



# FAQs: Ground Water Contamination at Fort Hall Mine Landfill

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## **Is my water safe?**

Municipal drinking water wells operated by the City of Pocatello do not show any contaminant concentrations above drinking water standards. These wells are sampled regularly and tested for a variety of potential contaminants, including the primary contaminants of concern at the Fort Hall Mine Landfill: trichloroethylene (TCE), tetrachloroethylene (PCE), and vinyl chloride. None of the active municipal wells have shown any concentrations of the contaminants above any drinking water standards since the late 1990s.

In 2017, Bannock County collected and analyzed samples from 46 wells in the area downgradient from the Fort Hall Mine Landfill. The results indicate that ground water contamination, consistent with that seen historically since the 1990s, continues to exist in some wells in the area. In some of the domestic wells, contaminant concentrations were above recommended drinking water standards. All residential well owners that allowed samples to be collected were advised of the results of the analyses.

## **Should I have my water tested?**

Those households using the City of Pocatello municipal water supply can rely on the ongoing monitoring done by the city to ensure compliance with Safe Drinking Water Act rules. [City of Pocatello Drinking Water Quality Reports](#) can be accessed online.

DEQ has asked the county to continue sampling certain private wells in the area downgradient of the landfill to monitor and characterize the extent of contaminants in the area. This effort will provide the necessary data to advise well owners in the vicinity. If your well is in the area of interest for sampling, the county has already contacted you for permission to sample your well.

Proper sampling for these contaminants can be fairly expensive and requires proper techniques to prevent a false negative result.

## **What are the contaminants?**

Trichloroethylene (TCE) is the primary contaminant observed at the landfill, with tetrachloroethylene (PCE) and vinyl chloride as the next most common contaminants.

These contaminants are volatile organic compounds used in a wide variety of applications including cleaning products, paints, finishes, and adhesives.

## **What are the health risks associated with these contaminants in ground water?**

When dissolved in ground water at concentrations above the drinking water standard, these contaminants are classified as probable human carcinogens by the US Environmental Protection Agency.

### **Should I boil or filter my water?**

Boiling is not considered a reliable treatment approach for the contaminants of concern and is not recommended.

Activated carbon and reverse osmosis filters may be able to remove these compounds up to certain concentrations. Those treatment techniques are dependent on appropriate design and proper maintenance in accordance with manufacturer's recommendations.

### **How did the contaminants get in the water?**

Significant quantities of TCE and PCE were likely discarded in the unlined Cell 1 at the Fort Hall Mine Landfill in the decades prior to developing and implementing federal and state solid waste regulations in 1993. This activity was not illegal at the time but would not be permitted under current guidelines. For a detailed timeline, see below.

Because these compounds are more dense than water, they tend to sink through the surrounding ground water and flow downgradient under the influence of gravity. Ground water beneath the Fort Hall Mine Landfill generally flows to the north into the Lower Portneuf River Valley Aquifer and then northwest to the City of Pocatello.

### **What is the contaminant concentration trend at the landfill?**

Monitoring wells on the landfill property are sampled quarterly. The concentration of TCE, the primary contaminant, in those monitoring wells is generally trending upward both upgradient and downgradient of the existing remediation system at the landfill. The upgradient increases indicate the historic landfill cell, suspected of containing TCE and PCE, continues to leach into ground water. The downgradient increases suggest the treatment system is not removing the contaminants. PCE and vinyl chloride concentrations are also increasing.

### **What actions are planned to address the problem?**

DEQ is working closely with Bannock County to develop a new remediation plan for the site. DEQ and Bannock County agree that collecting offsite ground water samples at private wells is the highest priority, and the county will continue offsite monitoring of impacted residential wells.

DEQ has developed a broad outline to guide development of the new remediation plan. This outline has been incorporated into a new consent order that was implemented in November 2016. The outline addresses data collection and analysis, site modeling, clean-up goals, and follow-up monitoring and evaluation.

### **Why hasn't the current remediation system been effective?**

Preliminary information suggests the system was unable to withdraw sufficient water from the proper locations to have an impact on the existing contaminant plume. The remediation system was designed based on a conceptual model that did not accurately describe the site.

**Will the public be advised about the ground water contamination?**

Under the requirements of the Safe Drinking Water Act, City of Pocatello municipal water users receive an annual consumer confidence report that describes the concentrations of any detected contaminants in the previous year. Those reports are also available on the City of Pocatello website. The analytical results of samples taken at City of Pocatello municipal wells are also available on their website.

Private well owners participating in the ongoing offsite ground water monitoring effort, by allowing the county to collect water samples from their wells, will be provided with lab reports detailing the results of those analyses.

## Historical Timeline of Contamination at Fort Hall Mine Landfill Cell 1

1. In October 1991, ground water samples from wells near the landfill were found to be contaminated with trichloroethylene (TCE), tetrachloroethylene (PCE), and other volatile organic compounds (VOCs) originating from Cell 1.
2. By 1993, high concentrations of TCE were observed in downgradient wells in the Portneuf Valley, and several municipal and private wells were closed.
3. In May 1993, Bannock County entered into a consent order with the Idaho Department of Health and Welfare pursuant to Idaho Code §39-108 (Idaho Environmental Protection and Health Act) to assess and mitigate the impacts of Cell 1 on ground water.
4. In 1993, the county closed Cell 1 by capping it with 3 feet of soil and directing surface runoff away from the buried waste.
5. In November 1998, DEQ issued a notice of violation to the county for failure to comply with the 1993 consent order.
6. In May 2000, the county completed a remedial investigation of the site.
7. By September 2000, contaminant concentrations in downgradient municipal wells had decreased to less than the maximum contaminant level.
8. By August 2002, the county installed a ground water pump-and-treat remediation system.
9. The remediation system appeared to maintain static levels of contaminant concentrations through 2007.
10. In spring 2010, 2 additional remediation wells were installed to improve performance of the pump-and-treat remediation system since downgradient contaminant levels were increasing.
11. After another system re-assessment in spring 2012, 3 more pump-and-treat wells were installed to improve the performance of the remediation system.
12. Beginning in July 2014, DEQ conducted a review of the ground water program at Cell 1. The review concluded that the remediation system, constructed and operated pursuant to the 1993 consent order, has largely been ineffective at removing contamination from the environment. The review also noted that monitoring wells at the landfill were exhibiting upward trends in contaminant concentrations both upgradient and downgradient of the remediation system. The review found that TCE concentrations at the only active monitoring well off landfill property, MW-103S, exceeded the maximum contaminant level. DEQ concluded that the nature and extent of the TCE plume is insufficiently characterized and the conceptual model, upon which the remediation system was designed, does not appear to accurately represent the site.
13. In October 2014, DEQ denied the county's request for additional pump-and-treat wells to be installed and asked for a re-evaluation of all data collected to date.

14. In March 2015, DEQ requested the county re-evaluate the existing remediation system and re-characterize the site.
15. On November 18, 2016, DEQ and the county signed a new consent order outlining the steps required to develop a new remediation plan.