



*The 200 West Pump and Treat Facility is the largest of Hanford's six groundwater treatment plants.*

*The U.S. Department of Energy (DOE) and contractor Central Plateau Cleanup Company (CPCCo) are safely cleaning up groundwater at the Hanford Site in southeastern Washington state.*

## Background

Hanford's groundwater cleanup program includes a network of more than 2,000 wells and other infrastructure. The DOE operates five pump-and-treat systems along the Columbia River and one at the center of the Hanford Site. Combined, these systems treat more than 2 billion gallons of groundwater annually — enough to fill trucks lined up from Los Angeles to New York.

## Mission

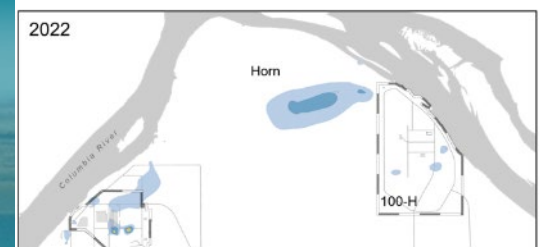
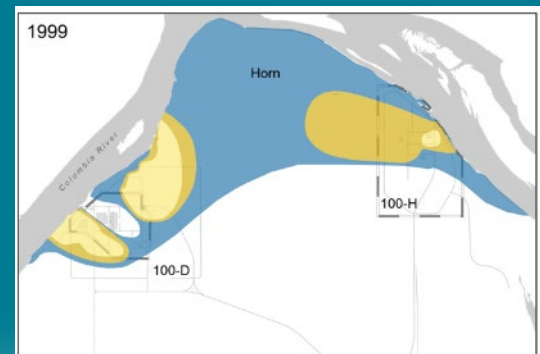
During Hanford's plutonium production mission, significant amounts of solid and liquid wastes were discharged to the environment as planned and unplanned releases.

These discharges caused multiple, large-scale plumes — areas of contamination — in the groundwater. Contaminants include long-lived radioactive contaminants and other chemicals that pose risks to human health and the environment.

The DOE applies pump-and-treat technology to shrink large plumes as part of a multiple-technology strategy. In addition to pump-and-treat methods, the strategy includes using passive approaches and targeted treatment to clean up the groundwater and protect the Columbia River.



*A worker samples groundwater along the Columbia River.*



*Significant reduction of the size and concentration of the contaminant plumes along the Columbia River from 1999 to 2022.*





# Groundwater Cleanup (cont.)



Soil flushing was initiated near the former K East Reactor in June 2022 to expedite the cleanup of hexavalent chromium.



Workers collect more than 25,000 samples a year to monitor groundwater contamination.



Well-drilling on Hanford's Central Plateau.

## Cleanup Legacy

Two main areas at the Hanford Site have contaminated groundwater: the area along the Columbia River, called the River Corridor and the center of the Site, called the Central Plateau. Contaminants remediated by the pump-and-treat systems include carbon tetrachloride, hexavalent chromium, technetium-99 and uranium.

## Progress

Throughout the life of the cleanup mission, Hanford has treated more than 32 billion gallons of groundwater and removed nearly 680 tons of contaminants, including the bulk of chromium contamination along the River Corridor, and hundreds of tons of nitrates in the Central Plateau.

Another major accomplishment for the Central Plateau is the containment, removal and treatment of more than 128 tons of carbon tetrachloride, the primary contaminant of concern for the center of the site.

The DOE has treated more than 2 billion gallons of contaminated groundwater each fiscal year, since 2015.

The 200 West Pump and Treat Facility has a treatment capacity of 2,500 gallons per minute. Work is ongoing to increase this capacity to 3,750 gallons per minute to expand groundwater treatment and the removal of carbon tetrachloride across the Central Plateau. The 200 West Pump and Treat Facility can be viewed using the self-guided [Hanford Virtual Tour](#).

Along the River Corridor, chromium plumes and concentrations have been significantly reduced and river protection goals are nearly met. The DOE is implementing a soil flushing technology to target residual contamination and to reduce the timeline of pump-and-treat operations along the river.

## Future

Groundwater treatment will continue to support Hanford cleanup activities to protect the Columbia River over the next several decades.

Groundwater sampling helps inform decisions about future well placement and configuration to maximize treatment effectiveness.

Remedial process optimization and other process improvements have resulted in substantial progress in the removal of groundwater contaminants and successfully meeting remediation goals, potentially shortening the time required to meet cleanup goals.

The DOE and CPCCo continue to pursue safe, efficient and cost-effective ways to improve the performance of the groundwater treatment network for protection of the Columbia River, human health and the environment.

## 9 Years and Counting

Hanford tops 2.2 billion gallons of contaminated groundwater treated each year since FY2015



The DOE has treated more than 2 billion gallons of contaminated groundwater annually since 2015.

