

Washington Closure Completes Massive Excavation Project Nearly 2.3 million tons of material removed from River Corridor waste site

Background

Washington Closure Hanford has completed the design excavation of an enormous waste site in B/C Area, home to B and C Reactors. The waste site consists of two sub-sites called 100-C-7 and 100-C-7:1, referred to collectively as 100-C-7. Additional remediation of a large plume area on the west side of 100-C-7:1 will be remediated after a high-voltage power line is relocated. Cleanup of the waste site is part of the \$2.3 billion River Corridor Closure Project, which Washington Closure manages for the U.S. Department of Energy. The River Corridor is a 220-square-mile area along the Columbia River and is DOE's largest environmental cleanup closure project.

Washington Closure and its subcontractors dug the waste site to a depth of 85 feet (groundwater). The project team removed a total of 2.3 million tons of clean and contaminated soil, concrete debris, and scrap metal debris. About 650,000 tons of material was contaminated and shipped to the Environmental Restoration Disposal Facility. Of that, 65,000 tons of the material required treatment for chromium contamination.

Hexavalent chromium is the major contaminant of concern at the waste sites. It was used as an anti-corrosion agent in the piping of Hanford's nine reactors that produced plutonium during World War II and the Cold War. The source of contamination at 100-C-7 is believed to be the result of a 1966 spill near C Reactor.



Above: Waste site 100-C-7 is located near C Reactor, bottom, which was the sixth reactor constructed at Hanford. The reactor operated from 1952 to 1969 and was cocooned in 1998.



Washington Closure and subcontractors SageTech and Phoenix Enterprises NW had to remove a large amount of clean soil to get to the chromium source and remove the contaminated material.



100-C-7 is located in B/C Area, near the Columbia River. B Reactor, upper right, was the world's first full-scale nuclear reactor and produced the plutonium used in the "Fat Man" bomb dropped over Nagasaki, Japan, in August of 1945.



Left: The Waste Operations team at the Environmental Restoration Disposal Facility is treating more than 65,000 tons of chromium-contaminated soil from 100-C-7.

Below: A total of 212,000 tons of clean concrete rubble from 100-C-7 was disposed of at U Plant, where it was used as fill material during cleanup of the former processing facility. Not having to dispose of the clean material in the Environmental Restoration Disposal Facility saved valuable disposal space and eliminated substantial disposal costs.



Left: About 630 tons of scrap metal, including piping, rebar, grating and structural steel, from 100-C-7 was recycled by a local company. It was subject to a robust radiological survey plan to ensure no waste entered the debris stream.

Below: The project team began excavation in January 2011 and completed the design work in February 2012. Loadout of the excavated material is expected to be completed by July 2012.

