

Gold King Mine Spill: EPA Response and Related Issues

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On August 5, 2015, a surge of acid mine drainage (AMD) wastewater spilled from the Gold King Mine site north of Silverton, Colorado, when the Environmental Protection Agency (EPA) removed debris from a tunnel opening. The spill discharged into Cement Creek, a tributary of the Animas River, and migrated downstream to the San Juan River into New Mexico, Utah, and tribal lands.

The spill raised widespread concern about (1) impacts on water quality, public health, agriculture, fish, and wildlife; and (2) the adequacy of EPA's response. The [EPA Administrator stated](#) that "EPA is taking responsibility to ensure that it is cleaned up" and has generally [suspended](#) mine site investigations. EPA removed the debris during a Superfund site investigation under the [Comprehensive Environmental Response, Compensation, and Liability Act \(CERCLA\)](#). This statute is the principal federal authority used to remediate abandoned or inactive hardrock mining sites prioritized for federal attention and those on federal public lands. States have played the predominant role in remediating hardrock mining sites on non-federal lands.

Mine Site Investigation

AMD has long [impaired water quality](#) in the Animas River. EPA has indicated that its intent in investigating the Gold King Mine site was to access the mine, examine ongoing releases from the site, treat wastewater, and assess the feasibility of remediation. This investigation is part of a broader EPA evaluation of abandoned or inactive hardrock mining sites within the [Upper Animas Mining District](#) to determine, in conjunction with the state, whether [National Priorities List \(NPL\)](#) designation is warranted for [remedial action](#). EPA has so far performed limited Superfund removal actions in this area, including actions at the [Red and Bonita Mine](#) site. [Removal actions](#) are eligible for Superfund appropriations regardless of whether a site is on the NPL, subject to certain limitations. Removal actions may entail a range of measures to address immediate hazards (e.g., waste cleanup, alternative water supplies, and other actions to prevent exposures).

Cause of Incident

[Historical mining activities](#) resulted in the generation of AMD at the Gold King Mine site. AMD is common at thousands of hardrock and coal mining sites across the United States and may form when sulfide minerals in rock become exposed and react with water and oxygen. AMD may contain metals, arsenic, salts, or other mineral constituents. Based on the conditions at the Gold King Mine site, wastewater within the mine tunnel had apparently amassed behind the debris blocking the opening. EPA [estimates](#) that over 3 million gallons of AMD were released from the tunnel in an unexpected surge when the debris was removed during the site investigation. Whether a tunnel blowout would have eventually occurred without EPA's disturbance of the debris would depend on the pressure exerted by accumulated water and the stability of the debris pile.

Emergency Response

EPA is coordinating its [emergency response](#) to the Gold King Mine spill with other supporting federal agencies; state, local, and tribal governments; and communities under the framework of the [National Contingency Plan](#) (NCP). EPA

[reports](#) that the flow of AMD from the Gold King Mine site has decreased since the initial surge and that the agency has diverted the flow into settling ponds to treat the wastewater prior to discharge into Cement Creek. EPA [data](#) have indicated a downward trend in metal concentrations and acidity levels (i.e., pH) toward pre-spill conditions. Other aspects of the emergency response have focused on preventing potentially harmful exposures to the initial spill of untreated AMD that has migrated downstream and across state lines.

Impacts on Water Resources and Users

The Animas River in southwestern Colorado flows into the San Juan River at Farmington, New Mexico, then crosses into Utah and merges with the Colorado River at Lake Powell. These rivers provide a water source for communities, individual homes, agricultural producers, and recreational users. Local responses to the spill have included curtailing water use and access. Among these responses, water utilities and irrigators shut off river water intakes, numerous homes and farms stopped using their wells, and La Plata County officials in Colorado [initially closed](#) a stretch of the Animas River. Some affected states, tribes, and local governments also declared states of emergency.

In response, EPA [reports on its website](#) that it is working with state, local, and tribal authorities to ensure access to safe drinking water and evaluate the impacts of the spill. The agency is collecting and analyzing water quality data for water systems and is providing free water testing for domestic wells along the river. EPA is working with state and local officials in various locations to provide alternative water supplies. In cooperation with New Mexico officials, EPA has provided alternative water supplies for livestock in San Juan County. Utah officials have [lifted initial state advisories](#) against using San Juan River water for crop irrigation and livestock watering.

Liability

Although the remediation of a contaminated site is intended to prevent potentially harmful exposures, the Gold King Mine spill illustrates that remediation itself may involve risks of exacerbating potential hazards. The role of EPA in the disturbance of the mine tunnel debris that resulted in the spill has raised questions about its liability for response costs and potential damages. Another possible issue is whether potentially responsible parties and the response action contractor associated with the site could also share liability for the spill. Superfund appropriations may be used to pay the costs of response actions taken under the framework of the NCP but are not available to pay damage claims. EPA has [announced](#) that claims for monetary compensation for personal injury or property damages arising from the Gold King Mine spill may be filed under [procedures](#) authorized in the [Federal Tort Claims Act](#).

For information on the federal spill response framework, see CRS Report R43251, [Oil and Chemical Spills: Federal Emergency Response Framework](#), by David M. Bearden and Jonathan L. Ramseur.