

The 200 West Pump and Treat facility provides treatment of contaminated groundwater from Hanford's Central Plateau.

The U.S. Department of Energy and contractor Central Plateau Cleanup Company are safely cleaning up groundwater at the Hanford Site.

Background

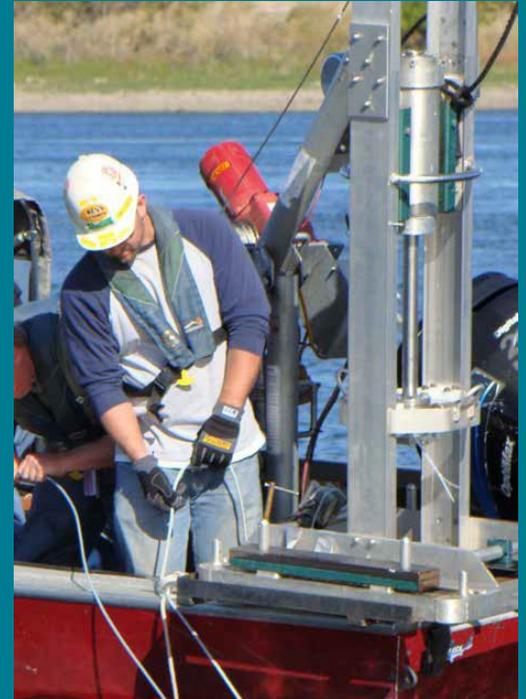
Hanford's groundwater cleanup program includes a network of more than 2,000 wells and other tools. Central Plateau Cleanup Company (CPCCo) operates five pump-and-treat systems along the river and one at the center of the Hanford Site. Combined, these systems treat more than 2 billion gallons of groundwater annually — enough water to fill trucks lined up from Los Angeles to New York.

Mission

DOE applies pump-and-treat technology to diminish large contaminant plumes – or areas of contamination in the groundwater – as part of a multi-technology strategy. In addition to pump-and-treat methods, the strategy includes using passive approaches and targeted treatment to effectively clean up the groundwater and protect the Columbia River.

During historical Hanford activities of fuel fabrication, nuclear reactor operation, and chemical processing to extract targeted nuclear materials, significant quantities of solid and liquid wastes were discharged to the environment as planned and unplanned releases.

These discharges caused multiple, large-scale groundwater contaminant plumes at the Hanford Site. Contaminants include long-lived radionuclides and other chemicals that pose risks needing to be addressed for the protection of human health and the environment.



A worker samples groundwater along the Columbia River.



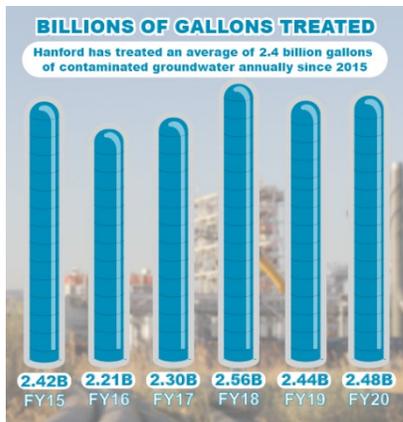
Well drilling operations on the Central Plateau.



For more information:
www.hanford.gov
cpcco.hanford.gov



Groundwater Pump-and-Treat Operations (Continued)



Hanford treated 2.48 billion gallons of contaminated groundwater in fiscal year 2020, marking the second highest annual volume in its history.



A soil flushing treatability test was initiated in 2019 to expedite the cleanup of hexavalent chromium.



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



Groundwater is sampled from wells near the Columbia River.

Cleanup Legacy

Two main areas at the Hanford Site have contaminated groundwater: the area along the river, called the Columbia River corridor, and center of the site, called the Central Plateau. Pump-and-treat systems remove the contaminants of concern listed below:

River Corridor:

- Hexavalent chromium
- Strontium-90

Central Plateau:

- Uranium
- Carbon tetrachloride
- Tritium
- Technetium-99
- Trichloroethylene

Safety and Efficiency

Process improvements have resulted in substantial progress in the removal of groundwater contaminants, potentially shortening the period required to meet cleanup goals and resulting in significant cost savings.

The U.S. Department of Energy (DOE) and CPCCo are always seeking more safe, efficient, and cost-effective ways to improve the performance of the groundwater treatment network, with protection of the Columbia River the ultimate goal.

Progress

Through the life of the cleanup mission, Hanford has treated more than 27 billion gallons of groundwater and removed more than 500 tons of contaminants, including the majority of the chromium along the River Corridor and hundreds of tons of nitrates on the Central Plateau, as well as other contaminants of concern such as carbon tetrachloride, uranium, and technetium-99.

Despite the challenges posed by the COVID-19 pandemic, Hanford Site groundwater treatment continued largely uninterrupted, treating more than 2 billion gallons of contaminated groundwater in both fiscal years 2020 and 2021.

In the first quarter of fiscal 2020, the 200 West Pump and Treat Facility alone treated more than 300 million gallons of contaminated groundwater on Hanford's Central Plateau, a record volume for any quarter since the site's largest treatment plant began operating in 2012.

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.

