



Colorado Department
of Public Health
and Environment

STATUS UPDATE

CAPTAIN JACK MILL SUPERFUND SITE

January 2013



Surface Remedy Completed

In November 2012, CDPHE and EPA completed construction of the surface remedy at the Captain Jack Mill Superfund Site. The remedy consisted of consolidating mine waste materials from various areas of the site into two consolidation cells. One cell is located at the former Capt Jack Mill area and the other is the big Five Waste Rock Pile. A vegetated soil cover system with surface water diversion structures was established over both consolidation cells to prevent human contact with contaminated materials and to minimize rain and snow melt from coming into contact with waste materials, preventing metals leaching into surface water. Areas from which contaminated materials were excavated were seeded with alpine prairie grasses. Buildings associated with the previous Capt Jack Mill operations were demolished during construction of the consolidation cell. Because contaminated materials were left in place, the remedy will be re-evaluated every five years to ensure it remains protective of human health and the environment.



Big Five Before



Big Five After



Old Mill Buildings Before Demolition



Consolidated & Capped Repository

Subsurface Remedy in Design

The design of the subsurface remedy is underway. This remedy will address the acidic metal-laden water discharging from the Big Five tunnel. The remedy will include the following key component:

- A flow-through concrete plug
- Crushed limestone rock placed behind the plug
- A recirculation system to extract water from behind the plug and re-inject further upstream
- A long-term monitoring system

Installing a plug in the Big Five tunnel will contain the water within the mine workings. Chemicals will be added to treat the mine pool. Caustic chemicals will neutralize the acidity in the water, and prevent metals from leaching out of the mineralized rocks.

The long-term monitoring system will monitor the mine pool and surrounding groundwater systems. This will allow the agencies to assess the effectiveness of the remedy, determine if there is the need for additional treatment, and ensure that nearby ground and surface water is not negatively impacted.

The goals of the remedy are to:

- Eliminate or reduce the acidic discharge so that surface water in Lefthand Creek is protected
- Minimize long-term operations and maintenance to the extent practicable
- Ensure flexibility in the design to modify the treatment components if necessary
- Protect nearby groundwater resources

The design should be completed in Spring 2013. Implementation of the remedy will depend on funding.



MEET THE TEAM

There has been one staff change on this project since April 2012, and we'd like to introduce our current team :

Mary Boardman, CDPHE Project Manager: Mary has lived in Colorado since she was three years old. She obtained her BA in Chemistry and an MS in Environmental Science from the University of Colorado. She began working for CDPHE in 1994. Mary has worked on several key environmental projects in the state, including the French Gulch site in Breckenridge, the Summitville Mine Superfund Site near South Fork, and the Central City/Clear Creek Superfund Site in Clear Creek and Gilpin counties.



Warren Smith, CDPHE Community Involvement Manager:

Warren Smith joined the Hazardous Materials and Waste Management Division of the Colorado Department of Public Health and Environment in December 2006. He manages a three-person staff responsible for public participation and media relations. Previously, he was the director of news and public affairs for the University of Denver. Smith has more than 30 years of experience as a journalist, public/community relations counselor, marketing communicator, video producer and radio announcer. He holds a bachelors degree in magazine journalism and creative writing from Drake University and a graduate certificate in integrated marketing communications from the University of Denver. He is Accredited in Public Relations by the Public Relations Society of America.

Joy Jenkins, EPA Project Manager: Prior to joining EPA as a remedial project manager (RPM), Dr. Jenkins was involved with various aspects of mine water treatment design and optimization projects as a consulting environmental engineer. She has a Ph.D. from the University of Colorado Boulder in environmental engineering, focusing on research in bioremediation and source control of contaminated mine waters. Prior to her graduate studies, she was an analytical chemist determining the environmental fate of chemicals from manufacture goods. Currently she is the RPM for the Captain Jack Mill Site in Boulder County, Colorado, the Marshall Landfill also in Boulder County, Colorado, and the French Gulch Mine Site near Breckenridge, Colorado.



John Dalton, EPA Community Involvement Coordinator: John Dalton has worked in EPA's Public Affairs and Involvement office since 2003. John attended the University of Colorado/Boulder and is a former reporter, editor and managing editor at newspapers and magazines in Denver, Colorado Springs and Pueblo. He has worked on Superfund sites throughout EPA's six-state Region 8 area and on federal facilities in North Dakota, Wyoming, Utah and Colorado. Dalton is qualified as a Public Information Officer in EPA's Incident Command System emergency response unit.

HISTORICAL RESOURCES

As part of the Remedial Investigation/Feasibility Study (RI/FS) and design, an investigation of cultural resources was conducted to ensure appropriate preservation was considered during construction. In addition to the official inventory, local citizens and interest groups were asked for input on features they consider important.



Two features were identified:

- the boarding house and
- the stacked wall near the Big Five waste pile.

The agencies have no plans to disturb the boarding house. Impacts to the stacked wall were minimized.

FOR MORE INFORMATION:

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Ward Public Library

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Ward, CO 80481

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**Documents related to the Captain Jack Mill
Superfund Site cleanup are located at:**

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