

Investigations of Molybdenum in Groundwater and Surface Water at Former Tronox/Kerr-McGee Facility, Soda Springs, Idaho

The US Environmental Protection Agency and the Idaho Department of Environmental Quality have prepared this fact sheet to provide Soda Springs' residents with updated information concerning the presence of the chemical molybdenum in area groundwater and surface water. Greenfield Environmental Multistate Trust LLC, Trustee of the Multistate Environmental Response Trust, and independent court-appointed fiduciary with the United States and the State of Idaho as its beneficiaries, owns and is responsible for managing environmental investigations and remediation of the approximately 547-acre former Tronox/Kerr-McGee Facility (the Site) located at 1864 Highway 34, about 2 miles north of Soda Springs.

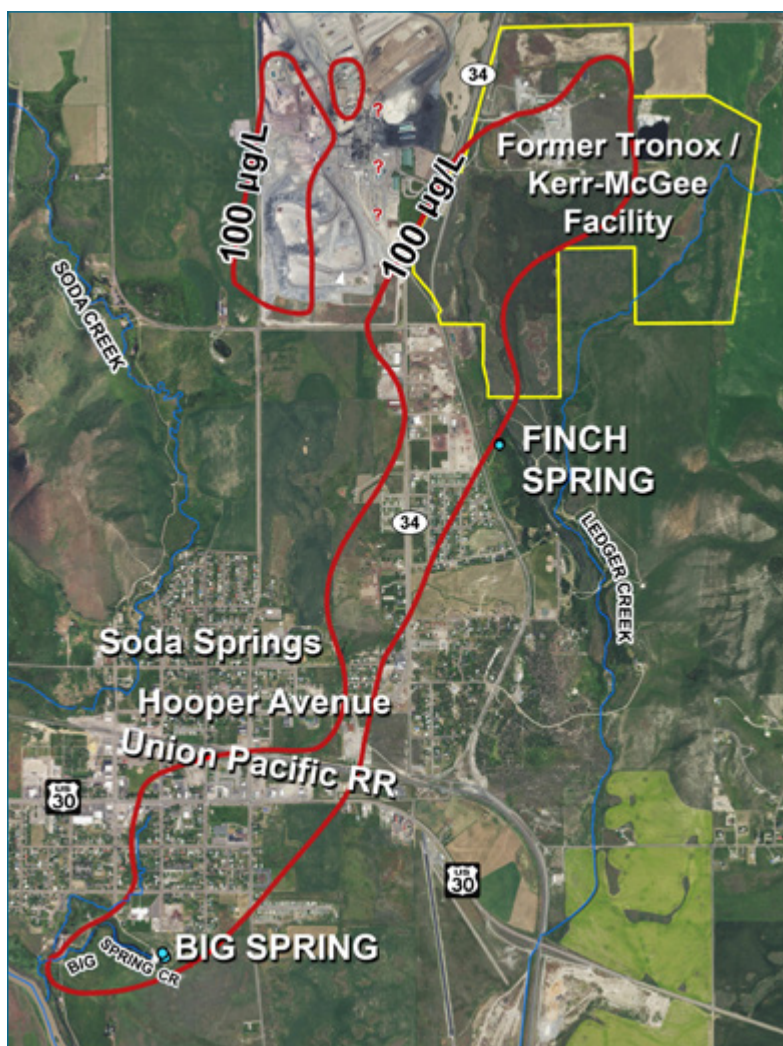
Overview of Past Groundwater and Surface Water Work

From 1963 to 1999, historical operating practices and management of byproducts related to the processing of vanadium resulted in contaminated groundwater with chemicals of concern including molybdenum, which is a naturally occurring substance (see "What is Molybdenum," below). During Kerr-McGee Chemical Corporation's ownership of the Site, Kerr-McGee took specific EPA-required actions beginning in the 1990s to lower concentrations of Site-related chemicals in on- and off-site groundwater. To ensure that Kerr-McGee's remedial actions remained protective of human health and environment, EPA has required regular sampling and monitoring of groundwater and surface water. Since 1991, molybdenum has been detected in surface water samples taken from Finch Spring and Big Spring. (See map →.) Data from this long-term monitoring showed that the two springs met ecological cleanup standards around 2008.

What is Molybdenum?

Molybdenum (mo · lyb · de · num) is a metallic element widely found in nature and is also present in foods such as lentils, black beans, oats, and dietary supplements.

Small amounts of molybdenum are critical for a healthy diet for humans and animals. Long-term, chronic exposure to excessive amounts can pose health risks, including joint pain and gout-like effects. Molybdenum is used in industry to help strengthen structural metals and alloys. It is also used in pigments, corrosion inhibitors, smoke suppressants, lubricants, and agricultural fertilizers.



The red outline shows the estimated areas where molybdenum may be present in groundwater and/or surface water above EPA's regional screening level for tap water (100µg/L). Question marks indicate uncertainty in molybdenum levels in the groundwater and/or surface water.

Molybdenum contours based on data provided by TetraTech, Inc. and Golder Associates, Inc.

Update on Recent Groundwater and Surface Water Investigations

Based on past and recent groundwater studies and samples, EPA believes that molybdenum is leaving the Site via a narrow, groundwater plume that extends under the eastern section of the City of Soda Springs. Site records show that the groundwater concentrations have been decreasing over time. Based on ongoing sampling, EPA has determined that molybdenum is not reducing as fast as predicted.

EPA and IDEQ have reviewed data collected in the summer and fall of 2016 that shows that molybdenum in the groundwater extends under some homes in the City. Based on the locations of the City's drinking water supply sources and a recent domestic-well study, this groundwater is not consumed or used domestically. As a result, there is no known concern about contact through those uses. Similarly, since molybdenum does not emit vapors comparable to those in petroleum products, such as gasoline, there is no concern about contact through potential fumes in indoor air. However, because the molybdenum concentrations in the groundwater are above EPA's regional screening levels for tap water and some homes have basement sumps to remove groundwater, the information below explains how to reduce exposure to molybdenum.

Sources of Water in Soda Springs

Public Tap Water: Provided by the City of Soda Springs and delivered by pipes to your home, public tap water **does not** contain high levels of molybdenum.

This water is safe for drinking, cooking, bathing, and irrigation.

Groundwater: Located below the surface of the ground, groundwater has been found to contain elevated levels of molybdenum in some areas around Soda Springs. If a well is installed on your property, you should verify that it is not connected to your home's plumbing.

Groundwater should not be used for drinking, cooking, or bathing.

Surface Water: Surface water is located at ground level, such as in streams, creeks, rivers, lakes, and ponds. In Soda Springs, groundwater comes to the surface in some areas including into basements and along roadways, and sometimes because of French drains that are installed. In some areas where groundwater surfaces, the associated surface water may contain high levels of molybdenum. **As a result, you should not use surface water for drinking, cooking, or bathing.**

More Information


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