

Hazardous waste site sampling conducted in 200 Areas

Edye Jenkins, BHI

In the first effort of its kind, the Environmental Restoration Contractor team has drilled boreholes at three disposal sites to collect radioactive and chemical samples around some of the most hazardous waste sites at the Hanford Site.

The 12-week drilling campaign in the 200 Area near the center of the Hanford Site was designed to obtain essential data on soil and groundwater contamination to aid in cleanup strategies and decisions.

For nearly 50 years, facilities in Hanford's 200 East and 200 West Areas were used to separate uranium and plutonium from the irradiated nuclear fuel. More than 800 soil waste sites on the 200 Area central plateau have resulted from these past operations.

"The drilling campaign represents our continued commitment to obtaining essential data on the central plateau so it can be transitioned to long-term stewardship," said Brian Foley, Department of Energy Richland Operations Office. Cleanup activities in the central plateau are expected to continue for more than 40 years.

"We developed an integrated plan to accelerate the sampling work in the 200 Area so it is coordinated with other waste management work on the central plateau. This work includes single-shell tank assessment and groundwater remediation efforts," said Bruce Ford of the Bechtel Hanford . 200 Area Waste Site Assessment Project. BHI leads the ERC team for DOE.

"Together, these efforts will provide a significant body of new information and insights on the sources and distribution of contaminants in the central plateau. The information can be used when making safe, cost-effective waste management decisions," Ford said.

The 800 waste sites in the 200 East and West Areas have been grouped into 23 operable units to streamline sampling and characterization work. The current sampling work focuses on two of the operable units.

"During the campaign, specially trained workers drilled boreholes to the water table at three disposal sites that are representative of all the waste sites in the two operable units. We drilled where we believed the highest level of contamination would be found," Ford said.

Samples were collected at critical depths above the water table. The depth of the water table in the 200 East Area ranges from 177 feet to more than 328 feet. In the 200 West Area, the depth of the water table ranges from 164 feet to more than 328 feet.



Driller's helper Dave Curry, left, and driller Moe Wrasper, both of Resonant Sonic, Inc., and radiological control technician Bill Mercer of the ERC team's Eberline Services Hanford drill boreholes at night during a recent 12-week campaign. During the campaign, they collected radioactive and chemical samples from around some of Hanford's most hazardous waste sites.

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About 84 soil samples were collected and will be analyzed for radiological and non-radiological contaminants by on-site and off-site laboratories. "These soil samples are expected to contain some of the highest levels of radioactive contamination that we encounter as we go through the process to characterize the 200 Area waste sites," Ford said.

Ten to 12 specially trained employees drilled each night during the summer campaign. "We drilled at night when it was cooler because the employees wore protective clothing that can get very warm," Ford said. BHI subcontractor Resonant Sonic Inc. conducted the drilling.

The 200 Area waste site assessment work is part of the Groundwater/Vadose Zone Integration Project managed by BHI for DOE. The DOE established the Integration Project in 1997 as its centerpiece for near- and long-term water resources protection in the Hanford Site's cleanup mission. The project provides information about the risks and effects of the Hanford Site's activities upon the many users of the Columbia River. This information can be used in making cleanup decisions. ♦

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