

Butte Reduction Works Smelter Area

The Butte Reduction Works was formerly used for copper, zinc, and manganese production and is currently used by Butte-Silver Bow County to produce asphalt and gravel used in road projects. Years ago, Silver Bow Creek ran through this site.

After the county's asphalt and crushing operations are moved to another location, the proposed remedy would remove tailings, slag, contaminated soils, and other waste from the southern portion of the site. This would create an average 275-foot-wide corridor to move Silver Bow Creek out of the slag canyon and into the new creek corridor. The land around the new creek would be revegetated. Groundwater controls would be installed to keep contaminated groundwater from discharging to the creek or leaving the site. The remedy would improve surface water quality in Silver Bow Creek and provide the public with an area for possible public recreational use. This site would complete a chain of projects that would provide a continuous link between the proposed remedy at Blacktail Creek and the remedy areas downstream in Silver Bow Creek.

The proposed remedial construction activities would be performed by Atlantic Richfield Company and would include:

- 1) Excavation and Disposal** – Approximately 165,000 cubic yards of tailings, waste, contaminated soils, and slag would be excavated from the southern portion of the Butte Reduction Works smelter area and hauled to an approved repository for disposal. The excavation footprint would be an average of 275 feet wide and approximately 1,400 feet long. The final depth and removal volume of the excavation would be determined during the design phase of the project.
- 2) Groundwater Capture and Treatment** – A hydraulic control system would be constructed to capture all contaminated groundwater from discharging to Silver Bow Creek and from leaving the site. This contaminated groundwater would be transported to the Butte Treatment Lagoons (BTL). At the BTL, metal contaminants would be removed, and clean water would be discharged to Silver Bow Creek.
- 3) Reconstruct Silver Bow Creek** – Following excavation work and installation of the groundwater capture system, Silver Bow Creek and the riparian floodplain would be reconstructed within the excavation footprint through the Butte Reduction Works smelter area. The realigned creek and riparian floodplain would be constructed south of the existing slag canyon and connect with Silver Bow Creek at Lower Area One. The stream and/or floodplain may be lined to enhance the effectiveness of the groundwater capture and treatment system.
- 4) End Land Use** – The Butte Reduction Works smelter area would be reconstructed in a manner that enables future community use of the site. Atlantic Richfield Company, Butte-Silver Bow, EPA, and MDEQ would work with the residents of Butte to develop an end land use plan that is compatible with the proposed remedy.

Site-specific Details:

- Mining waste, tailings, contaminated soils, and slag would be disposed of at a repository outside of the Silver Bow Creek and Blacktail Creek corridors.
- Municipal waste, household waste, timbers, and other construction debris not suitable for re-use would be disposed of at an appropriately permitted facility.
- Any petroleum impacted soil in the excavation area would be properly addressed and removed by Atlantic Richfield Company.
- The reconstructed channel and floodplain of Silver Bow Creek would be sized to accommodate the water flow of a 100-year flood.
- A groundwater hydraulic gradient performance standard of 0.006 foot per foot (0.6%) gradient would be maintained (i.e., groundwater flows toward the capture system) to assess performance of the hydraulic capture system between the creek and the groundwater capture system.
- The BTL may be modified or expanded to provide sufficient capacity to treat additional groundwater captured from the Butte Reduction Works smelter area.



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ALL RENDERINGS AND ASSOCIATED FEATURES ARE CONCEPTUAL IN NATURE AND INTENDED TO FACILITATE REMEDY IMPLEMENTATION IN CONSIDERATION OF DESIRED END LAND USE. FINAL SIZE AND POSITIONING OF REMEDY AND END LAND USE FEATURES TO BE DETERMINED DURING REMEDIAL DESIGN PHASE.