

## 118-K-1 Burial Ground

The K East and K West reactors were the workhorses when it came to Hanford's nine plutonium production reactors. The 118-K-1 Burial Ground is where much of the of the refuse from those two reactors was disposed.

### Background

The 118-K-1 Burial Ground is about 16 acres in size and is located just outside of the K Area in the northwestern part of the Hanford Site. It is located about one-quarter of a mile from the Columbia River.

Buried there is low-level radioactive waste associated with reactor operations. The site was used from 1955 to 1973.

The original burial ground configuration included 16 trenches and 11 silos. Material buried in the unlined trenches included low-level reactor hardware and equipment, including soft debris. Material buried in the silos included much higher dose material deemed too radioactive for the trenches. The silos are large metal corrugated tubes 10 feet in diameter and 25 feet deep.



Hanford's 100-K Area. The 118-K-1 Burial Ground is seen in the center of the photo.





*Anomalies are moved to a staging area for sampling*

### Cleanup

Washington Closure began cleanup at the burial ground in May 2006 and continued work there until June 2008. More than 130,000 tons of contaminated material was removed before crews were deployed to higher priority work. Remediation of six of the silos was not included in the initial work because of the unknowns associated with the silos.

During the cleanup hiatus, North Wind Inc., under contract with the U.S. Department of Energy, demonstrated a system to help determine the type, quantity and distribution of radioactive materials within the silos.



*Debris uncovered in Trench L*

The process used at 118-K-1 is one that was later used at another high-risk burial ground – 618-10. It involves driving long steel tubes, called cone penetrometers, into the ground around the silos, and using instruments to characterize the contents of the silos.

That data was used to develop a cleanup plan that would protect workers and the environment.

### Current Status

Cleanup work resumed at the 118-K-1 Burial Ground in January 2010. Work started with the trenches, and remediation of the remaining six silos began in January 2011.

The silos are expected to contain remnants of the reactor safety systems, spent nuclear fuel, tritium targets and cobalt irradiators with extremely high dose rates.

Since work resumed, workers have dug up another 141,000 tons of contaminated soil and material that has

included lead, soft wastes, reactor process tubes, spacers, graphite and other reactor equipment and hardware.

Cleanup crews also have dug up large vessels, bottles and highly radioactive piping, including one piece reading 274 R/hour. By comparison, the DOE limit for employee exposure to radiation is 2 R/year.

Work at the site is to be completed by December 2012 to meet a Tri-Party Agreement milestone.



*Bottles found in Trench G*