

LEROY'S LANE LANDFILL

LF-05

Joint Base Andrews

April 2022

BACKGROUND

Leroy's Lane Landfill (LF-05) is in the southeastern corner of Joint Base Andrews (JBA). This site is approximately 12 acres in size and was used as a landfill and a disposal area from the late 1950s through the 1980s for Base-generated wastes including sludge from the Base wastewater treatment operations, liquid solvents, waste oils, general refuse, construction rubble, and fly ash. In the 1950s and 1960s, sludge from the Base wastewater treatment operations was applied to the land on the eastern side of LF-05. Between 1960 and 1972, solvents, strippers, and waste fuel were disposed of at this site. Other wastes disposed of at LF-05 between the 1960s and 1980s included but were not limited to: toluene, waste oils, break and transmission fluid, empty cans and containers from golf course wastes, dilute process waste, and waste oils. Municipal wastes were disposed of at LF-05 from the early 1960s through the mid-1970s.

Wastes were disposed of in approximately 10-foot-deep trenches, liquid waste disposal pits, and sludge disposal areas. In addition, USTs were used to store waste oil at the site. During the mid to late 1980s, the Base discontinued using the landfill and covered portions of it with clean fill. Two 25,000-gallon USTs that were previously located near the northwest portion of the landfill have been removed.

A Remedial Investigation (RI) conducted from 2001-2006 identified exceedances of screening criteria both on-site and off-site in groundwater, soil, sediment, and surface water. A pre-remedial design investigation was conducted in 2006 to properly delineate the extent of the hot spot. Additional information was collected with pump tests to support planned remediation efforts. In 2006 a long-term easement was established with an offsite private property owner to allow for remedial actions to occur on the property. The Feasibility Study (FS) was completed, and a Proposed Plan was issued in 2008, in which the preferred alternative was covering the landfill with an impermeable cap, substrate injections, and institutional control implementation, followed by a groundwater monitoring program. The Record of Decision (ROD) was authorized in June 2009 confirming the selected remedy.

The Remedial Design (RD) effort was completed in October 2009, Remedial Action Construction (RA-C) occurred in late 2009, and the final installation of all liner materials, cover soil landfill drainage features, and security roads occurred in December 2010. The groundwater Remedy in Place (RIP) was finalized in January 2011, and the final Groundwater Interim Remedial Action Completion Report (IRACR) was completed in May 2012, and the final Soil IRACR completed in September 2012. Post-ROD groundwater monitoring activities will continue at LF-05 to track changes in the site plume over time.

CHALLENGES

Institutional controls (ICs), particularly off-base, pose a challenge. It is expected that monitoring and land-use restrictions will be required for an extended period of time at the off-site portions of plume. ICs are in place to prevent groundwater use within a defined distance from the plume and will remain in place indefinitely because hazardous substances were left in place. ICs will be maintained for off-Base areas until the cleanup criteria have been achieved. Prince George's County plays a critical role in the remedy, since they are responsible for ensuring implementation of the ICs on non-federal property, which is an essential element to ensure protectiveness of the overall remedy.

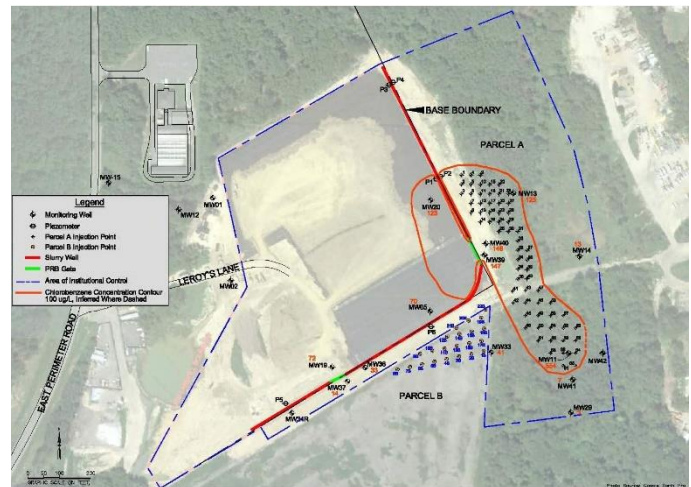


Figure 1: LF-05 Institutional controls, wells, injections areas, and Chlorobenzene plume

POST-ROD REMEDIAL ACTION ACTIVITIES

In 2007 a performance-based contract (PBC) was awarded to quickly deploy a remedy through the performance of the Remedial Action Construction (RA-C) phase. In 2011 a PBC was awarded that continued Remedial Action Operations (RA-O) where the FY07 PBC ended. A groundwater IRACR and soil RACR for the site were completed in 2012, and after AF authorization the final versions of both documents (achievement of RIP) were signed by EPA on 8 July 2014.

A 2020 Optimized Remediation Contract (ORC) is continuing the post-ROD RA-O activities at the site, including semi-annual groundwater monitoring and substrate injection within the permeable reactive barrier (PRB) as dictated by analytical data. To curb an increasing trend of groundwater chlorobenzene concentrations, DPT injections with IXPEN® was conducted in December 2021. The annual groundwater monitoring activities in early 2022 included the redevelopment of 2 wells to address the binding of PCB to fine-grained aquifer solids, which have resulted in sporadic PCB levels above cleanup criteria at the site. The groundwater monitoring program will be refined as new data are collected and analyzed to meet updated EPA and MDE requirements. This may include the use of no-purge sampling, which is more cost effective than the current low-flow sampling method. Site Closure (SC) while uncertain, is currently expected by 2045.

RISK DRIVERS

Contaminants: Chlorobenzene, Vinyl Chloride (VC), and PCBs (Aroclor 1242 and Aroclor 1254) in groundwater; and lead in sediment

Impacted Media: Soil and groundwater

Exposure Pathways Completed: Human & Ecological

Drainage: Piscataway Creek

Current Land Use/Surface Cover: Industrial

Reasonably Anticipated Land Use: Industrial

Relative Risk: High