

N00639.AR.002006  
NSA MID SOUTH  
5090.3a

STATEMENT OF BASIS SOLID WASTE MANAGEMENT UNIT 46 FORMER HAZARDOUS  
WASTE ACCUMULATION AREA MILLINGTON SUPPACT TN

---

---

**Statement of Basis**  
**Solid Waste Management Unit 46**  
**Former Hazardous Waste Accumulation Area**  
**Naval Support Activity Mid-South**  
**Millington, Tennessee**

---

---

**INTRODUCTION**

This Statement of Basis contains a summary of the location, operating history, contaminants detected, and remedy selected for Solid Waste Management Unit (SWMU) 46, Former Hazardous Waste Accumulation Area, Naval Support Activity Mid-South, Millington, Tennessee.

**SPECIFIC SITE INFORMATION**

SWMU 46, located on NSA Mid-South's Southside (Figure 1), is a former hazardous waste accumulation area that was associated with Building S-140. Building S-140, which is SWMU 14, was used for training Navy personnel in painting processes and included a paint spray booth, paint removing area, and paint wash-down area. Paint-related wastes collected in floor drains, which emptied into a combination of sumps, outdoor washbasins, and, eventually, into either the storm sewer or sanitary sewer. Both SWMUs were operational from 1943 until 1985, when Building S-140 was demolished and the hazardous waste accumulation area was removed. The SWMUs were investigated together as one since they are adjacent to each other.

**SUMMARY OF CONTAMINANT EVALUATION**

Soil and sediment sample locations from the RFI are shown on Figure 2 and groundwater sample locations are provided on Figure 3.

**Soils**

The soil data set is based on 31 soil samples collected from 21 locations; 14 subsurface samples were collected from 11 direct-push locations (014S0005 through 014S0015); eight surface and 16 subsurface samples were collected from locations 014S01LS – 03LS, 014S04LF, 014S06LF, 014S07LF, 014S08LS); and two surface and two subsurface samples were collected from locations 014S0003 and 014S0004. Soil sample locations are provided in Figure 2).

Benzo(a)pyrene, a semi-volatile organic compound, was detected in four surface-soil samples above the U.S. Environmental Protection Agency's (USEPA) residential risk-based screening concentration (RBC-Res) but below the industrial RBC (RBC-Ind). Dibenz(a,h)anthracene was detected in a single sample above the residential RBC, but below the industrial RBC screening value. Table 1 lists sample locations and concentrations of maximum detections that exceeded the screening criteria.

**Table 1**  
**Surface-Soil Contaminants (Max) Exceeding Risk-Based Screening Criteria (ppb)<sup>a</sup>**

Sample Location	Analyte	Result	RBC-Res <sup>b</sup>	RBC-Ind <sup>b</sup>
014S04LF	Benzo(a)pyrene	560	87	780
014S04LF	Dibenz(a,h)anthracene	130	87	780

Notes: <sup>a</sup> Units of parts per billion

<sup>b</sup> Denotes risk-based concentrations: residential (RBC-Res) and industrial (RBC-Ind) (RBC-Ind), taken from *Risk-Based Concentration Table*, October 7, 1999 (EPA, 1999).

### Sediment

Sediment samples were collected from two locations (014M0001 and 014M0002) in the drainage ditch bordering the east side of the site (see Figure 2). Pesticides, semi-volatile organic compounds, and metals were detected above the USEPA's sediment screening values (SSVs) in both samples. Table 2 lists the maximum detections of the chemicals and their respective SSVs.

**Table 2**  
**Exceedances in Sediment (ppb<sup>a</sup>)**

Sample Location	Contaminant	Maximum Detected Concentration	SSV <sup>b</sup>
014M000	Pyrene	400	330
019S0004 (13-15')	Fluoranthene	550	330
019S0005 (13-15')	Chrysene	370	330
019S0005 (13-15')	BEHP	2,300	182
019S0005 (13-15')	4,4'-DDT	1,900	3.3
019S0005 (13-15')	4,4'-DDD	330	3.3
019S0005 (13-15')	Copper <sup>c</sup>	19.9	18.7
019S0005 (13-15')	Lead <sup>c</sup>	61.8	30.2
019S0005 (13-15')	Nickel <sup>c</sup>	18.2	15.9
014M0002	Arsenic <sup>c</sup>	9.5	7.24
014M0002	4,4'-DDE	23	3.3
014M0002	4,4'-DDD	29	3.3
014M0002	Arsenic <sup>c</sup>	9.5	7.24

Notes: <sup>a</sup> Units in parts per billion (ppb)

<sup>b</sup> Sediment Screening Value (SSV); values obtained from the *Ecological Screening Values – Ecological Risk Assessment Bulletin No. 2* (USEPA, 1999).

<sup>c</sup> Units in parts per million (ppm)

As part of the RFI, risks to human health and the environment from the contaminants identified at SWMU 46 were evaluated using human health, which were developed in accordance with existing USEPA and TDEC methods. Human health risk at SWMU 46 was assessed using four land-use scenarios: site worker, trespasser, maintenance worker, and future site resident. No chemicals of concern in soil and sediment were identified for any of the land-use scenarios evaluated. The United States Environmental Protection Agency (EPA) and the Tennessee Department of Remediation (DR) (formally the Division of Superfund) approved the risk evaluation for soils at SWMU 46.

## **GROUNDWATER**

Groundwater is being addressed as part of an interim measure for SWMU 14, Building S-140.

## **SELECTED REMEDY**

There are no site-related contaminants that would pose an excessive risk to an unrestricted reuse of the property. Groundwater is being handled as part of SWMU 14. Therefore, no further action is the recommended remedy for SWMU 46, Former Hazardous Waste Accumulation Area.

## **REFERENCES**

- EnSafe Inc. (2000, October 6). *RCRA Facility Investigation Report; Assembly E—SWMUs 2, 9, 14, 38, 59, and 65. NSA Mid-South, Millington, Tennessee*. Revision 2. Memphis, Tennessee.
- EnSafe Inc. (2003, December 22). *Corrective Measures Study, Naval Support Activity Mid-South, SWMU 14/46*, Revision 1. Memphis, Tennessee.
- EnSafe Inc. (2004, October 12). *Interim Measures Work Plan — SWMU 14/46, Naval Support Activity Mid-South*, Revision 0. Memphis, TN.
- USEPA. (2002). *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils*.
- USEPA. (1999, April). *Risk-Based Concentration Table*. Region 3.
- USEPA. (1999, August). *Supplemental Guidance to RAGS: Region IV Bulletins, Ecological Risk Assessment*. USEPA Region 4 Waste Management Division. Office of Health Assessment.
- U.S. Environmental Protection Agency. (1996, October). *Drinking Water Regulations and Health Advisories*. USEPA Office of Water: Washington, D.C.

## FIGURES FOR SWMU 46

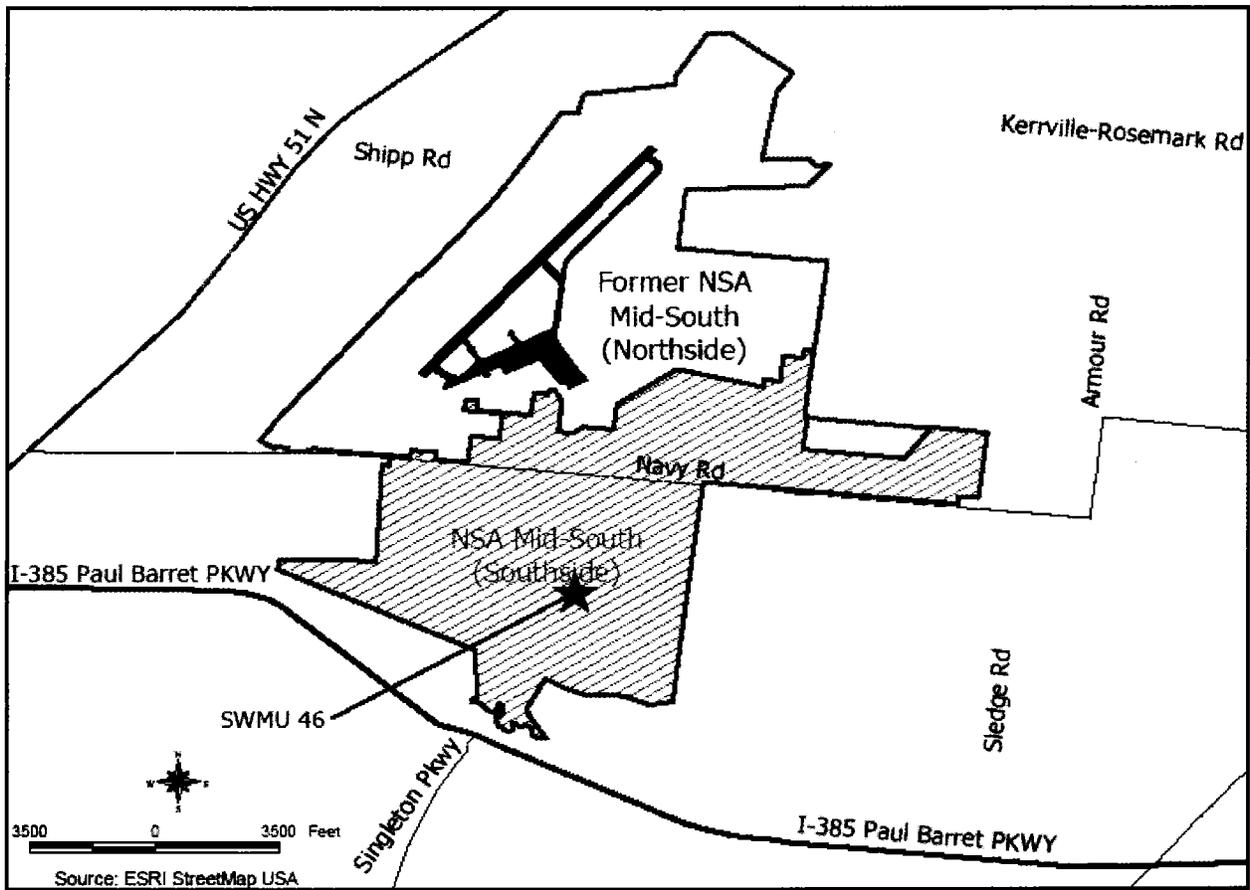
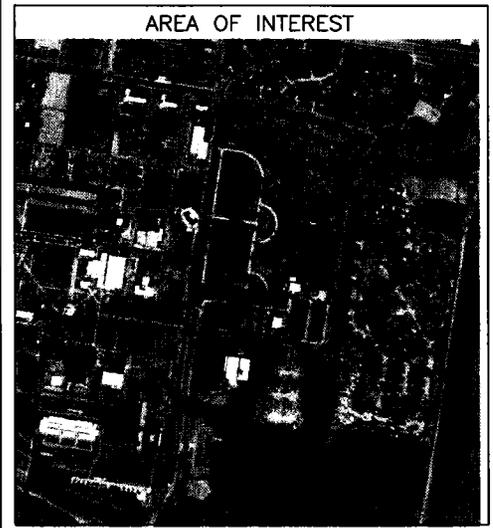
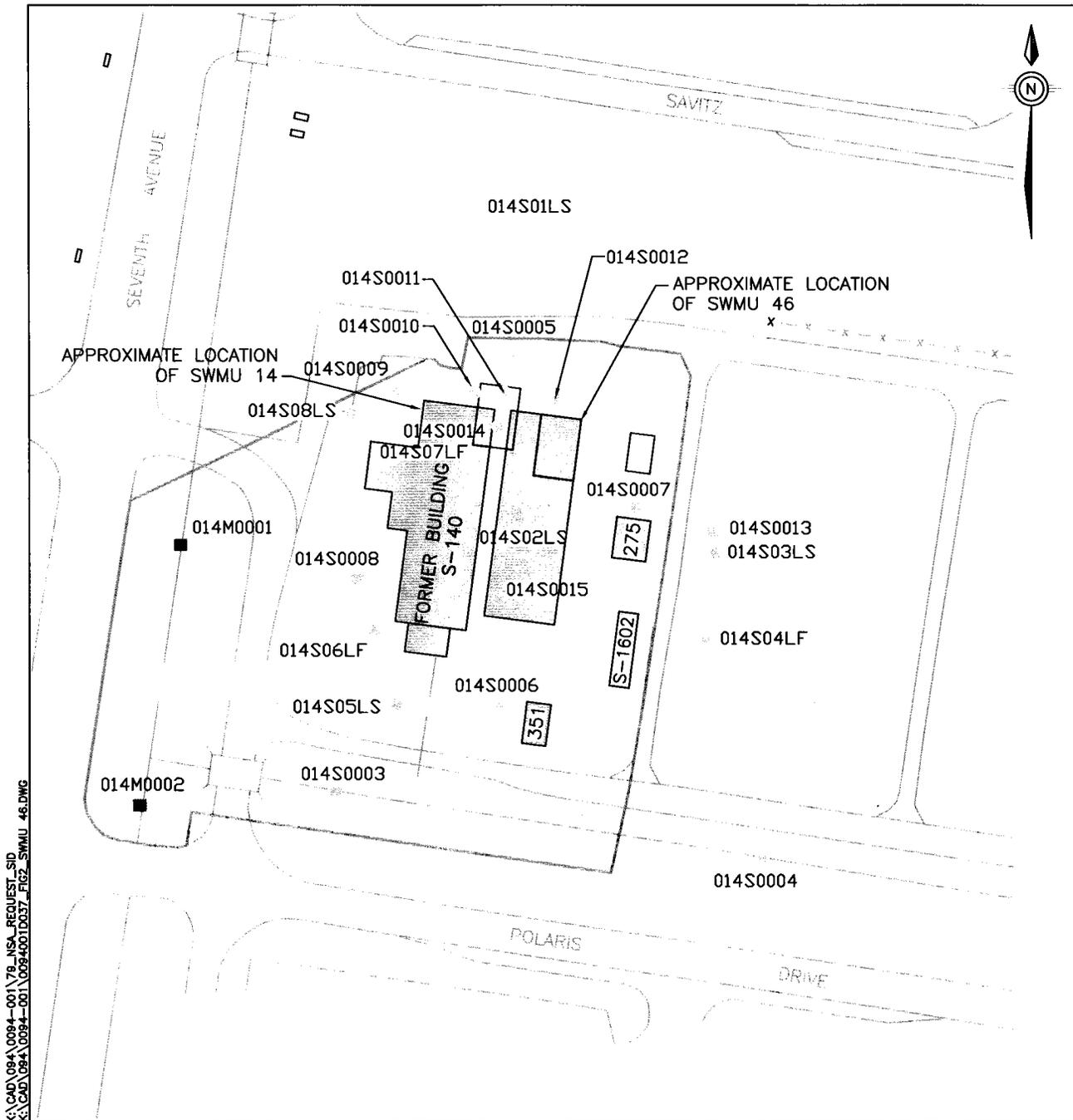
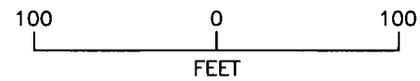


Figure 1: SWMU 46 Location at NSA Mid-South, Millington, Tennessee  
Former Hazardous Waste Accumulation Area



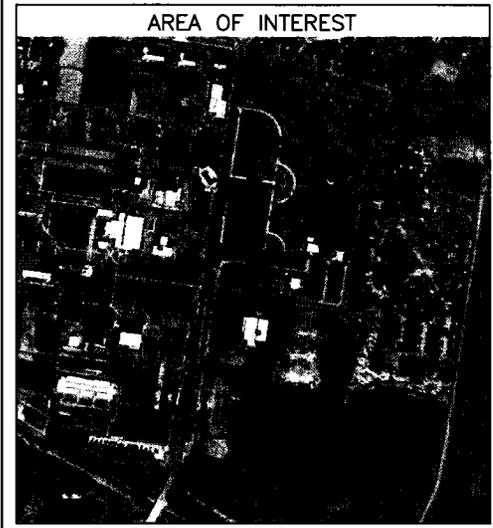
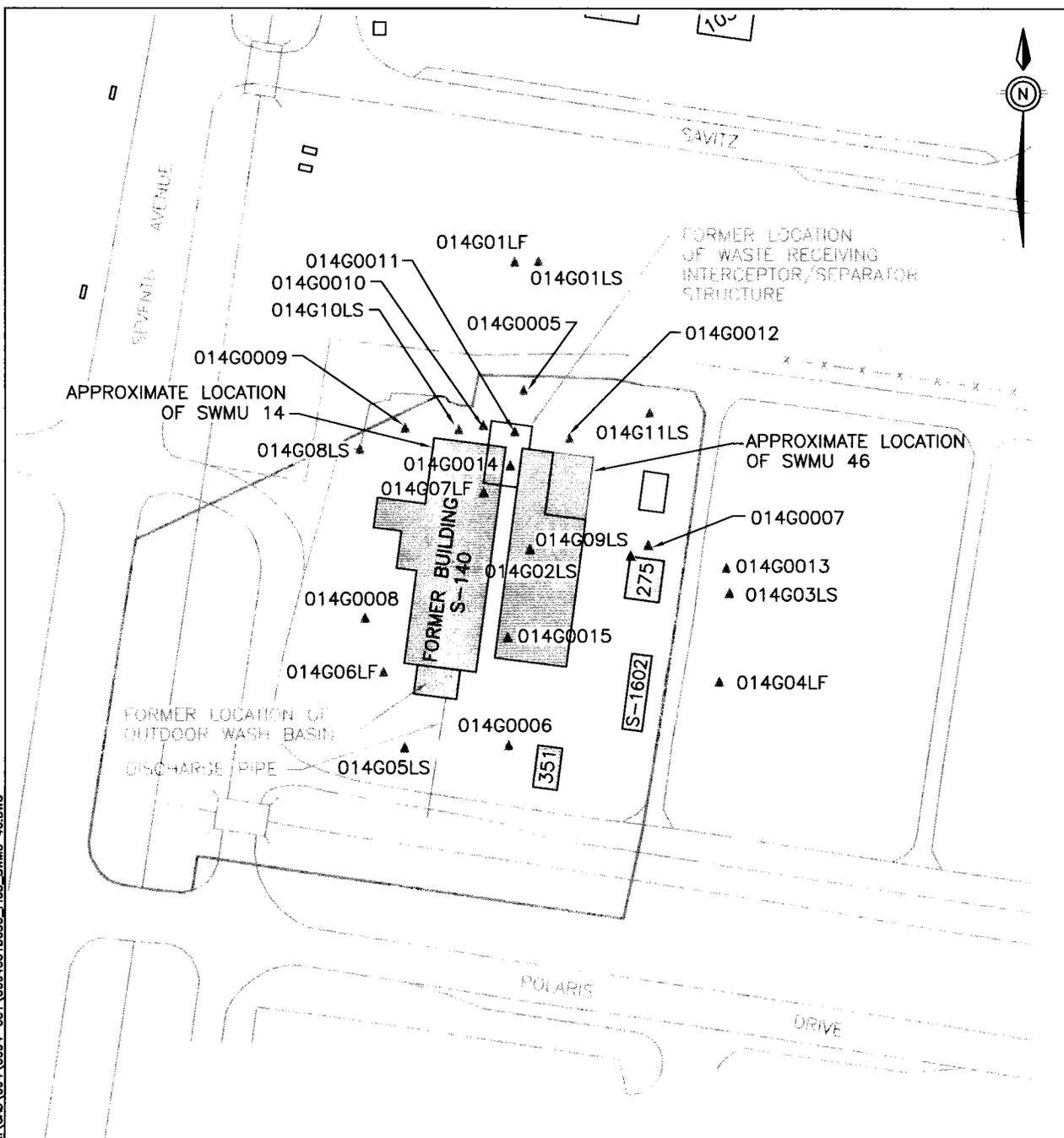
- LEGEND**
- - SEDIMENT SAMPLE LOCATION
  - \* - SOIL SAMPLE LOCATION
  - ▭ - BUILDING
  - - - NSA MID-SOUTH BOUNDARY
  - ▬ - AREA OF INVESTIGATION



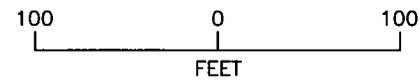
**FIGURE 2**  
**SWMU 46**  
**STATEMENT OF BASIS**  
**SOIL AND SEDIMENT SAMPLE LOCATIONS**

K:\CAD\08A\0084-001\76\_NSA\_REQUEST\_SID  
 K:\CAD\08A\0084-001\08A\001\0037\_1\FG2-SWMU-46.DWG

K:\CAD\094\0094-00\78\_NSA\_REQUEST\_SID  
 K:\CAD\094\0094-00\78\_NSA\_REQUEST\_SID\_PIG\_SWMU\_46.DWG



- LEGEND**
- ▲ - GROUNDWATER SAMPLE LOCATION
  - ▭ - BUILDING
  - - - NSA MID-SOUTH BOUNDARY
  - AREA OF INVESTIGATION



**FIGURE 3**  
**SWMU 46**  
**STATEMENT OF BASIS**  
**GROUNDWATER SAMPLE LOCATIONS**