



# STANDARD MINE UPDATE FACT SHEET

December, 2007



## Standard Mine Background

Standard Mine is located at 11,000 ft. elevation in a remote and isolated location on the southern flank of Scarp Ridge, above Kebler Pass and Irwin Township in Gunnison County. Standard Mine was added to EPA's National Priorities List (NPL) for a Superfund cleanup in September, 2005. The primary metals of concern at the Standard Mine site include: arsenic, lead, zinc, cadmium, copper, and manganese.

The U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) developed this fact sheet to provide the community with an update of the cleanup activities taking place at the Standard Mine Superfund site. This fact sheet includes information about the activities that occurred during the Summer, 2007.

## Summer Cleanup Activities

- ◆ **Erosion Control and Continued Road Improvements** — Before any removal of waste rock could occur, EPA installed erosion controls around the tailings impoundment and additional controls were placed along Elk Creek into which diversion ditches flow. Road improvements were implemented as necessary.
- ◆ **Building of the Repository** — Trees were cleared from the selected repository site in preparation for the waste rock and tailings.

Marketable logs were stacked for the U.S. Forest Service, which intends to sell the logs. Smaller trees and limbs were



chipped to be used in the bioreactor and restoration of excavated areas. The top soil was salvaged for later use in site reclamation.

- ◆ **Removal of Waste Rock and Tailings Pond** — The tailings pond and waste rock piles from the mine area were excavated and material was hauled to the repository.



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Water accumulation that occurred during the excavation of the tailings pond was treated and discharged.

- ◆ **Installation of the Passive Treatment Pilot Scale Bioreactor** — A sulfate-reducing bioreactor pilot study was installed at the mine to determine if this type of passive water treatment is effective



at the mine's high elevation and cold winter climate. This pilot study is scheduled to run throughout the winter and next summer.

- ◆ **Revegetation Pilot Study** — Five revegetation test plots were installed at Level 98 located above the mine site area. The revegetation will help to determine successful methods for establishing vegetation within the excavated areas and



support reclamation efforts to be implemented at a later time. Lime, compost, and fertilizer were used at varying application rates. Barley seeds and native seeds, which were collected from neighboring areas identified by the USFS, were transplanted into the test areas.

### **Stabilization for Winter Closure**

To protect cleanup activities implemented this past summer from the upcoming winter season, EPA took the following protective measures to stabilize the site:

- ◆ Installation of a temporary cover system over the waste material moved to the repository site.
- ◆ Installation of controls at the repository site to address spring time water runoff.
- ◆ Stabilization of areas impacted by the removal of waste rock by constructing berms to slow down the movement of water as it flows down the slope and to help shed water along the surface of the slope.

### **Human Health and Ecological Risk Assessment Update**

In June, the EPA presented to the Community of Crested Butte preliminary findings for both the Human Health and Ecological Risk Assessment and provided an opportunity for public comment. EPA is in the process of finalizing both assessments and responding to the comments. For information on the preliminary assessments visit the information repository located at the Old Rock Community Library, 507 Maroon Avenue, Crested Butte.

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## **Underground Mine Working Assessment Update**

The Division of Reclamation, Mining and Safety (DRMS) investigated the underground mine workings of the Standard Mine to map the workings of the mine, map the subsurface geology including major faults and fractures, investigate the condition of the mine workings, determine the connectivity between workings, and to determine areas where water may be being transported into and through the mine workings and where water may be confined. The purpose in investigating the mine workings is to identify source control measures that could be implemented to reduce the amount of water entering the mine and becoming contaminated.

## **Hydrogeology Investigation Update**

The U.S. Geological Survey (USGS) investigated the Standard Mine to characterize the flow of the groundwater within the mine and to characterize the chemistry of both the surface-water and groundwater. The USGS presented the following preliminary findings to the community of Crested Butte in December:

- ◆ The topography appears to mainly control shallow groundwater flow. The Standard Fault is probably the main pathway of groundwater flow from the shallow subsurface to the mine workings.
- ◆ Shallow groundwater in Upper Elk Creek Basin is very young—predominantly weeks to months. Groundwater entering and discharging from the Standard Mine is largely less than one year old, which suggests that there is not a build-up of water inside the mine (mine pool).
- ◆ Some of the highest metal concentrations in Elk Creek Basin can be found at the

mine opening located at level one of the Standard Mine.

- ◆ Discharge from level one of the Standard Mine is the main source of contamination to Elk Creek.
- ◆ Waste-rock piles can further elevate metal concentrations.

USGS plans to finalize their findings in a report in the Spring, 2008.

## **Public Participation**

A community advisory group known as the Standard Mine Advisory Group (SMAG) formed in 2005. The SMAG meetings provide a public forum where community members can participate in the Superfund cleanup of the Standard Mine site by discussing their needs and concerns related to the site and the site cleanup process. For more information about the SMAG meetings please visit EPA's Standard Mine Superfund website at: <http://epa.gov/region8/superfund/co/standard/>.

## **Information Repository**

An information repository containing the studies and documents relevant to the Standard Mine cleanup is located at the Old Rock Community Library in Crested Butte located at:

507 Maroon Avenue  
Crested Butte, Colorado, 81224  
(970) 349-6535

## Standard Mine Superfund Site Questionnaire and Contacts

### Looking for Community Feedback

We value your opinion about the cleanup at the Standard Mine Superfund site. Please take a few minutes to respond to the questions below by contacting Libby Faulk, Community Involvement Coordinator, US EPA at 1-800-227-8917, x6083, mail responses to EPA's return address, or send an email to: [faulk.libby@epa.gov](mailto:faulk.libby@epa.gov).

- Are we providing you with the information you need and in a timely manner?
- What other types of information about the Standard Mine cleanup would you like from us?
- If you've participated in the Standard Mine Advisory Group public meetings in the past, are you finding the meetings informative and helpful? If not, how can we make the meetings more informative and helpful to you?
- Any additional comments/feedback?

### Standard Mine Cleanup Contacts

EPA Contacts:

Christina Proggess, Remedial Project Manager  
Toll free: (800) 227-8917 x6009  
[proggess.christina@epa.gov](mailto:proggess.christina@epa.gov)

Gina Andrews, On-Scene Coordinator  
Toll free: (800) 227-8917 x6688  
[andrews.gina@epa.gov](mailto:andrews.gina@epa.gov)

Libby Faulk, Community Involvement Coordinator  
Toll free: (800) 227-8917 x6083  
[faulk.libby@epa.gov](mailto:faulk.libby@epa.gov)

CDPHE Contacts:

Jim Lewis, Remediation Project Manager  
Toll free: (800) 569-1831, ext. 3390  
[jim.lewis@state.co.us](mailto:jim.lewis@state.co.us)

Jeannine Natterman, Public Information Officer  
Toll free: (800) 569-1831, ext. 3303  
[jeannine.natterman@state.co.us](mailto:jeannine.natterman@state.co.us)



**Region 8 (8OC) (LF)**  
**1595 Wynkoop Street**  
**Denver, CO 80202-1129**

**Resident**  
**Crested Butte, CO 81224 and 81225**