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NSA MID SOUTH
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STATEMENT OF BASIS SOLID WASTE MANAGEMENT UNIT 45 HAZARDOUS WASTE
ACCUMULATION POINT AT BUILDING S 142 MILLINGTON SUPPACT TN

**Statement of Basis
For
Solid Waste Management Unit 45
Hazardous Waste Accumulation Point S-142
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) 45, Hazardous Waste Accumulation Point S-142, Naval Support Activity Mid-South, Millington, Tennessee.

SPECIFIC SITE INFORMATION

Located approximately 50 feet north of the former brig (Building S-143), SWMU 45 (Figure 1) is the site of a former 12-square-foot building used as an accumulation point for drummed paint waste generated by prisoners at the brig from 1983 to 1989. Paint solvents, strippers, mineral spirits, and other paint-related chemicals are believed to have been stored there. The building and its slab have since been demolished.

Visual site inspections conducted in 1983, 1987, and 1989 did not indicate any signs of a release (ERC/EDGE, 1990). However, dried paint observed on the ground and inside the building pad by a 1990 Navy inspection prompted the designation of the site as a SWMU (Navy, 1990). A subsequent Interim Measures (IM) investigation and removal were completed in 1994 (EnSafe/Allen&Hoshall, 1995).

SUMMARY OF CONTAMINANT EVALUATION

As part of the IM investigation, five soil samples were initially collected from three locations (sample locations 045S0001, 045S0002, and 045S0004) beneath and beside the former building slab, as shown on Figure 2. Upon discovery of paint beneath the pad, a backhoe was used to remove the pad, at which point a second pad was discovered. Upon removal of the second pad, a petroleum odor and grey staining were noted in the excavation. Subsequent interviews with Navy personnel found that an oil-water separator from the aircraft firefighting training area had previously backed up a mixture of JP-5 fuel and water into the sanitary sewer and overflowed through a manhole approximately 30 feet northeast of the site (see Figure 2).

The IM investigation evolved to assess potential petroleum impacts to soil and groundwater through collection and analysis of 24 soil samples and 20 groundwater samples. Soil and groundwater samples were analyzed in the field using a portable gas chromatograph/flame ionization detector for total volatile organic compounds (VOCs) in addition to benzene, toluene, ethyl benzene, and xylenes. Soil samples were collected from 16 different locations and multiple depth intervals at locations SS-01 through SS-18 (see Figure 2). Groundwater samples were

collected from the two groundwater units: (1) 16 samples were collected from the clay and silt loess deposits (GW-01 through GW-17), at depths ranging between 9 and 15 feet below land surface groundwater units; and (2) 4 samples were collected from the fluvial sand and gravel unit (45GH07 through 45GH10), at depths between 37 and 42 feet.

Soils

The only contaminant that exceeded the USEPA's Region 3 risk-based screening criteria was benzo(a)pyrene, which was detected in two of the surface soil samples, above the residential (88 parts per billion [ppb]) but below the industrial (390 ppb) RBC at 140 ppb and 210 ppb. The maximum benzo(a)pyrene detection was identified at location 0451S0003 (EnSafe/Allen & Hoshall, 1995). As part of the IM, risks to human health at SWMU 45 were evaluated using human health risk assessment methods developed in accordance with existing USEPA and Tennessee Department of Environment and Conservation (TDEC) methods. To assess human health risk at SWMU 45, data from the IM were used to evaluate risks using future residential and industrial land-use scenarios. A single contaminant — benzo(a)pyrene, was identified above the residential RBC screening value but below the industrial screening value. However, the aggregate risk associated with site soil is within USEPA's acceptable risk range for a residential reuse of the site (EnSafe/Allen & Hoshall, 1995). The IM report was approved by USEPA and TDEC in January and February of 1996.

Groundwater

No contaminants were detected in groundwater above Maximum Contaminant Levels (MCLs).

SELECTED REMEDY

There are no site-related contaminants that would pose an excessive risk to an unrestricted reuse of the property. Therefore, no further action is the recommended remedy for SWMU 45, Hazardous Waste Accumulation Point S-142.

REFERENCES

- EnSafe/Allen & Hoshall (1995, August 23). *Interim Measures Technical Memorandum; SWMU 45 — S-142 Hazardous Waste Accumulation Point; Naval Air Station Memphis; Millington, Tennessee., Memphis, Tennessee.*
- ERC/EDGE. (September 1990). *RCRA Facility Assessment (RFA), NAS Memphis.* Nashville, Tennessee.
- U.S. Environmental Protection Agency. (1994). *Risk-Based Concentration Table.* USEPA Region 3.
- U.S. Environmental Protection Agency. (1996, October). *Drinking Water Regulations and Health Advisories.* Office of Water: Washington, D.C.

FIGURES FOR SWMU 45

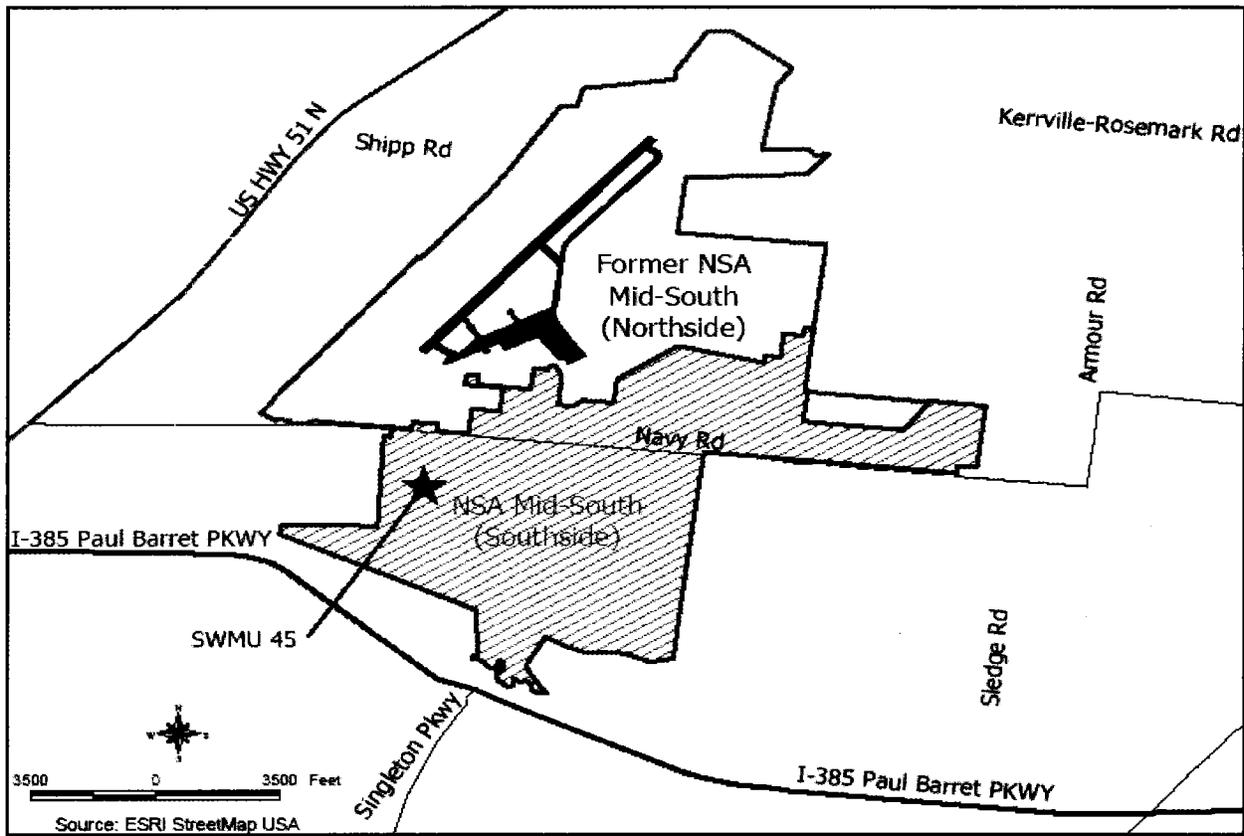
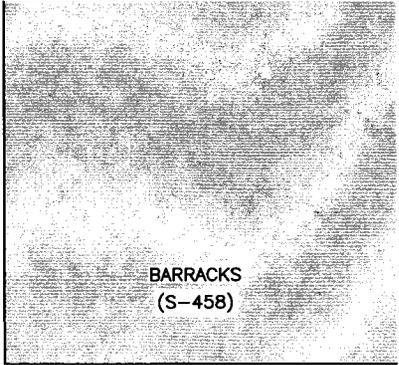


Figure 1: SWMU 45 Location at NSA Mid-South, Millington, Tennessee
Hazardous Waste Accumulation Point S-142



PARKING LOT



BARRACKS
(S-458)

SS-15

SS-10

SS-16

SS-06

SS-07

SS-05

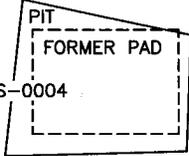


451-S-0002

451-S-0004

SS-02

SS-14



SS-03

451-S-0001

SS-09

SS-12

SS-01

SS-04

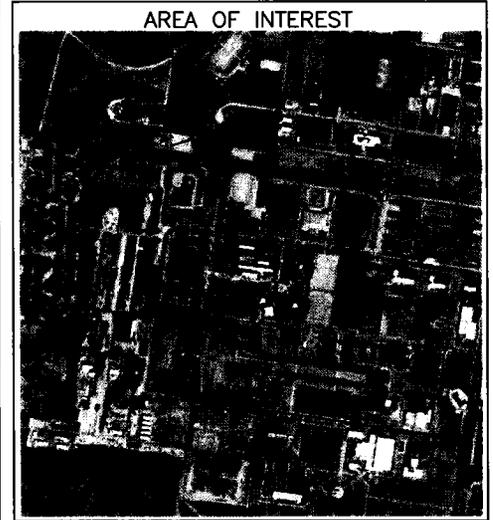
SS-11

SS-13

SIDEWALK

SS-17

BRIG
(S-143)
(DEMOLISHED)



AREA OF INTEREST

LEGEND

-  - MANHOLE
-  - SOIL SAMPLE LOCATION
- SS-01 - PETROLEUM SCREENING SOIL SAMPLE
- 451-S-0001 - INITIAL IM SOIL SAMPLE LOCATION
-  - AREA REMOVED DURING IM
-  - NSA MID-SOUTH BOUNDARY
-  - AREA OF INVESTIGATION

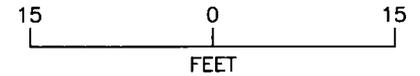
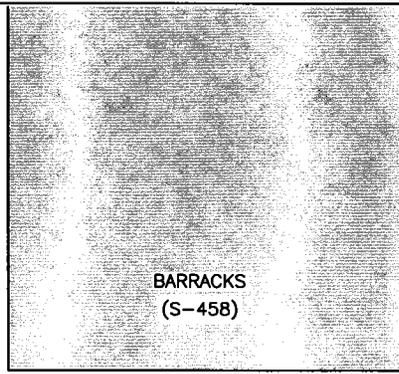


FIGURE 2
SWMU 45 STATEMENT OF BASIS
SOIL SAMPLE LOCATIONS



PARKING LOT



BARRACKS
(S-458)

▲ GW-15-12

▲ GW-16-12

▲ GW-10-12

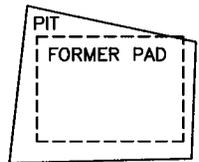
▲ GW-07-10 (MH)

▲ GW-05-12

▲ GW-06-9

▲ 45GH0842

▲ 45GH0740



▲ 45GH0937

▲ GW-02-9

▲ GW-14-12

▲ GW-03-9

▲ GW-08-15

SIDEWALK

▲ GW-09-10

▲ 45GH1040

▲ GW-12-12

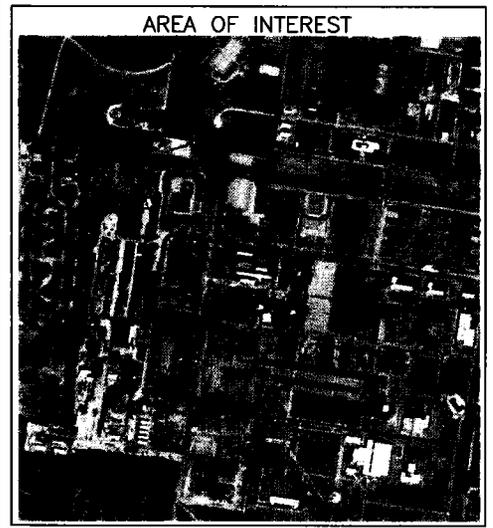
▲ GW-04-9

▲ GW-11-12

▲ GW-13-12

▲ GW-17-12

BRIG
(S-143)
(DEMOLISHED)



AREA OF INTEREST

LEGEND

- (MH) - MANHOLE
- ▲ - GROUNDWATER SAMPLE LOCATION
- GW-11-12 - LOESS GROUNDWATER SAMPLE #11; DEPTH 12 FEET
- 45GH0740 - FLUVIAL GROUNDWATER SAMPLE #7; DEPTH 40 FEET
- [Dashed Box] - AREA REMOVED DURING IM
- [Thick Line] - NSA MID-SOUTH BOUNDARY
- [Thin Line] - AREA OF INVESTIGATION

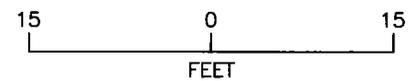


FIGURE 3
SWMU 45 STATEMENT OF BASIS
GROUNDWATER SAMPLE LOCATIONS

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