



Fort Hall Mine Landfill Spring 2023 Pilot Study | Bannock County, Idaho

November 2022

Bannock County Tests Groundwater Flow and Groundwater Cleanup Technology

In spring 2023, Bannock County plans to perform two different tests to help inform improvements to the groundwater treatment strategy at Fort Hall Mine Landfill. Bannock County will make future cleanup decisions based on the test results. **Figure 1** shows the current groundwater contamination at the landfill.

Test #1—Groundwater Flow Tracer Study

Tracers are substances added to water to track its movement. Bannock County will test a tracer to measure the speed and direction of groundwater flow at the landfill. A sodium bromide tracer will be injected into an existing groundwater remediation well. The County will monitor the injected tracer in wells near and downgradient of its injection location (see **Figure 2**) to determine the speed and direction of groundwater flow from the landfill to the Portneuf valley.

Groundwater movement helps explain contamination movement in the area. An improved understanding of groundwater flow will enable the County to improve the groundwater treatment strategy.

Sodium bromide is a safe, naturally occurring substance commonly used as a tracer to study groundwater movement. More information on sodium bromide tracers is available here:
https://water.usgs.gov/software/OTIS/addl/readinglists/bromide_tracer.doc.

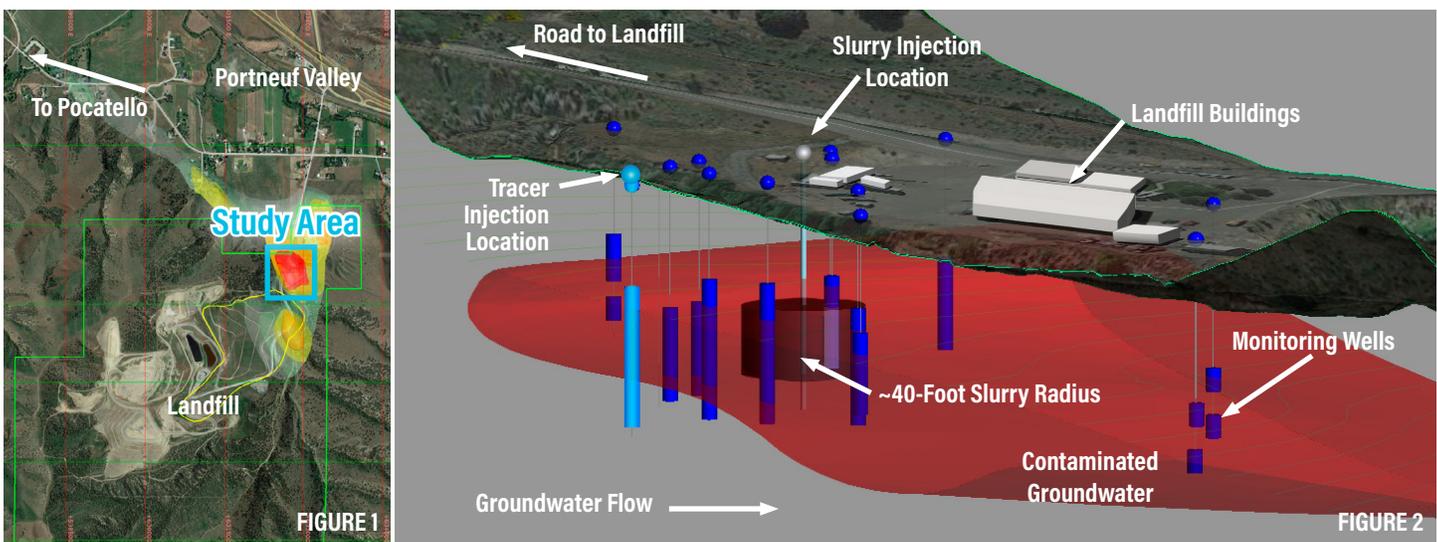


Figure 1. The landfill and the extent of groundwater contamination shown in color, where red indicates the area of highest concentrations. Figure 2: Side view of the study area facing west, including landfill office buildings, groundwater contamination, and test locations.

Test #2—Groundwater Cleanup Study

An amendment slurry is a fluid mixture with substances that break down groundwater contaminants. The slurry injection study will inject approximately 15,000 gallons of slurry into a contaminated area underground near the landfill office. In a short-term test, the slurry will be injected into injection point approximately over 1 to 2 weeks. The slurry is not expected to travel beyond 40 feet from the injection location, so the testing is not expected to impact groundwater or wells beyond this small footprint (**Figure 2**).

Bannock County will check for contamination changes after the injection by sampling nearby monitoring wells. If the slurry reduces contaminants in the injection area, then this cleanup technology may be used to improve the groundwater treatment strategy.

The slurry injection study is a short-term, localized test to evaluate if the amendment slurry breaks down groundwater contaminants in the small, 40-foot-radius injection zone.



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Anticipated Landfill Pilot Study Timeline

Spring 2023

Groundwater cleanup study; Groundwater flow tracer study

Summer 2023—Summer 2024

Pilot study monitoring: Bannock County will continue checking the surrounding groundwater to evaluate the groundwater flow and changes in contaminants and water quality.

Winter 2023/ Spring 2024

Residents notified by mail of pilot study results: The pilot study report will also be posted to the landfill website.

Future

Study results will advise future cleanup efforts at the landfill

Have thoughts on the testing? Submit a comment!



You can submit comments through the landfill website or by contacting the project team. If you would like to contact the project team directly, please call or email:

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Learn More



VISIT THE FORT HALL MINE LANDFILL PROJECT WEBSITE FOR MORE INFORMATION.

Scan the QR code with the camera of your phone or computer to access the website.

You can also type the website address directly into your internet browser:

<https://gather.cdmsmith.com/v/ogzwwPWozE9>

FOR MORE INFORMATION ABOUT THE LANDFILL: <https://www.bannockcounty.us/landfill/>