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NSA MID SOUTH
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STATEMENT OF BASIS SOLID WASTE MANAGEMENT UNIT 24 (SWMU 24) BUILDING N-
114 AUTO HOBBY SHOP MILLINGTON SUPPACT TN
11/01/2005
TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

STATEMENT OF BASIS



SWMU 24 — Building N-114 (Auto Hobby Shop) Naval Support Activity Mid-South Millington, Tennessee



Purpose of the Statement of Basis

This Statement of Basis (SB) has been prepared to inform the public and provide an opportunity to comment on a proposed remedy at solid waste management unit (SWMU) 24 — Building N-114 (Auto Hobby Shop) at Naval Support Activity (NSA) Mid-South, Millington, Tennessee. NSA Mid-South is responsible for corrective action at SWMU 24, as required by a Resource Conservation and Recovery Act (RCRA) permit. The Tennessee Department of Environment and Conservation (TDEC) has determined that the proposed remedy of No Further Action is protective of human health and the environment.

Before the remedy is finalized, TDEC would like to give the public an opportunity to comment on the proposed remedy. At any time during

the comment period, the public may comment as described in the following section "How Can You Participate?" Upon closure of the public comment period, TDEC will evaluate all comments and determine if there is a need to modify the proposed remedy.

Site Description

SWMU 24 (Figure 1), on NSA Mid-South's Northside, consisted of two aboveground waste-oil tanks, located between Buildings N-114 (Auto Hobby Shop) and N-349 at Astoria Avenue (formerly 1st Avenue) and Bougainville Street. The tanks were used by NSA Mid-South personnel for changing lubricants and other fluids in their private vehicles. During a 1990 inspection, an open ditch at the site appeared stained from oil discharge.

How Can You Participate?

TDEC solicits public review and comment on this SB prior to implementation of the proposed remedy as the final one. The final remedy for SWMU 24 — Building N-114 (Auto Hobby



Figure 1 SWMU 24 at NSA Mid-South in Millington, Tennessee

Shop) will be incorporated in the Hazardous and Solid Waste Amendments Permit TNHW-094 for NSA Mid-South, scheduled to be updated in 2006.

Public comment on this SB and the proposed remedy will begin on the date that a notice of the SB's availability is published in *The Millington Star* and *The Commercial Appeal*, local daily newspapers. Since community input could affect selection of a final remedy for SWMU 24, a public comment period has been established for 45 days from (*insert date*). If requested during the comment period, TDEC will hold a public meeting to respond to any oral comments or questions regarding the proposed remedy. To request a hearing or to provide comments, contact the following person in writing within the 45-day comment period:



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Mr. Roger Donovan
TDEC — Division of Solid Waste
Management
5th Floor, L&C Annex
401 Church Street
Nashville, TN 37243-1538
Telephone: (615) 532-0864
E-mail: roger.donovan@state.tn.us

Investigative reports and documents related to SWMU 24 are referenced at the end of this SB and are included in the Administrative Record, which can be reviewed in the Information Repository that was established to provide public access to documents pertaining to the Navy's environmental program. The Information Repository is maintained at:

Millington Public Library
4858 Navy Road
Millington, Tennessee 38053
(901) 872-1585

Background Summary

Past operations at the former Naval Air Station (NAS) Memphis included metal plating, manufacturing, and other operations that involved the use of toxic and hazardous materials. Land use changed as a result of the 1990 Base Closure and Realignment (BRAC) Act, and the name of the facility was changed from NAS Memphis to NSA Mid-South.

A significant portion of NSA Mid-South's Northside was transferred to the City of Millington, and the remaining property was realigned (i.e., an operation was reassigned from NSA Mid-South to another facility, and/or an operation from another facility was reassigned to NSA Mid-South). Three facility operations changed: (1) Navy airfield operations ceased in October 1995, (2) training operations were realigned to NAS Pensacola in 1996, and (3) administrative operations for the

Navy Bureau of Personnel were realigned from Washington, D.C., to NSA Mid-South in 1997.

SWMU 24 consisted of two aboveground storage (AST) waste oil tanks located between Buildings N-114 (Auto Hobby Shop) and N-349. The AST located next to Building N-349 has been removed, leaving one 500-gallon AST. A catch basin, northwest of Building N-114 and southeast of N-397, was also investigated to determine if runoff and overflow had adversely affected soil. The catch basin was part of a caustic dip tank used for degreasing of engine blocks. During a 1990 inspection, the catch basin was observed to be full of water and overflowing onto surrounding soil. The SWMU is characterized by relatively level, low-relief topography, and the immediate area is covered with concrete, asphalt, or grass.

As required by the Navy's RCRA Permit, NSA Mid-South is required to evaluate and assess all SWMUs for potential environmental impacts. Due to the former operations at the site, SWMU 24 was designated as a site warranting further evaluation to determine its potential risk to human health and the environment. Previous investigations at SWMU 24 include the *RCRA Facility Assessment* (RFA; ERC/EDGE, 1990), *Environmental Restoration Navy Account Gray Area Investigation* (ERNA GAI; EnSafe, 1999), the *Confirmatory Sampling Investigation* (CSI; EnSafe, 2000), *RCRA Facility Investigation* (RFI; EnSafe 2001a), and the *Voluntary Corrective Action* performed to remove petroleum-contaminated soil (VCA; EnSafe, 2001b). Analytical results from the CSI, RFI, and VCA resulted in a "No Further Action" remedy. The basis for the remedy selection is provided under the "Summary of Contaminant Evaluation" and "Summary of Site Risk" sections of this SB.



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Summary of Contaminant Evaluation

In 1998, two soil investigations were conducted at SWMU 24, one for the ERNA GAI and the other for the CSI. During the ERNA GAI, soil samples were collected at two areas of suspected releases at Facilities N-114 and N-397. Two soil samples, identified with the prefixes 114 and 397 (Figure 2, Attachment 1), were collected from the surface (0-1 foot) and subsurface (12-15 feet) at each location. Environmental samples collected as part of the ERNA GAI were analyzed for volatile organic compounds, metals, and total petroleum hydrocarbons (TPH).

During the CSI, 12 soil samples, identified with the prefixes of 024X, were collected from six locations around the existing AST (see Figure 2, Attachment 1). Both surface (0-1 foot) and subsurface (3-4 foot) soil samples were collected to assess risk and inspect for potential releases. Environmental samples collected from soil as part of the CSI were analyzed for inorganic constituents (metals and cyanide), volatile organic compounds, semi-volatile organic compounds, pesticides/polychlorinated biphenyls, and TPH.

Soil

ERNA GAI and CSI sample concentrations were compared to the U.S. Environmental Protection Agency's (USEPA) risk-based screening criteria and site background reference concentrations, where applicable. Because no risk-based screening criteria exist for TPH, TDEC soil cleanup values were used for comparison.

Only one metal was detected above the applicable screening criteria. Arsenic exceeded its industrial (3.8 parts per million [ppm]) and residential (0.43 ppm) risk-based screening values, as well as its reference concentration (14.6 ppm), in two CSI surface sample locations (024X0002 and 024X0006) at concentrations of 17.1 ppm and 16.5 ppm, respectively.

Only one surface soil sample, collected at location 114X0001 during the ERNA GAI at Building N-114, contained TPH (1,900 ppm) above the most conservative TDEC soil cleanup value of 100 ppm. TPH was detected in all CSI soil samples at concentrations ranging from 1.1 ppm to 2,900 ppm. Eleven of these samples were above the 100 ppm soil cleanup value. Based on these exceedances, the CSI recommended that the TPH-contaminated soil be removed. Details of this soil removal are provided under the "Removal Actions" section of this SB.

Tetrachloroethene (a volatile organic compound widely used as a solvent for dry cleaning and metal degreasing) was detected in one CSI surface soil sample location (024X0003) at a concentration of 7.7 parts per billion (ppb). Even though this detection does not exceed regulatory screening criteria, the CSI recommended that the groundwater be assessed as part of the RFI to ascertain whether a release to groundwater had occurred. Details of this assessment are provided in the following section.

Groundwater

Groundwater samples were collected from two geological units during the RFI — the loess unit and the fluvial deposits aquifer. The loess unit consists of wind-blown soil deposits and is the principal land surface unit at the NSA Mid-South. Fluvial deposits are sands, gravels, and minor clays beneath the loess deposits.

Five locations were sampled to determine the potential for TPH and tetrachloroethene contamination to groundwater. A saturated subsurface soil sample (12-15 feet) was collected from each location to assess whether loess groundwater contained TPH and tetrachloroethene. Groundwater was collected at each location (50-60 feet) to assess fluvial deposits. No volatile organic compounds or



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TPH were detected in the saturated soil (loess) or the groundwater (fluvial) samples.

Summary of Site Risk

As part of the RFI, risks to human health and the environment from the contaminants identified at SWMU 24 were evaluated using human health and ecological risk assessments, which were developed in accordance with existing USEPA and TDEC methods.

Human Health Risk

Risk assessments use estimated intake as part of the calculations. Intake is affected by the land-use scenarios, where one scenario may account for lifetime exposure to groundwater and soil, and another scenario may only include occasional exposure to soil with no groundwater exposure. Human health risk at SWMU 24 was assessed using three scenarios: site worker, child trespasser, and future site resident.

- ***Soil***

Since no chemicals of concern were identified in soil during the RFI, it was concluded that soil poses no risk under the three scenarios. However, the RFI concurred with the CSI's recommendation to remove TPH-contaminated soil to within TDEC-approved levels.

- ***Groundwater***

Since no chemicals of concern were identified in groundwater during the RFI, groundwater was concluded to pose no risk under the three scenarios.

Ecological Risk

SWMU 24 totals approximately 0.84 acres and provides marginal ecological habitat. Of this total, 20% is grass-covered or otherwise usable by area wildlife (approximately 0.17 acre). The RFI ecological risk assessment concluded that

the wildlife that may utilize SWMU 24 and immediately adjacent areas are not expected to be significantly impacted by residual soil contamination from previous site activities.

Removal Actions

In 1999, during a natural gas line installation, petroleum-contaminated soil was discovered adjacent to the west sides of Building N-114 and N-349, which necessitated soil removal. Approximately 19 cubic yards of soil was excavated at the west side of Building N-349, and approximately 6 cubic yards were excavated at the west side of Building N-114. Excavation areas are shown on Figure 2 (Attachment 1). All petroleum-impacted soils exceeding the site-specific TDEC action level of 500 ppm TPH were removed. In all, about 25 cubic yards of soil were removed from the two areas.

Based on the CSI recommendation, two petroleum-contaminated areas were addressed during the SWMU 24 soil removal action (Figure 2, Attachment 1): the area between Buildings N-114 and N-349 and the area adjacent to the northwest corner of Building N-114. In all, approximately 80 cubic yards of soil were removed. Following excavation, nine composite confirmation soil samples were collected from both excavated areas. All confirmation TPH results were less than the most conservative TDEC cleanup standard of 100 ppm.

Results of the removal actions were forwarded to the USEPA and TDEC on June 29, 2001, in a VCA Report. Included in the report was a recommendation for No Further Action. Based on this report, regulatory approval of the No Further Action request was received on August 24, 2001.

Selected Remedy for SWMU 24

Since TDEC's goals for human health and ecological risks have been met, no alternative



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remedies were evaluated. The Navy's proposed remedy of No Further Action is considered protective of human health and the environment. The remedy meets the four general standards of corrective measures, which are:

- Overall protection of human health and the environment
- Attainment of media cleanup standards
- Controlling the sources of release
- Compliance with standards for management.

There are no site-related contaminants that would pose an excessive risk to an unrestricted reuse of the property or warrant implementation of institutional controls.

References

- EnSafe Inc. (1999, May 13). *ERNA Gray Areas Investigation Report, Naval Support Activity Mid-South, Millington, Tennessee*. Revision 1. Memphis, Tennessee.
- EnSafe Inc. (2000, April 28). *Confirmatory Sampling Investigation Report, Assemblies G and H, Naval Support Activity Mid-South, SWMUs 23, 24, 41, 43, 47, 48, 49, and 61*.
- EnSafe Inc. (2001a, November). *Assemblies G and H RCRA Facility Investigation Report, Naval Support Activity Mid-South*. Revision 1.
- EnSafe Inc. (2001b, June 29). *Voluntary Corrective Action Report, RCRA Facility Investigation, Naval Support Activity Mid-South, Petroleum-Contaminated Soil Removal Buildings S-362/SWMU 65,*

S-235, S3-94, N-114/SWMU 24, N-1211, N-105, N-108, S-203, SWMU 41, SWMU 43, SWMU 47, SWMU 48, and SWMU 49. Revision 1.

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

Attachment 1
Figure

