



Colorado Department  
of Public Health  
and Environment

# STATUS UPDATE

## CAPTAIN JACK MILL SUPERFUND SITE

October 2010



### Introduction

In September 2008, the Colorado Department of Public Health and Environment (CDPHE), in conjunction with the U.S. Environmental Protection Agency (EPA) issued a Record of Decision (ROD) on cleanup remedies for the Captain Jack Mill Superfund Site near Ward, Colorado. This status update provides information on activities conducted since the ROD was issued, and details the next steps in the cleanup process.

### Background

The Captain Jack Superfund Site (Site) is located near the headwaters of the Left Hand Creek Watershed in a narrow valley about 1.5 miles south of Ward in Boulder County, Colorado. Mining for gold and silver began in this region in 1861 and continued intermittently until 1992. The Site includes three main areas of contamination: the Big Five Mine area consisting of an adit (tunnel), large waste rock pile and settling pond; the Captain Jack Mill area, including two lagoons, now filled, previously used for settling tailings from the mill, the Black Jack adit and buildings; and the White Raven area, including a waste pile and adit. The Site was added to the National Priorities List (NPL) on September 29, 2003. CDPHE and EPA completed a Remedial Investigation/Feasibility Study (RI/FS) in June 2008. A Record of Decision (ROD) was completed in September 2008.



Big Five Waste Pile

The selected remedy consists of two components — one to clean up surface contamination and one to clean up sub-surface contamination. The surface design began in the spring of 2010; the sub-surface design is anticipated to begin in the spring of 2011.

### Surface Remedy Design

CDPHE has begun designing the remedy for the **surface** contamination. Design for the **sub-surface** is expected to begin in the spring of 2011. Pre-design investigations were completed in the area during summer 2010. Contractors collected soil borings in existing tailings ponds, waste piles, and the proposed repository locations where mine wastes will be consolidated and covered. In addition, efforts were made to identify areas where clean soil can be excavated to cover the consolidated wastes. The potential to use local or imported rock as cover material will be investigated as an alternative.

## ENVIRONMENTAL CONCERNS

The chemicals of most concern at the Site are lead, arsenic, and thallium. These metals are found in soils located at the Site, and pose a risk to human health through ingestion or inhalation of particulate dust, especially by nearby residents. Additionally, contaminants including lead, arsenic, thallium, zinc, manganese, copper, cadmium, aluminum, and iron are present in ground and surface waters, and in sediments. These chemicals pose a risk to the local environment and adversely impact aquatic life. Although drinking water wells have not tested above health-based standards for heavy metals, untreated water could pose a risk from other common contaminants such as eColi, giardia, and others. The Left Hand Water District uses water from Left Hand creek as a drinking water source. Their water intake has not yet been impacted by the Site, but the potential for contamination exists in the future. The Town of Ward's drinking water supply is located upgradient and is not impacted by the Site.



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## WORK COMPLETED SINCE SEPTEMBER 2008

Over the past several months, CDPHE and EPA have been engaged in the processes of securing funds and resources for Site work, obtaining access from property owners, and contracting for surface design work. This entailed developing a request for potential contractors to submit their qualifications. Once these were received, they were reviewed and analyzed, and in early 2010, CDPHE awarded a contract for designing the remedy for surface contamination .

## UPCOMING FIELD WORK

CDPHE and EPA are in the process of obtaining access agreements from pertinent property owners in the area. The contractor will need access to these properties in order to collect additional samples that will clearly distinguish contaminated from uncontaminated areas, and provide information on geophysical properties required to determine the best location for consolidating and covering contaminated materials. In addition, some property boundaries may be surveyed to ensure total understanding of relevant property ownership.



White Raven Area

## MEET THE STAFF

There have been numerous staff changes on this project since September 2008, and we'd like to introduce ourselves:

### **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.



### **Marilyn Null, State Community Involvement Specialist**



Marilyn has more than 25 years experience in the field of risk communication and stakeholder involvement. She came to CDPHE in January 2008, after retiring with 32 years with the federal government and working as a contractor for a short period. She worked for EPA in Denver and Washington, DC, served as the Air Force Deputy for Community-Based Programs at the Pentagon from 1994 to 2001, and was Program Manager for the Army's Health Risk Communication Program at Aberdeen Proving Ground, Maryland until her retirement in 2005. Marilyn has worked with communities at several Colorado sites including Martin Marietta, Rocky Mountain Arsenal, and Lowry Landfill in Denver, as well as Smuggler Mountain in Aspen, and the mining sites in and near Leadville. She is currently supporting efforts at Buckley AFB, Fort Carson, the former Lowry AFB, Summitville., Lowry Landfill, and Camp Hale. Marilyn holds a Political Science degree from Metropolitan State College of Denver.

### **Christina Progress, EPA Project Manager**

Christina Progress has been a Project Manager in EPA's Superfund program for the past seven years. Her work, and her passion, is focused on cleaning up abandoned mine sites. She has a bachelor's degree in Soil Science from Utah State University, and a master's degree in geochemistry from Notre Dame. She is originally from Utah, but is now proud to call Denver, Colorado her home. In her spare time, she enjoys running, snowboarding, biking, camping, and exploring all the great old mining towns that Colorado has to offer.



### **Karen Edson, EPA Community Involvement Coordinator**



Karen has worked in Denver, Region 8, EPA for almost five years. She started her career in the EPA Intern Program, a competitive, two-year professional development program, where she completed numerous details in Region 8 and around the country. Details included: Region 8 Drinking Water Program, Pesticides Program, & Budget Program; Region 2, Puerto Rico Field Office, Waste water Division; Region 9, San Francisco, U.S.-Mexico Border Program; and Headquarters, Washington DC, Office of International Affairs. She has been working with the Captain Jack site since she started her position as a Community Involvement Coordinator in 2007. Originally from California, Karen graduated with a Bachelor degree in Environmental Studies from the University of California, Santa Barbara. She is fluent in Spanish and served as a Peace Corps Volunteer in Nicaragua.

## HISTORICAL RESOURCES

As part of the Remedial Investigation/Feasibility Study (RI/FS), cultural resources are identified to ensure appropriate preservation is considered during remedy selection. Only one feature was identified at the Site as eligible for listing on the National Register of Historic Places. This feature is the Conqueror Mill. Although originally identified as an area needing remediation, CDPHE and EPA are considering options to minimize impact and preserve the Conqueror Mill.

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 either of these features. Additionally, CDPHE and EPA are no longer exploring the idea of obtaining clean cover soil from the Camp Frances Valley.

## ANTICIPATED PROJECT SCHEDULE

### SURFACE

**Design:** Summer 2010—Winter 2010  
**Construction:** Summer—Fall 2011

### SUB-SURFACE

**Design:** Spring 2011—Fall 2011  
**Construction:** Spring—Fall 2012

### FOR MORE INFORMATION:

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[http://www.cdphe.state.co.us/hm/captjack/  
index.htm](http://www.cdphe.state.co.us/hm/captjack/index.htm)

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[http://www.epa.gov/region8/superfund/co/  
captainjack/](http://www.epa.gov/region8/superfund/co/captainjack/)

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

#### Ward Public Library

Post Office/Town Hall Building  
Ward, CO 80481

#### Boulder Public Library

1000 Canyon Blvd.  
Boulder, CO 80481  
303-441-3100

#### CDPHE Records Center

4300 Cherry Creek Drive, South  
Denver, CO 80246  
303-692-3331; toll-free 1-888-569-1831, x3331

#### EPA Records Center

1595 Wynkoop Street  
Denver, CO 80202  
303-312-6473; toll-free 1-800-227-8917