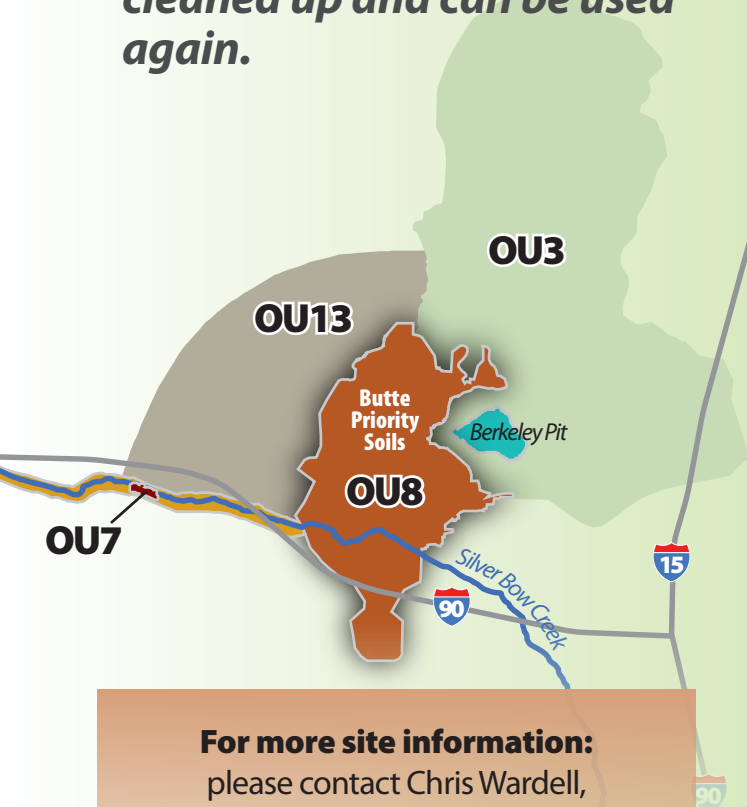


# A Quick Look at Superfund in Butte, Montana

*EPA's mission is to protect human health and the environment.*

*EPA involves communities in a Superfund process that tracks work along a time line to make sure the site is cleaned up and can be used again.*



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## Butte Priority Soils Operable Unit Silver Bow Creek/Butte Area Superfund Site

100006198 - R8 SDMS

### Know the Basics

#### It's Big and Right in Butte

Operable units (OUs) are manageable portions of large Superfund sites. The Butte Priority Soils OU (BPSOU) was created to address the highest priority soils first. It includes 4,233 acres in Uptown Butte. There are thousands of residential yards in this unit.

#### It's Mining-Related

The source of contamination in BPSOU residential areas is historical smelter emissions, mine waste dumps, and other mining-related activities. Butte Hill is known as the "richest hill on earth" because it has naturally high levels of metals and other minerals

#### Contamination Is Widespread

Contamination is in soils, mine wastes, and contaminated attic dust in Butte and in the alluvial groundwater and surface water of the historic and current Silver Bow Creek floodplain within the city of Butte.

#### A LOT Has Been Accomplished

Superfund cleanup began in 1987. Soil caps have been used to protect the public from waste rock. Groundwater is collected and treated, sources have been removed, and land has been reclaimed. A Residential Metals Abatement Program was established to reduce harmful residential exposures to lead and other contaminants.

#### Work Remains

Site work is in varying stages of completion (see Life of a Site). Contaminated sediments will be removed from stream channel bottoms and stream banks and the floodplain will be cleaned up. Stormwater management will minimize impacts from runoff and return Silver Bow Creek to its beneficial uses.

#### It's a Team Effort

Community cleanup continues to be completed by Atlantic Richfield and Butte Silver Bow under the oversight of the EPA and other partners (U.S. Department of Justice and State of Montana).

[www.epa.gov/superfund/silver-bow-butte](http://www.epa.gov/superfund/silver-bow-butte)

### Proposed Plan Update

On April 11, 2019, EPA issued a proposed plan to amend the existing cleanup decision (the record of decision). The 60-day public comment period runs from April 11 to June 11, 2019. EPA will hold two public meetings to explain the details and collect feedback. Public comment received by June 11 will be evaluated before a final decision is made.

Some of the proposed changes are shown below.



Removal of contaminated sediments, streambanks and floodplain materials along Silver Bow Creek and Blacktail Creek. Capture and treatment of contaminated ground water.

Additional work on Butte Reclamation Evaluation System sites.



More residential sampling and cleanup under the Butte Residential Metals Abatement Program.

### The Life of a Site\*

SUPERFUND STEPS	
Identify Problem	1 <b>Discovery/ Site Listing</b> Determine if it should be a Superfund site.
	2 <b>Remedial Investigation/ Risk Assessment</b> Delineate contamination. Determine risk.
Develop a Solution	3 <b>Feasibility Study</b> Evaluate how to best clean the site.
	4 <b>Proposed Plan (Public Comment)</b> Inform the public. Get their input.
	5 <b>Record of Decision</b> Make final cleanup decision
Cleanup	6 <b>Remedial Design</b> Determine cleanup details.
	7 <b>Remedial Action</b> Clean up (excavate, treat, cover, etc.).
Confirm	8 <b>Operations &amp; Maintenance</b> Operate and maintain remedy.
Done	9 <b>Delisting</b> Clean up complete. Remove from NPL.

\* Super Simplified

### Butte Priority Soils Current Issues

Arsenic <b>As</b>	Lead <b>Pb</b>	Mercury <b>Hg</b>	Aluminum <b>Al</b>	Copper <b>Cu</b>
Lead <b>Pb</b>	Arsenic <b>As</b>	Iron <b>Fe</b>	Cadmium <b>Cd</b>	Zinc <b>Zn</b>

**Humans** **Ecological**

Groundwater  
Surface water  
Soils  
Dust

## WHY SHOULD YOU CARE ABOUT STORMWATER?

Stormwater is rainfall or snow melt that doesn't soak into the ground but travels downhill over yards, streets, and parking lots. It moves contaminants like oil, gas, other chemicals, and sediments from the ground to nearby streams and creeks. Butte stormwater also carries mining-related contamination. Contaminants end up in creeks like Silver Bow and Blacktail.

Butte-Silver Bow County is responsible for stormwater system maintenance. EPA works with the county and Atlantic Richfield to reduce the amount of stormwater that makes it to the creeks and the level of mining-related contamination in it. Future work to meet these goals will include repair and maintenance of soil caps to minimize contamination. Detention basins in strategic locations (Silver Bow Creek, Buffalo Gulch, and Grove Gulch) will control stormwater and improve its quality.

## BUTTE RECLAMATION EVALUATION SYSTEM

The county evaluates the health of the caps using the Butte Reclamation Evaluation System, which looks at things like erosion, thinning, exposed waste, vegetation, and weeds. Problems are fixed right away.

## ALICE DUMP (A Working Cap)

Please!  
Obey all signs to keep off  
the caps and tell your  
friends and family to do the  
same!



## KEEPING BUTTE SAFE WITH CAPS

- The hills of Butte are mine waste piles left by over a century of mining activity. Many were too contaminated to leave as they were.
- EPA addressed these piles early in the Superfund process (1980s and 1990s).
- Piles with lead levels greater than 2,300 parts per million were capped by EPA to keep the public safe from contact with contamination.
- Because Butte was built on top of the waste rock, it was not possible to remove all of it. Caps keep the waste in place, keep it from eroding into stormwater, and keep people from touching it.
- A cap is just a barrier placed over the waste rock after any steep sides are reshaped. In Butte, caps are made of 18 inches of cover soil that meets specific criteria. If the pH of the rock was low, a 2-inch layer of lime was added below the cover soil. Thick caps give the roots of the plants plenty of room to grow. Asphalt is also a cap in some places like the new walking and biking trails or a parking lot.
- Hundreds of acres of mine wastes in Butte were capped and, with proper maintenance, the caps should last forever.

For more information, please visit the EPA website at [www.epa.gov/superfund/silver-bow-butte](http://www.epa.gov/superfund/silver-bow-butte)

## YOU CAN HELP

Know where the stormwater drains are on your street and help keep them clear.

Report any blocked drains to the metro sewer office (406-497-6550).

Don't put any used oil or chemicals down the drains.

## RESIDENTIAL METALS ABATEMENT PROGRAM

- A program to keep you safer at home.
- A "multi-pathway" or layered approach to address arsenic, lead, and mercury in yards and homes.
- As of September 2016, 80 percent of residential properties (2,954) had been sampled.
- Cleanup is needed when lead is above 1,200 milligrams per kilogram or arsenic is above 250 milligrams per kilogram (467 yards and 615 attics cleaned up).
- Other hazards are also addressed. These include attic dust, interior dust, plumbing, toys, and lead-based paint. Biological testing, education, and community outreach are provided.
- EPA reviews the program every 5 years to ensure it keeps up to date with the latest science and to identify trends.
- Details are in the Multi-Pathway Residential Metals Abatement Program Plan.

Cleanup has had a positive impact on children's blood lead levels. Average levels are less than half of those in 2003.



2018  
Consent Decree  
Conceptual Agreement  
for remaining work

2010  
Majority of the  
capping complete

2007  
- Residential Metals  
Abatement  
Program begins\*  
- Butte Reclamation  
Evaluation System  
begins

2006  
Record of Decision  
for cleanup

1988  
Capping begins

1987  
Work begins

\*Building on a metals monitoring program that began in the 1990s