



Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site Soda Springs, Idaho, November 2023

The U.S. Environmental Protection Agency (EPA), the Idaho Department of Environmental Quality (IDEQ) and the Multistate Environmental Response Trust (Multistate Trust) prepared this Fact Sheet to update the community on the history, current cleanup status, and planned future work at the Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site in Soda Springs, ID (the Site).

Site History and the Multistate Trust

The approximately 547-acre Site is located at 1864 Highway 34, about 1.5 miles north of the City of Soda Springs (City). From 1963 to 1999, Kerr-McGee operated a plant that annually produced up to 4.5 million pounds of vanadium, an alloy used to make steel. From 1998 to 2000, Kerr-McGee operated a plant that reprocessed calcine tailings to produce fertilizer. In 2001, Kerr-McGee capped the calcine area. The vanadium and fertilizer plants were demolished in 2002 and 2003.

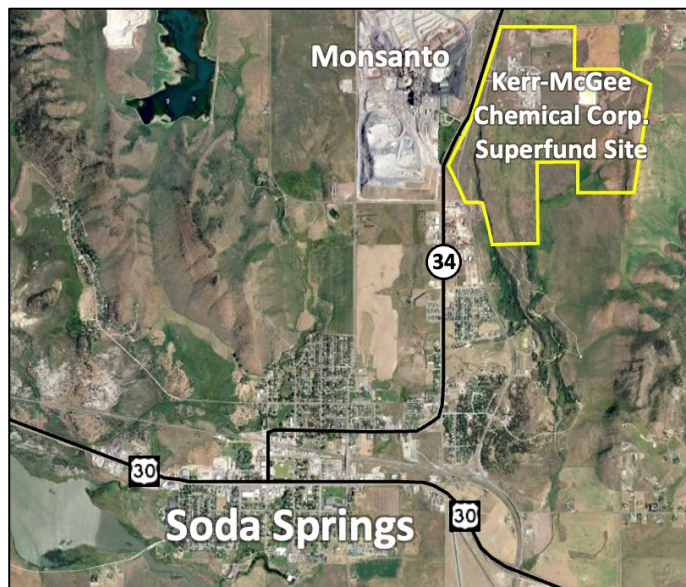
In 2005, Kerr-McGee transferred the Site to Tronox LLC, a corporate shell that later filed for bankruptcy. As part of the 2011 Tronox bankruptcy settlement, the Multistate Trust was created to own, investigate, clean up, and facilitate reuse of the Site under EPA and IDEQ oversight. The Trustee of the private, independent Multistate Trust is Greenfield Environmental Multistate Trust LLC.

Upcoming Events and Milestones

Area of Drilling Concern (ADC) Public Hearing – IDWR is holding a public hearing November 2, 2023, to determine public interest and receive comments regarding a proposed ADC in Soda Springs (see below).

Record of Decision (ROD) Amendment – Following the March 2023 issuance of EPA's Proposed Plan, a public meeting held March 29, 2023, and the conclusion of the public comment period in April 2023, EPA is preparing a ROD Amendment (revision to final cleanup plan) to select the revised remedy, taking into consideration community feedback. The ROD Amendment is anticipated to be issued by EPA in 2023.

Treatability Study / Pilot Test – The Multistate Trust is conducting a multi-phase investigation to evaluate a range of factors related to in-situ and ex-situ groundwater treatment and facilitate future remedial design following completion of the second ROD Amendment for the Site.



The Kerr-McGee Chemical Corporation Superfund Site (yellow outline) is located at 1864 Highway 34 in Soda Springs, Idaho, ~1.5 miles north of the City of Soda Springs. Source: Multistate Trust

Site Contamination

Wastes generated by vanadium production were stored in unlined ponds that contaminated groundwater and surface water. In 1995, EPA issued a Record of Decision for the cleanup plan that Kerr-McGee implemented by 2001. Remedies included elimination of uncontrolled liquid discharges from the Site (the main source of groundwater impacts), recycling of solid sources (later amended to capping of the same solid sources), groundwater monitoring, and institutional controls. During Five-Year Reviews conducted since then, EPA concluded the remedy currently protects human health and the environment because there is no exposure to contaminated groundwater or soil. However, in order for the remedy to be protective in the long-term, the following actions need to be taken: finalize the FFS and issue the ROD Amendment to document the updated remedy and implement institutional controls.

Area of Drilling Concern: Public Hearing – Thursday, November 2, 2023 at 5:00 p.m. Soda Springs City Hall, 9 West 2nd South Street, Soda Springs, ID

The Idaho Department of Water Resources (IDWR) is holding a public hearing to discuss the potential establishment of an Area of Drilling Concern (ADC). A petition for an ADC was submitted by the Multistate Trust to IDWR to put safety measures in place to prevent domestic use of groundwater as tap water during the cleanup of groundwater contamination. If established, the ADC would specify certain well construction requirements to ensure contaminated groundwater is not withdrawn by a well. Your attendance is encouraged to help determine public interest and to receive comments regarding the proposed ADC.

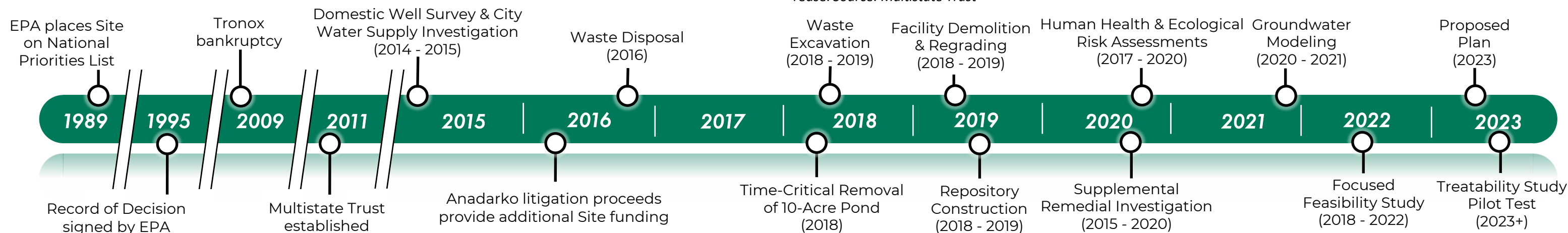
Timeline of Cleanup Progress

The timeline below shows some of the key milestones and accomplishments that have been made in the cleanup of the Site. Read below for more information on some of these activities:

Domestic Well Survey and City Water Supply Investigation – From November 2014 to April 2015, in coordination with EPA and IDEQ, the Multistate Trust and Monsanto jointly conducted a domestic well survey and sampling program to ensure area residents are not using private wells for domestic water supply in areas of contaminated groundwater. The Multistate Trust also regularly samples the City water supply to ensure Site-related contamination is not impacting the City’s water supply.

Waste Disposal – In 2016, the Multistate Trust removed chemicals, wastes, and other materials previously abandoned on-Site by Tronox. A total of 910 tons of waste were removed, including disposal of 565 tons of hazardous waste and 77 tons of nonhazardous waste, and recycling of 254 tons of metal and 14 tons of oil.

Groundwater Modeling – In 2020 and 2021, the Multistate Trust performed groundwater modeling to evaluate projected time to cleanup based on actions completed to date.



Waste Excavation – In 2018 and 2019, waste materials that were buried throughout the Site were excavated and placed in a waste repository. Prior to excavation, rainfall and snowmelt allowed contamination associated with buried waste to move into the ground and underlying groundwater. More than 300,000 cubic yards of waste materials were excavated. This cleanup action reduced the time needed to reach cleanup goals in some areas by approximately 50 years.

Supplemental Remedial Investigation (SRI) – From 2015 to 2020, the Multistate Trust conducted an extensive field investigation to identify the chemicals released from the Site, locate where they were released, evaluate where the chemicals have moved over time, and determine how the chemicals are moving today. This investigation forms the basis for determining risks from Site-related chemicals and the best cleanup approaches.

Human Health and Ecological Risk Assessments – From 2017 to 2020, a Human Health Risk Assessment and an Ecological Risk Assessment were conducted to determine what risks are present due to Site-related contamination. No human health risks were identified from soil, surface water, sediment, fish consumption, or leaching to groundwater from surface soils. However, potential human health risks exist from the hypothetical domestic use of groundwater on-Site and off-Site, and the hypothetical industrial use of groundwater on-Site. The ecological risk assessment recommended that monitoring continue, but concluded no additional action was warranted based on lack of ecological risk.

Focused Feasibility Study (FFS) – In 2018 and 2019, the Multistate Trust conducted a variety of field investigation activities to support the evaluation of remedial alternatives that would be considered in the FFS. This work included chemical testing of soils, measurement of water flow below ground, and a pilot test to evaluate groundwater treatment. In 2020 and 2021, the SRI, Risk Assessments, and FFS data collection were used to prepare the FFS Report for the Site. The FFS Report evaluates remedial alternatives to help select the most appropriate action. The Final FFS Report was approved by EPA in 2022.



Facility Demolition and Regrading (above) – Due to the extremely poor condition of buildings and utility infrastructure, and to facilitate Site investigation, cleanup, and reuse, most Site buildings and infrastructure were demolished or decommissioned in 2018 and 2019. Seventeen buildings were demolished, one donated to the City, and two kept in place. Natural gas, water, and electrical supply lines to the Site were replaced. The Site was regraded to direct snowmelt and rainfall runoff away from former areas of contamination. These cleanup actions helped reduce the time to achieve Site cleanup and have promoted future productive Site reuse. *Source: Multistate Trust*

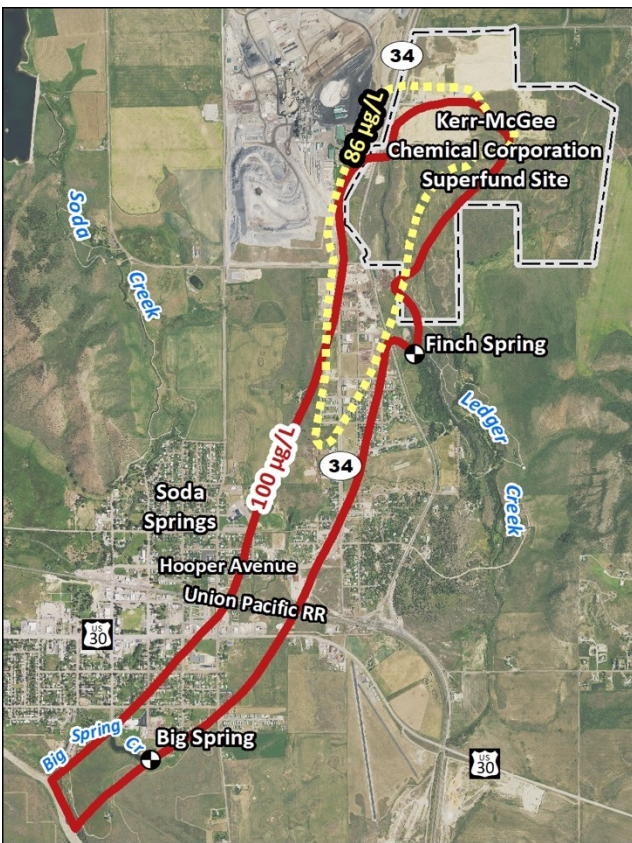
Repository Construction – In 2018 and 2019, an on-Site waste repository was constructed to hold waste from the 10-acre pond removal, waste excavation, and facility demolition. The repository is lined on the top and bottom and equipped with leachate collection.



Time-Critical Removal of 10-Acre Pond (above) – In 2018, approximately 1.5 million gallons of hazardous liquid were removed from the 10-acre pond on-Site. The entire pond was removed to prevent leakage through a weakening pond liner. Soil sampling showed that the pond was removed before leakage occurred, which eliminated a significant contamination risk. *Source: Multistate Trust*

Why Does the Site Need to Be Cleaned Up?

From 1963 to 1999, Site operations resulted in groundwater contaminated with chemicals of concern, including molybdenum and vanadium. Molybdenum and vanadium are metallic elements widely found in nature and present in food such as lentils, black beans, oats, and dietary supplements (molybdenum), and milk, vegetables, grains, and cereals (vanadium). Small amounts of molybdenum are essential to a healthy diet, and small amounts of vanadium are normal in human and animal diets. Long-term, chronic exposure to excessive amounts of molybdenum or vanadium can pose health risks, including joint pain and gout-like effects (molybdenum) or lung irritation and kidney damage (vanadium). To ensure the remedial actions remain protective of human health and the environment, EPA requires regular sampling and monitoring of groundwater and surface water.



The outlines in this figure (left) show the estimated areas where molybdenum (solid red line) and vanadium (dashed yellow line) may be present in groundwater and/or surface water above EPA's regional screening level for tap water (100 ug/L molybdenum, 86 ug/L vanadium). *Source: Multistate Trust*

Sources of Water in the City of Soda Springs

Public Tap Water: Provided by the City and delivered by pipes to your home. Public tap water is tested regularly and **does not** contain high levels of molybdenum or vanadium. **Public tap water is safe for drinking, cooking, and bathing.**

Groundwater: Located below the ground surface, groundwater has been found to contain elevated levels of molybdenum and vanadium in some areas around Soda Springs (see figure above). If a well is installed on your property, you should verify that it is not connected to your home's plumbing. **In the areas outlined above, groundwater (including well water) should not be used for drinking, cooking, or bathing.** Groundwater is safe for irrigation of produce grown for human or animal consumption, and livestock watering and feed irrigation.

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. In some areas where groundwater surfaces, the associated surface water may contain elevated levels of molybdenum and/or vanadium. **As a result, you should not use surface water for drinking, cooking, or bathing.** Surface water is safe for swimming and fishing.

Questions? More Information?

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Multistate Trust's website:



Project documents are available for public review at the EPA Information Repository at **Soda Springs Public Library**
149 S. Main Street
Soda Springs, ID 83276

EPA's website:

