

100-HR-3-D: Hexavalent Chromium



Overview

DOE operates 3 systems in 100-D Area to prevent groundwater containing chromium from reaching the Columbia River: (1) north 100-D Area (100-HR-3) pump-and-treat (P&T), (2) central 100-D (DR-5) P&T, and (3) south 100-D in situ redox manipulation (ISRM), which immobilizes chromium in the ground. The remedial action goal is to achieve chromium concentrations near the river that are 20 ug/L or less for the P&T systems, and 22 ug/L or less for the ISRM.

Limitations

Many waste sites have been excavated, but additional sources of chromium are still present in the soil. This chromium continues to move down to the water table. DOE is working to find and remove this chromium.

Estimates of the size of the chromium plume at levels below 50 ug/L east of the 100-D Area are uncertain because there are few wells in that region.

Conclusions

The pump-and-treat systems have removed over 374 kilograms (822 pounds) of chromium from 100-D groundwater. More chromium has been immobilized by the ISRM system.

Chromium concentrations have decreased in wells near the river, but remain above cleanup goals.

Removal of chromium from the soil will prevent new contamination to groundwater.

