

FACT SHEET

CONTROLLED GROUNDWATER AREAS

Butte-Silver Bow



Background Information:

The Butte area and Upper Clark Fork Basin has been adversely affected by 120 years of hard rock mining, smelting, milling, and other processing activities. Contaminants associated with the site include arsenic, copper, lead, mercury, and zinc. Mining and ore-processing wastes represent the primary source materials. These wastes come in several different forms. They include, mill tailings, waste rock, slag, smelter fallout, and mixed combinations of each. Arsenic and metals contained in, or released from these wastes to soils, surface water, and groundwater pose significant threats to human and ecological receptors.

In 1983, the EPA designated Silver Bow Creek as a Superfund site due to the impact of mining activities on the environment. In 1987, EPA expanded the Silver Bow Creek Site to include the Butte Area. The expanded site includes the city of Butte and the town of Walkerville. Several Operable Units were established to address impacted soils, surface water, groundwater, and stormwater issues. In the Butte area, these Operable Units include: Butte Mine Flooding Operable Unit; Streamside Tailings Operable Unit; Butte Priority Soils Operable Unit; West Side Soils Operable Unit; and the Active Mining and Milling Operable Unit.

What is a Controlled Groundwater Area?

Montana has authority to designate a controlled ground water area to prevent new appropriations or limit certain types of water appropriations due to water availability or water quality problems for the protection of existing water rights. (MCA 85-2-501).

The State of Montana's Department of Natural Resources and Conservation (Water Rights Bureau) is responsible for approving Controlled Groundwater Areas.

Why may a Controlled Groundwater Area be needed?

- Groundwater withdrawals in the area are greater than recharge of the aquifer.
- Excessive groundwater withdrawals are likely to occur in the near future.
- There are significant disputes regarding groundwater rights in the area.
- Groundwater levels or pressures in the area have been or are declining excessively.
- *Excessive groundwater withdrawals would cause contaminant migration.**
- *Groundwater withdrawals are or will adversely affect groundwater migration**
- *Water quality in the groundwater area is not suited for a specified beneficial use.**

* Controlled Groundwater Areas in Butte-Silver Bow.

Why are Controlled Groundwater Areas necessary in Butte-Silver Bow?

After more than 120 years of mining (including both underground and open pit mining), smelting, and associated ore processing activities, the groundwater in certain areas has been contaminated by heavy metals to the point where it cannot be used for beneficial use. This includes drinking water and irrigation wells in both the shallow (alluvial) and deep (bedrock) aquifers. Other mining related processes, including commercial plants that used organic materials to treat mine timbers for use in the underground mines, have impacted ground and surface water in these areas. In addition, the Old Landfill site has impacted the groundwater in the area where it was located. Although there are some areas where “pockets” of clean groundwater exist, controlled groundwater areas are necessary to protect public health and the environment.

Where are the Controlled Groundwater Areas located?

Three (3) Controlled Groundwater Areas are currently in place within Butte-Silver Bow. These include:

1. Rocker Controlled Groundwater Area (1997): This site is located in and near the small community of Rocker which lies just west of the Butte urban area (approximately two miles). During the underground mining era, the Rocker Timber Framing and Treatment Plant constructed timbers for use in the underground mines. The timbers were treated with wood preservative chemicals containing arsenic and other organic chemicals. The plant was located within the floodplain of Silver Bow Creek. The process and disposal of the chemicals contaminated both surface and groundwater in the area.
2. Clark Tailings/Old Landfill Controlled Groundwater Area (1999): This site is located in the southwest quadrant of the Butte urban area and encompasses the Old Landfill site as well as the adjacent area where the Clark Smelter operated. Heavy metals from the Clark Smelter as well as contaminants from the Old Landfill site contaminated groundwater in the area.

3. Butte Alluvial/Bedrock Controlled Groundwater Area (2009): This is the largest controlled groundwater area in Butte. The site encompasses the Superfund Operable Unit known as the Butte Priority Soils Operable Unit (BPSOU). This designated area was largely impacted by mining activities on the Butte hill. Both the alluvial and bedrock aquifers are contaminated with heavy metals and other identified contaminants.

This area also includes the Montana Pole and Treating Plant Site which was also a former wood treating facility which used organic compounds, including pentachlorophenol, as wood preservatives when treating mine timbers used in the underground mines.

What controls are in place to complement Controlled Groundwater Areas?

The Butte-Silver Bow Municipal Water System services the vast majority of the area encompassed by the Controlled Groundwater Areas. Therefore, in most cases, drinking water wells are not needed for potable water use. In addition, an Ordinance was passed in 1992 by the Butte-Silver Bow Council of Commissioners prohibiting the construction of new drinking water wells if the property is within 300 feet of the municipal water system.

What happens if there is an existing drinking water well located on a property within the boundaries of a Controlled Groundwater Area and is currently being used?

These wells would have been constructed prior to 1992. If this is the case, the Butte-Silver Bow Water Quality District, upon request by the property owner, will make arrangements to have the well water tested for heavy metals or other identified contaminants to ensure the water is safe to drink. To date, a small number of drinking water wells have been identified in these Controlled Groundwater Areas. Testing has been done on these wells and they have been found to be in compliance with drinking water standards for heavy metals and other identified contaminants. Annual testing will be made available at no cost to these well owners, or any other identified drinking water wells, located within Controlled Groundwater Areas.

What happens when a drinking water well is identified in a Controlled Groundwater Area and testing shows the well does *not* meet drinking water standards?

The well will be re-tested. If these results show the well does **not** meet drinking water standards, an alternative water supply will be evaluated to determine the best way to provide drinking water to the property. This may include bottled water; a water treatment/filtration unit; or providing access to the municipal water system.

Who pays for the costs of well testing and, if necessary, an alternate water supply?

Through an agreement made between the Settling Defendants in the Superfund process, monies have been identified for use in these circumstances.

NOTE: If access to the municipal water system is the preferred alternative, Butte-Silver Bow will provide access to the main water service line. It will be the home owner's responsibility to provide the service connection from their home to the water main.

Are Controlled Groundwater Areas permanent?

It depends on the circumstances associated with a Controlled Groundwater Area. If extensive information and a thorough review shows the groundwater meets water quality standards and will no longer be impacted (now and into the future), a Controlled Groundwater Area may be discontinued.

For more information, please contact:

Butte EPA Office
400 North Main Street
Butte, Montana 59701
(406) 782-3264

Butte-Silver Bow Water Quality District
c/o Butte-Silver Bow Health Department
25 W. Front Street
Butte, Montana 59701
(406) 497-5020

Montana Department of Environmental Quality
Remediation Division
Federal Superfund Section
1100 North Last Chance Gulch
Helena, Montana 59620-0901
(406) 841-5053

Montana Department of Natural Resources and Conservation
Water Rights Bureau
1424 9th Avenue
P.O. Box 201601
Helena, Montana 59620-1601
(406) 444-1610

