NPL Partial Site Deletion Narrative

Former Nansemond Ordnance Depot
Suffolk, Virginia

On March 20, 2003, EPA deleted soil in the Impregnation Kit Area of the Former Nansemond Ordnance Depot (Nansemond) site from the National Priorities List (NPL). Nansemond is a former U.S. military facility that is located near the northwestern end of State Route 135. It is situated at the mouth of and to the east of the Nansemond River, on the south side of Hampton Roads, and contains approximately 975 acres. It is bordered to the west by the Nansemond River, to the north by the James River (Hampton Roads) and to the east by Streeter Creek.

The Impregnation Kit Area is an approximately 300,000 square foot, rectangular area in the southwestern portion of Nansemond, about 1000 feet from the Nansemond River. Only soil in this area is being deleted from the NPL; ground water beneath the Impregnation Kit Area will not be deleted at this time.

The U.S. Department of the Army apparently disposed of "impregnation" kits in this area. Impregnation kits consist of XXCC3 (a fine, white, granular, crystal powder) and a "honey-like syrup" or "black waxy material." XXCC3 was used to neutralize chemical agents. The impregnation kits at the Nansemond site were probably used as a protective coating on an under garment for older military chemical suits.

From Nansemond's establishment in 1917 until 1950, Nansemond was occupied by the U.S. Army for ammunition supply, maintenance, and disposal functions. In 1950, the site was transferred to the Navy, and was subsequently named the Marine Corps Supply Forwarding Annex. Nansemond was deactivated in 1960 following Navy operation. The land of the former depot is now principally occupied by Tidewater Community College, GE, and the HRSD.

As of 1948, the U.S. Army's recommended methods for disposal of surplus XXCC3 included scattering on the ground, burial (at least three feet below ground), and burning. Aerial photographs indicate that activities such as excavating and grading took place at the Impregnation Kit Area during the 1950s. A 1995 excavation by a contractor for Dominion Lands, Inc. uncovered wooden crates containing the white powder, small metal cans containing the black waxy material, and fiber drums. In 1996, the Corps conducted a chemical screening and ordnance survey in the Impregnation Kit Area, took soil samples, and dug test pits. The test pits revealed a thick seam of the white powder in a mounded area, and remnants of the kits were visible.

EPA took a soil sample from the Impregnation Kit Area in 1997. Several hazardous substances were detected at concentrations greater than background concentrations, including zinc (11,100 milligrams per kilogram), carbon tetrachloride (20,700 micrograms per kilogram), chloroform (20,600 micrograms per kilogram), and TNT (279 micrograms per kilogram).

In December 1998 and January 1999, a contractor for the Corps excavated the area containing the impregnation kits. Two parallel disposal trenches were discovered. A total of 857 tons of impregnation kit materials and associated soils were removed and placed in a landfill in Hampton, Virginia.

In the summer of 1999, a contractor for the Corps took samples of the soil in the Impregnation Kit Area to confirm that the excavation had successfully removed contaminated soil and to check for hazardous substances, pollutants, and contaminants in 20 acres surrounding the excavation. The contractor also performed a geophysical investigation to identify geophysical anomalies that might indicate ordnance buried in the Impregnation Kit Area. The sampling results demonstrated that the excavation successfully removed the impregnation kits and associated contaminated soil. Residual concentrations of hazardous substances, pollutants, and contaminants in soil samples were less than EPA Region III's Risk-Based Concentrations for residential use, and less than concentrations that might contaminate ground water. Therefore, EPA is deleting the soil in the Impregnation Kit Area of the Nansemond site from the NPL.