Backgrounder

January 2008

618-7 Burial Ground – Progress Update

Tri-Party Agreement Milestone completed on time

The 618-7 Burial Ground was completed on December 30, meeting a Tri-Party Agreement milestone. After sampling and backfilling the trenches, workers planted native vegetation over the burial ground in December. Clean up of the hazardous waste site supports the River Corridor Closure Project mission to remove dangerous materials that threaten the groundwater and ultimately the Columbia River.

Background

The 618-7 Burial Ground is located approximately one mile north of Richland, Washington. Limited records indicated hazardous mixed waste and radioactive materials, including waste with the potential to spontaneously ignite, were buried in the burial ground.

While in operation from 1960-1973, the 618-7 Burial Ground received waste from uranium fuel fabrication operations at Hanford during the Cold War. During operations, there were limited regulations for disposing of waste, so the common practice was to bury contaminants either as loose debris or in drums.

Retrieval operations began at the burial ground in January 2008. Following confirmation from sampling, the final contaminated debris was excavated from the burial ground in October.

Safety

To support worker safety during retrieval of potentially contaminated and pyrophoric waste, the site and excavation equipment were equipped with temperature and air monitors to detect any changes in temperature, radiological or other hazardous conditions. To further ensure worker safety, the excavator cabs were fitted with blast shields. To limit worker exposure, potentially hazardous drums are weighted, sampled, sorted and opened remotely in an enclosed drum penetrator facility.

Sampling an excavated drum inside the drum penetrator

Hanford's 618-7 Burial Ground, located 1 mile north of Richland and near the Columbia River, is one of two cleanup sites with high-hazard waste.

Recent Progress / Project Facts

Through the end of November the cleanup team removed a range of materials from the three 618-7 trenches including:

- More than 800 barrels.
- Approximately 180,000 tons of contaminated material.
- Twenty large stainless steel tanks, some of which contained thorium powder.
- Dozens of drums of Zircaloy chips contaminated with beryllium.
- Extensive amounts of lead-contaminated soil and debris.

The depth of the three trenches is approximately 20 feet – Groundwater is about 35 feet deep.

The project met a Tri-Party Agreement milestone of December 31; the work was completed when the trenches were filled with clean soil and replanted with native vegetation in December.

Sampling Hazardous Materials

Pyrophoric and other hazardous materials were anticipated in the trenches based on early operation reports of Hanford's laboratory and industrial work, and uranium fuel fabrication operations.

In August, a small flash of fire occurred in the middle of three trenches at 618-7. Such an event was anticipated and safety procedures were executed as planned with no injuries or spread of contamination.

Unique Hazard

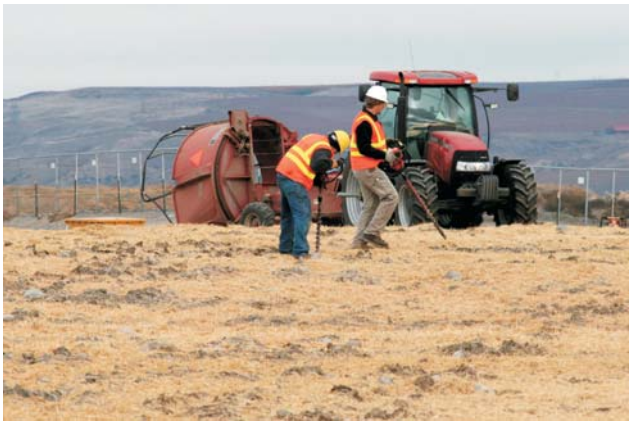
During excavation of the burial ground, numerous items were retrieved. Perhaps the most significant discovery included two compressed gas cylinders suspected to contain highly corrosive chemicals.

These suspected hazardous chemicals were the first known to be encountered at Hanford. They were likely used for testing more efficient ways to produce plutonium during the nuclear production mission at Hanford in the 1950s and 60s.

One of the gas cylinders was suspected of containing phosgene, the other hydrogen chloride.

This cylinder was suspected to contain the highly toxic poisonous gas, phosgene. Significant safety procedures are required to sample and neutralized the contents.

Stainless steel canisters were not expected in the Thoria trench.



Workers plant native vegetation, completing the final step to meet a Tri-Party Agreement milestone at the complex, high-risk burial ground.