

Chemicals, Metals, and Pesticides Pits

Background

The Chemicals, Metals, and Pesticides (CMP) Pits are located approximately one mile north of L-Area in the central part of the Savannah River Site (SRS). The CMP Pits are seven unlined pits that are grouped together as one Operable Unit (OU) because of their close proximity and functional similarity. Each pit was approximately 45 to 70 feet long, 10 to 15 feet wide, and 10 to 15 feet deep. The pits were used from 1971 to 1979 for the disposal of nonradioactive wastes such as solvents, metals, pesticides, and fluorescent light ballasts. The CMP Pits OU consists of five subunits:

- CMP Pits
- Ballast Area Soils
- Vadose Zone
- Groundwater
- Surface Water

In 1979, the pits were taken out of operation permanently. In 1984, the pits were excavated; drums, other contaminated materials, and soil were removed. The pits were backfilled with native soil and capped with a geosynthetic material.

Environmental Concerns

During 1984, 1995, and 1996, groundwater monitoring wells were installed. Groundwater monitoring data indicated the presence of volatile organic compounds (VOCs), primarily trichloroethylene (TCE), tetrachloroethylene (PCE), and metals in the groundwater.

In 1991, a soil-gas survey was performed in the vicinity of the CMP pits. Results of this survey indicated the soils near or beneath the pits contained TCE and PCE. An area adjacent to the pits was evaluated and found to contain polychlorinated biphenyls (PCBs) in the surface soils. In 1994, SRS completed the Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI) soil characterization. This characterization identified the presence of additional contaminants, primarily pesticides, at the OU.

Environmental Actions and Plans

In 1984, the contents of the CMP Pits were removed; the pits were backfilled; and a 1- to 2-foot drainage ditch was excavated around the entire site and lined with gravel.

During characterization activities in 1995, fluorescent lighting ballasts were observed on the ground in an area now referred to as the ballast area. The ballast area is located northwest of the CMP Pits.

In 1996, SRS submitted the RFI/RI, Baseline Risk Assessment (BRA), and the Corrective Measures Study/Feasibility Study (CMS/FS) to the U.S. Environmental Protection Agency and the South Carolina Department of Health and Environmental Control for approval. Based on comments from the regulatory agencies on the RFI/RI and CMS/FS, additional characterization of the unit was initiated. This characterization included collection of soil, soil gas, groundwater and surface water data. New data collected during the characterization identified several data gaps and caused significant changes in the understanding of the unit. A Data Gap Sampling and Analysis Plan (SAP) was written and implemented to address these uncertainties and to assist in the identification of the final action. The Data Gap SAP is scheduled to be fully evaluated in the RFI/RI/BRA addendum in 2002.

In 1999, an Interim Action Record of Decision (IROD) was issued, and an interim remedial action was initiated. The interim action addresses contamination in the ballast area, the vadose zone under the pits, and in the groundwater.

Most of the contamination in the ballast area is in the surface soil, and consists of PCBs and pesticides. The interim action specifies excavation and removal of the soil and land use controls to ensure protection of the safety and health of the public and the environment.

High concentrations of VOCs and dichloromethane (DCM) contamination were found in the vadose zone. The interim action specifies Soil Vapor Extraction (SVE) for the vadose zone under the pit area. As part of the interim action, an asphalt cover will be placed over the area to restore the function of the existing geosynthetic layer.

The groundwater at the CMP Pits OU is impacted by VOCs leaching from the vadose zone beneath the pits. The contaminated groundwater plume extends from the pit areas to Pen Branch. The interim action specifies treating the groundwater contamination near the pits with an air sparge and SVE. Currently, water in Pen Branch has not been impacted by this OU; however, protection of the surface water will be a consideration in the selection of a final remedy for groundwater.

The IROD was amended in 2001. This amendment limited the scope of the interim remediation to soil excavation completed in 2000 and operation of the SVE system, which is currently being installed. The IROD Amendment also deferred the asphalt cover and groundwater activity to the final action following further characterization activity and completion of an RFI/RI Baseline Risk Assessment Addendum.

In 2001, a treatability study was also written to deploy an enhanced bioremediation technology using the Microenfractionation™ system to remediate contaminated soil. This study was initiated in October 2001.