Fact Sheet
Former Lead Furnace Area (FLFA)
December 2009

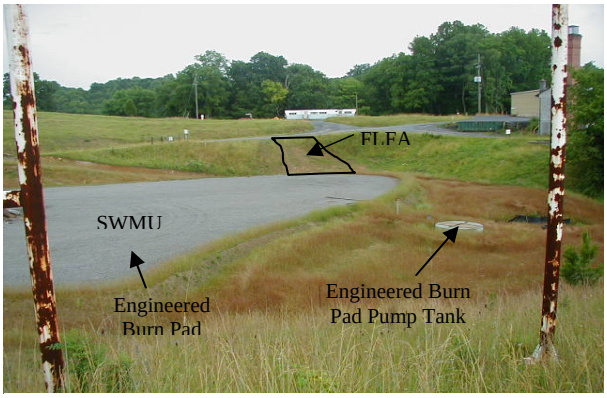
Introduction

This fact sheet describes the recommended action for lead-containing soil at the FLFA at Radford Army Ammunition Plant.

Background

The FLFA encompasses a 0.78 acre area located in the Main Manufacturing Area at the bottom of a steeply sloping hillside in the southeast portion of Solid Waste Management Unit (SWMU) 17A (Contaminated Scrap Burn Area). The FLFA was built into the sloping side of a sinkhole.

The primary function of the lead furnace was to melt and cast recovered lead into ingots for salvage.
Several investigations were conducted in the 1990s; and in 1998, the building foundations, debris, and lead containing soil were removed. The 1998 removal addressed the main source of lead contamination at the site. Additional investigations in 2002 and 2007 indicated that some lead-containing soil in outlying portions of the site remained after the removal.



Groundwater/Surface Water - Surface water and sediment were evaluated by collecting samples at SPG 3, which was shown to be hydraulically connected to the FLFA/SWMU 17A based on results of a dye trace study. Sample results indicated that significant migration from the FLFA via groundwater to the spring is not occurring.

Corrective Measures Study

Four corrective measures alternatives were evaluated based on effectiveness, implementability, and cost. These alternatives consist of the following:

- Alternative One: No Further Action
- Alternative Two: Institutional Controls (Industrial/Commercial Use Scenario Land Use Controls, Groundwater Monitoring)
- Alternative Three: Excavation of Soil with Waste in Place, Off-site Disposal, and Institutional Controls (Industrial/Commercial Use Scenario Land Use Controls, Groundwater Monitoring)
- Alternative Four: Excavation of Soil for Clean Closure (Residential Use) and Off-site Disposal

Alternative Four was recommended as the final alternative for the FLFA because it is implementable and provides a greater level of protection to human health and the environment not provided by the other Alternatives. Alternative Four is the sole alternative that facilitates clean closure.

Alternative four includes the following activities:

- Delineation of soil containing contaminants of interest above the Residential Remedial Goal (RG)
- Excavation of the delineated area such that the remaining soil is below the Residential RG
- Transportation and off-site disposal of soil
- Site restoration activities

The data, findings, assessments, and recommendations are contained in the FLFA RFI/CMS Report dated November 2008. This report was approved by the Radford AAP (RFAAP), U.S. Army Environmental Center

(USAEC), U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), U.S. Environmental Protection Agency (USEPA) Region III, and the Virginia Department of Environmental Quality (VDEQ).

Interim Measures Work Plan (IMWP)

This Work Plan detailed site-specific procedures for the IMs at the FLFA. Specifically, this IMWP addressed the removal of soil with concentrations of copper, lead, dioxins/furans, and polychlorinated biphenyls (PCBs) (Aroclor-1254) to below the residential remedial goal (RG) in order to facilitate clean closeout in accordance with Part II(D)(11-21) IM of the RFAAP 2000 Corrective Action Permit.

This Work Plan was approved by Radford AAP (RFAAP), U.S. Army Environmental Center (USAEC), U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) U.S. Environmental Protection Agency (USEPA) Region III, and the Virginia Department of Environmental Quality (VDEQ).

Removal Action

The removal action was completed in order to mitigate the threat of a contaminant release, migration, and/or exposure to the public and the environment, as well as facilitate clean closeout in accordance with Part II(D)(11-21) IM of the RFAAP 2000 Corrective Action Permit. The IMs include:

1. Site Preparation. Prior to commencement of work, a utility survey was performed and dig permits were obtained. In addition, erosion/sediment control measures were implemented.
2. Soil Delineation. Delineation of soil containing copper, lead, Aroclor-1254, and dioxins/furans (as TCDD TE) above the residential RG as well as arsenic above the industrial RG.
3. Soil Excavation. Excavation of the delineated area such that the remaining soil was below the residential RG for copper, lead, Aroclor-1254, and dioxins/furans and below the industrial RG for arsenic.
4. Waste Characterization & Off-site Disposal. Samples were collected to assess appropriate disposal options prior to soil excavation. Sample results determined the appropriate off-site disposal method.
5. Confirmation Sampling. Samples were collected after removal of contaminated soil to ensure that impacted soil had been removed. Excavation continued until the RGs were met.
6. Site Restoration. Following the removal of soil, the site was restored and all equipment was demobilized.

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