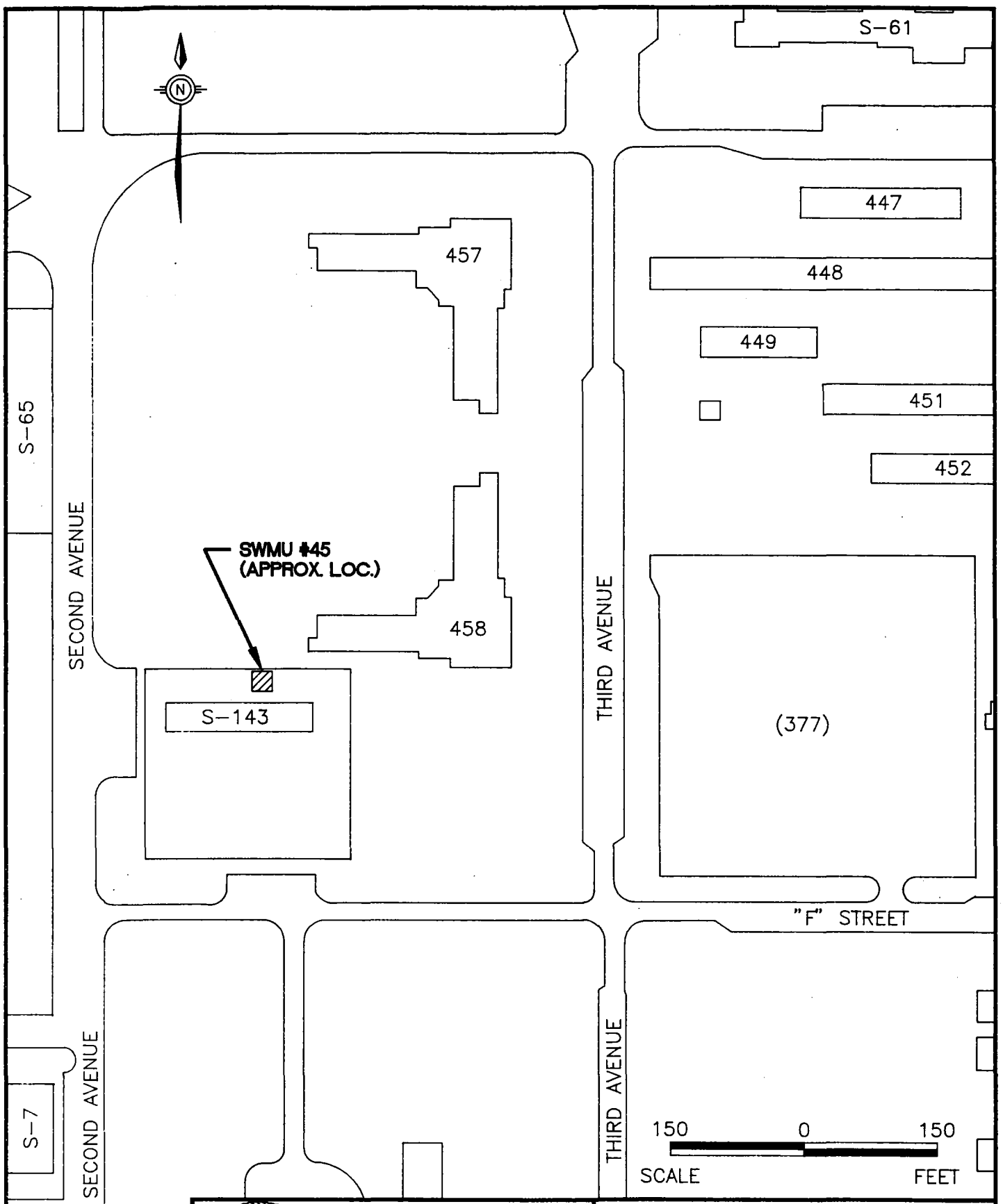
2.0 ENVIRONMENTAL SETTING

The S-142 Hazardous Waste Accumulation Point is located 50 feet north of Building S-143, the former brig, and just west of Second Avenue on the NAS Memphis Southside (see Figures 1 and 2). Building S-142, which was north of the accumulation point, has been demolished. The area surrounding the SWMU is non-industrial, relatively flat, and covered with grass. Some surface water collects around the SWMU with most running off into shallow grass swales that discharge into storm sewers which then discharge into Big Creek.

3.0 SOURCE CHARACTERIZATION

SWMU 45 operated as an accumulation point from 1983 until 1989 in a 12'x 12' square building with a concrete floor, interlocking perforated metal track walls, a locking door, and four steel corner posts which supported a sheet metal roof. Although the building has been demolished, the concrete slab floor is still present.


SMWU 45
NAVY ROAD
HARRISON GATE
WILLIS GATE
BOUGAINVILLE ST
ATTU ST
FIRST
SECOND
THIRD
FOURTH
FIFTH
ACCESS RD. NO. 2
ARMORY NG
"G" STREET
"F" STREET
FIRST AVENUE
SECOND AVENUE
THIRD AVENUE
FIFTH AVENUE
M&D's
SW. STA "DW"
500 0 500
SCALE FEET
INTERIM MEASURES
WORK PLAN
NAS MEMPHIS
MILLINGTON, TENNESSEE
FIGURE 1
VICINITY MAP
S-142 HAZARDOUS WASTE
ACCUMULATION POINT
SWMU 45
DWG DATE: 09/22/94
DWG NAME: 16MEM3C



INTERIM MEASURES
WORK PLAN
NAS MEMPHIS
MILLINGTON, TENNESSEE

FIGURE 2
SITE MAP
S-142 HAZARDOUS WASTE
ACCUMULATION PONIT
SWMU 45

DWG DATE: 09/22/94 | DWG NAME: 16MEM3D

The unit was used for the less-than-90-day storage of drummed paint waste generated by the prisoners at the brig. From this accumulation point, the drummed wastes were taken offsite for disposal. It would be reasonable to assume that solvents and/or paint strippers were also stored at the unit. Paint solvents and strippers include mineral spirits, turpentine and other turpenes, phenols, kerosene (and gasoline-type substances), and possibly various alcohols. Therefore, a release from the unit could be characterized by analyzing for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) including phenols, and metals.

4.0 CHARACTERIZATION OF HAZARDOUS CONSTITUENT RELEASES

4.1 Previous Inspections

Visual site inspections in 1983, 1987, and 1989 did not indicate any releases of materials from the unit (ERC/EDGe, September 1990). Dried paint was observed on the ground at the foot of the door during a 1990 inspection by the Navy (SOUTHDIV, May 1990). No other adverse conditions were noted. When the BRAC Cleanup Team (BCT) visited the site in August 1994, no visual signs of contamination were observed. Based on sediment buildup on the slab, it appears that surface water runoff collects around the slab when it rains. No obvious stains or cracks were seen during the 1994 BCT visit.

4.2 Soil Investigation

The following confirmatory sampling approach is proposed for SWMU 45:

- Select a minimum of two sampling locations outside the concrete pad at the location of lowest topography (where runoff and sediment would accumulate) and from around the former doorway. Two samples will be collected from each location in the following manner:

  - Using a decontaminated, stainless-steel hand auger, collect a surficial soil sample from the 0- to 12-inches below land surface (bls) interval for risk assessment purposes and to determine the presence or absence of surface contamination.

Selection of the specific interval from which the sample will be collected will be based on 1) visual inspection (staining), and/or 2) VOC readings from a photoionization detector (PID) or flame ionization detector (FID). Any debris observed within the sample matrix (e.g. paint chips) will be noted and removed from the sample prior to collection.

- Using a decontaminated, stainless-steel hand auger, collect a subsurface soil sample from a depth greater than 12-inches bls, not exceeding 24-inches bls, to determine if any contaminants present have migrated vertically downward. Specific sample interval selection will be based on 1) visual inspection (staining), 2) VOC readings from a photoionization detector (PID) or flame ionization detector (FID), or 3) the terminal depth of the hand auger boring.

- Core through the concrete pad to collect a soil sample immediately below the slab to determine if contamination is present under the slab. Take the core from a location near any cracks or staining that are observed after all sediment is removed from the top of the slab. If the concrete is not cracked or stained, take the core from the middle of the slab.

- Collect all samples in accordance with the procedures described in Sections 4.2 (General Requirements) and 4.4 (Soil Sampling) of the *Comprehensive RFI Work Plan*. As described in the Comprehensive Work Plan, VOC samples will be placed directly into sample containers without homogenization.

- Analyze all soil samples for VOCs (EPA Method 8240), SVOCs (EPA Method 8270), and RCRA Appendix IX metals (EPA Method 6010/7000 series).

Soil analytical data will be compared to Preliminary Remediation Goals (PRGs) tables to determine if a soil removal will be necessary. If soil must be removed, it will be containerized

in D.O.T. approved (Type 1A2), open-top, 55-gallon drums. A representative sample will be collected from the drum(s) for hazardous waste characterization and determination of disposal options that comply with the land disposal restrictions of 40 CFR 268.

4.3 Concrete Slab Investigation

The concrete slab surface will be cleaned according to *40 CFR 268.45, Treatment Standards for Hazardous Debris, Table 1, Alternative Treatment Standards for Hazardous Debris, A) Extraction Technologies for Concrete.* This process involves using one of the extraction technologies listed in Table 1 to remove at least 0.6 cm of the surface layer to obtain a "clean debris surface" as defined in Footnote 3 of the table. One or more corners of the slab will be left undisturbed so the amount of surface layer removed may be measured. Before and after photographs will be taken to document achievement of a clean debris surface. The concrete slab will then be left in place or removed and disposed of in a Subtitle D landfill.

The residue (concrete dust and/or chips) generated during this process will be containerized in DOT-approved (Type 1A2), open-top, 55-gallon drums. A TCLP analysis will be performed on a representative sample of the residue to determine disposal requirements.

4.4 Analytical Requirements

As described in Sections 4.10 and 4.14 of the *Comprehensive RFI Work Plan*, samples will be analyzed for the compounds mentioned above using a Level III data quality objective (DQO) for 95 percent of the samples, with 5 percent of the samples being analyzed at Level IV DQO for quality assurance purposes. Field sampling personnel will determine in the field which samples will receive Level IV DQO.

4.5 Sample Management

Sample management procedures will adhere to Sections 4.12 and 5.0 of the *Comprehensive RFI Work Plan.*

4.6 Sample Custody

Sample custody will adhere to Section 4.12.5 of the *Comprehensive RFI Work Plan.*

4.7 Quality Assurance/Quality Control

Quality assurance/quality control procedures to be followed during the investigation will adhere to Sections 4.10 and 4.14 of the *Comprehensive RFI Work Plan.*

4.8 Decontamination Procedures

Sampling equipment/personnel decontamination procedures will adhere to Section 4.11 of the *Comprehensive RFI Work Plan.*

4.9 Investigation-Derived Waste

Investigation-derived waste will be handled as specified in Section 4.13 of the *Comprehensive RFI Work Plan.*

5.0 POTENTIAL RECEPTORS

SWMU 45 is approximately 1500 feet east of the nearest offsite resident and approximately 100 feet east of the nearest base office personnel. The storm water from the SWMU flows into drainage structures that discharge into Big Creek, which provides water and food for various animals and could expose humans through infrequent uses such as swimming, wading, fishing, etc. If contamination is confirmed at SWMU 45, a more detailed analysis of potential receptors will be conducted during the subsequent RFI and presented in the RFI report.

6.0 QUALITY ASSURANCE PLAN

The Quality Assurance Plan presented in Section 4.14 of the *Comprehensive RFI Work Plan* will be followed throughout the CSI at SWMU 45.

7.0 DATA MANAGEMENT PLAN

The Data Management Plan presented in Section 5 of the *Comprehensive RFI Work Plan* will be followed during the CSI for SWMU 45.

8.0 HEALTH AND SAFETY PLAN

The field work at SWMU 45 will be conducted in accordance with the health and safety requirements outlined in Section 7 of the *Comprehensive RFI Work Plan*.

9.0 REFERENCES

EnSafe/Allen & Hoshall. (October 1994). *Comprehensive RFI Work Plan for Naval Air Station Memphis*. E/A&H: Memphis, Tennessee.

ERC/EDGe (September 1990). *RCRA Facility Assessment (RFA), NAS Memphis*. ERC/EDGe: Nashville, Tennessee.

SOUTHNAVFACENGCOM (May 1990). *Draft-Final RCRA Facility Investigation Work Plan*, Memphis Naval Air Station, Millington, Tennessee. SOUTHNAVFACENGCOM: Charleston, SC.

APPENDIX A

RCRA FACILITY ASSESSMENT
SWMU 45

RCRA FACILITY ASSESSMENT (RFA)
NAS MEMPHIS
MILLINGTON, TENNESSEE

Prepared For:
Department of the Navy
Southern Division
Naval Facilities Engineering Command
Charleston, South Carolina
Contract No. N62467-88-C-0198

Prepared By:
ERC Environmental and Energy Services Co.
725 Pellissippi Parkway
P.O. Box 22879
Knoxville, Tennessee 37933

August 1990

REVISED FINAL REPORT

7.45 SWMU NO. 45: S-142 HAZARDOUS WASTE ACCUMULATION POINTS

7.45.1 UNIT CHARACTERISTICS

7.45.1.1 TYPE OF UNIT

Inactive waste storage area.

7.45.1.2 DESIGN FEATURES

Metal storage shed on concrete slab.

7.45.1.3 OPERATING PRACTICE (PAST AND PRESENT)

This SWMU served as an accumulation point for drummed paint waste. From this accumulation point, the drummed wastes were conveyed off-site for disposal.

7.45.1.4 PERIOD OF OPERATION

Unknown; not currently in use.

7.45.1.5 AGE OF UNIT

Unknown.

7.45.1.6 LOCATION OF UNIT

SWMU No. 45 is located adjacent to the Brig, Building S-142. See Figure 7-45.

7.45.1.7 GENERAL PHYSICAL CONDITIONS

During the June 1989 site inspection, the building was empty and appeared "clean" (no evidence of floor staining) and in good repair.

7.45.1.8 CLOSURE METHOD

Not applicable.

7.45.2 WASTE CHARACTERISTICS

7.45.2.1 TYPE OF WASTE

According to Department of the Navy information, drummed waste paint was placed in the accumulation area; however, it would be reasonable to assume that solvents and perhaps paint strippers may have also been involved. Therefore, a release from the area could be characterized by the presence of volatile pollutants including xylene and toluene, heavy metals, and phenols.

7.45.2.2 MIGRATION CHARACTERISTICS

Any released solvents would be mobile in the soil, and if in sufficient volume, could reach ground water. Transport via surface waters is a possibility if any release coincided with a precipitation event. If paint sludges were released, they would be very immobile in soil and less likely to be transported by surface waters. Also, paint sludges would be very apparent visually and such were not detected during the 1983 survey nor upon reinspection on March 31, 1987.

7.45.2.3 TOXICOLOGICAL CHARACTERISTICS

Paint solvents would likely have included mineral spirits, turpentine and other terpenes, phenols, kerosene, and possibly various alcohols. Gasoline-type substances (e.g., BTEX) are also possible.

Depending on substances present, symptoms of exposure could be headache; eye, skin, and mucous membrane irritation; drowsiness; agitation; and damage to nerve tissue, liver, or kidneys.

7.45.2.4 PHYSICAL/CHEMICAL CHARACTERISTICS

Residual contamination would exist as adsorbate on soil particles, as soil-pore vapors, and possibly as groundwater contaminants.

7.45.3 MIGRATION PATHWAYS

7.45.3.1 GEOLOGIC SETTING

See Section 3.2.

7.45.3.2 HYDROGEOLOGIC SETTING

See Section 3.3.

7.45.3.3 ATMOSPHERIC CONDITIONS

See Section 4.0.

7.45.3.4 TOPOGRAPHIC CHARACTERISTICS

See Section 3.1 for general information. The area has been disturbed by past activities, but is generally level. Surface drainage is toward the south and west.

7.45.3.5 PATHWAYS

AIR

Any release of volatile constituents would have volatilized promptly upon release. The SWMU has not been used as an accumulation point for many months; therefore, there would be no residual volatile constituents in the ambient air in the vicinity of the SWMU.

SOIL

Any releases would initially impact the upper or surficial soils with the potential for transport to the deeper soils only if the release were a significant amount. There was no visual evidence of a release in 1983 and such would have been apparent had a release of a significant amount occurred prior to the 1983 inspection. Minor releases would be trapped in the vadose zone and attenuated by the surficial soils. Thus, for this SWMU, transport into the soil below a depth of three feet is not expected if in fact a release did occur.

SURFACE WATER/SEDIMENT

Visual observations have revealed no apparent release of hazardous constituents to surface water coursers. If such a release had occurred, the time lapse would prevent detection at this time.

GROUNDWATER

If there had been a significant release from this SWMU, solvents could have reached the ground water.

SUBSURFACE GAS

Not applicable.

7.45.4 CONTAMINANT RELEASE IDENTIFICATION

7.45.4.1 PRIOR INSPECTION REPORTS

Visual inspection in 1983 and 1987 shows no evidence of releases.

7.45.4.2 PUBLIC COMPLAINTS

None.

7.45.4.3 MONITORING/SAMPLING DATA

None.

7.45.4.4 EVIDENCE OF RELEASE

None observed during the 1983 and 1987 inspections. It has not been established that a hazardous constituent release has ever occurred at SWMU No. 45 and, in fact, the possibility of a release is, at worst, only presumed.

7.45.5 EXPOSURE POTENTIAL

7.45.5.1 PROXIMITY TO AFFECTED POPULATION

This SWMU is located in the NAS industrial area, which is far away from the permanent NAS population.

7.45.5.2 PROXIMITY TO SENSITIVE ENVIRONMENTS

The unit is distant from sensitive environments.

7.45.5.3 LIKELIHOOD OF MIGRATION TO POTENTIAL RECEPTORS

It has not been previously determined whether a release of hazardous material has occurred from this Unit. It is reasonable to assume that a release would be characterized by the organic volatile priority pollutants, xylene, heavy metals, and phenols.

7.45.6 DOCUMENTS REVIEWED

See PRD.

7.45.7 SUMMARIZED DATA GAP

7.45.7.1 SOIL

None available.

7.45.7.2 GROUNDWATER

No available data.

7.45.7.3 SURFACE WATER/SEDIMENT

No previous data.

7.45.7.4 AIR

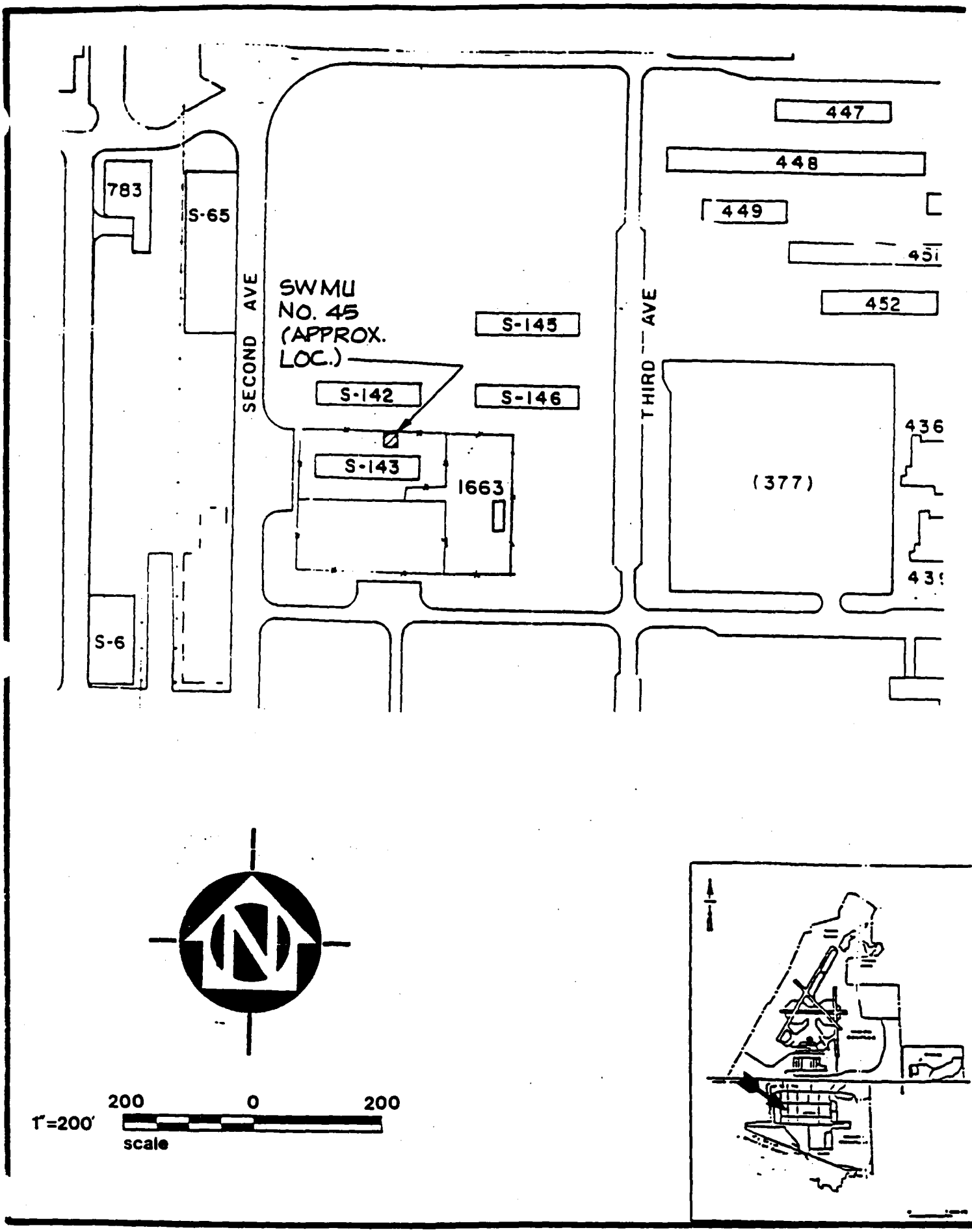
No previous data.

7.45.7.5 SUBSURFACE GAS

No previous data.

7.45.8 RECOMMENDED ACTIONS

This site has been determined to require a RCRA Facility Investigation (preliminary sampling and analysis) by SOUTHDIV NAVFACENGCOM, EPA Region IV, and the Tennessee Department of Health and Environment.

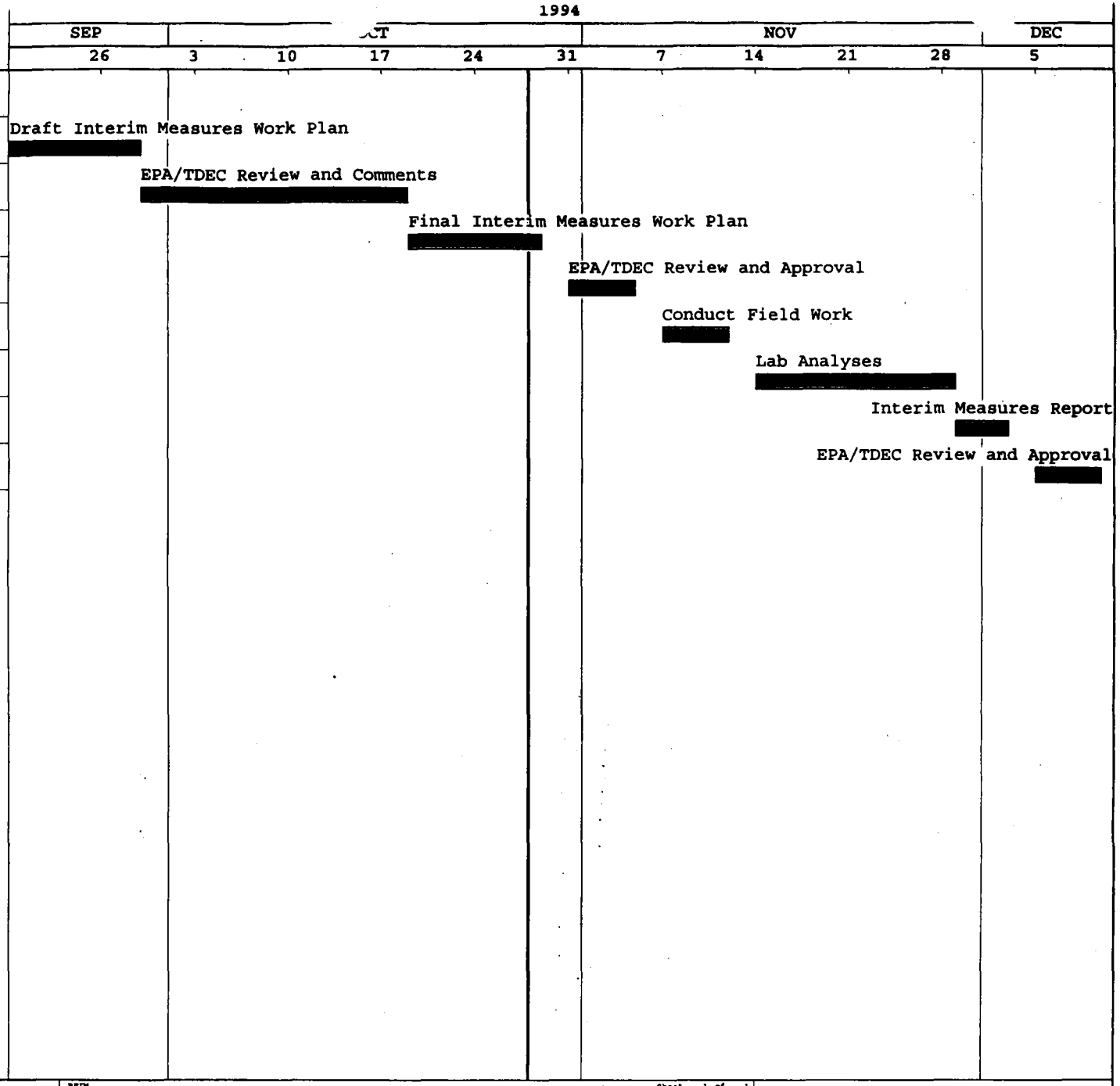


SWMU NO. 45 HZ WASTE ACCUMULATION PTS AT S-142
FIGURE 7-45 LOCATION MAP

APPENDIX B

PROJECT TIME-LINE SCHEDULE
SWMU 45

TASK	EARLY START	EARLY FINISH
90001	19SEP94A	28SEP94A
90002	29SEP94A	18OCT94A
90003	19OCT94A	28OCT94A
90004	31OCT94	4NOV94
90005	7NOV94	11NOV94
90006	14NOV94	28NOV94
90007	29NOV94	2DEC94
90008	5DEC94	9DEC94



Plot Date 28OCT94
Data Date 28OCT94
Project Start 19SEP94
Project Finish 3DEC94

(c) Primavera Systems, Inc.

Activity Bar/Early Dates
Critical Activity
Progress Bar
Milestone/Flag Activity

RFDM

Sheet 1 of 1

NAS Memphis RFI
Interim Measures Schedule
SWMU 45, S-142 HazWaste Accum Pt

Date	Revision	Checked	Approved