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EPA United States Environmental Protection Agency

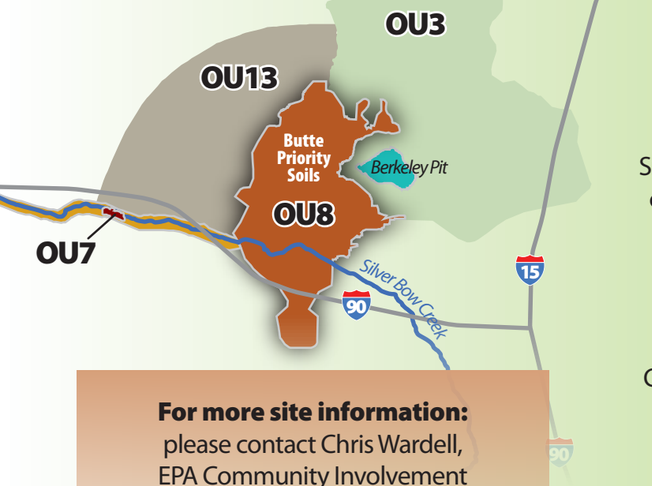
A Quick Look at Superfund in Butte, Montana

Butte Priority Soils Operable Unit

Silver Bow Creek/Butte Area Superfund Site

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.



For more site information:
please contact Chris Wardell, EPA Community Involvement Coordinator, phone: 303.312.6062, email: wardell.christopher@epa.gov

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

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

*Super Simplified

Butte Priority Soils Current Issues

Arsenic (As), Lead (Pb), Mercury (Hg), Aluminum (Al), Copper (Cu)
Lead (Pb), Arsenic (As), Iron (Fe), Cadmium (Cd), Zinc (Zn)

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.

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.

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!

STAY ON TRAILS

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

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

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

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.