

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address:

Silver Bow County
Butte Silver Bow Health Department
Rick Larson, contact person
25 West Front St
Butte, MT 59701

2. Type of action: Petition for Controlled Groundwater Area, Butte Alluvial and Bedrock Controlled Groundwater Area (BABCGA)

3. Water source name: Groundwater

4. Location affected by action: The BABCGA is described as being located within the cities of Butte and Walkerville, Montana in Silver Bow County, west of the Continental Divide in southwestern Montana. It occupies the northern portion of Summit Valley and is within the Butte Mining Districts in the upper Silver Bow Creek drainage. The BABCGA includes land within Silver Bow County, Montana lying in portions of Sections 7,8,16,17, 18,19,20, & 21 of Township 3 North, Range 7 West and Sections 1,11,12,13,14,23, & 24 of Township 3 North, Range 8 West. The boundary of the BABCGA is contiguous to the south with the Old Butte Landfill/Clark tailing Controlled Groundwater Use Area. It roughly coincides with the southern boundary of the alluvial aquifer TI zone and the northern boundary of the bedrock aquifer TI zone. Major landmarks (roads) were utilized to assist in the creation of the BABCGA boundary to facilitate administration of the CGA boundaries.

5. Narrative summary of the proposed project, purpose, action to be taken, and objectives:

A Petition for a Controlled Groundwater Area (CGA) was filed by Butte Silver Bow Health Department. This was done as part of the institutional controls associated with the remediation action for contaminated groundwater aquifers (bedrock and alluvial) within the BABCGA that have been impacted by over a century of mining and associated activity. This activity is located within the cities of Butte and Walkerville. The United States Environmental Protection Agency (USEPA) and the Montana Department of Environmental Quality (MDEQ) have granted waivers for both the alluvial and bedrock aquifers because compliance with the requirement is technically impracticable from an engineering perspective. The petition seeks groundwater restriction to meet the requirement of the Records of Decision or Consent Decrees for the Butte Priority Soils Operable Unit, (BPSOU), Butte Mine Flooding Operable Unit, (BMFOU) and the Montana Pole and Treatment Plant NPL Site NPTP.

The USEPA and the MDEQ have determined that the alluvial and bedrock aquifers underlying the proposed BABCGA are contaminated with concentration of arsenic, lead, cadmium, copper, zinc at levels exceeding maximum contaminate levels (MCLs) for groundwater. In addition, groundwater in the alluvial aquifer underlying the MPTP site is contaminated with PCP, polycyclic aromatic hydrocarbons (PAHs) and/or dioxins and furans.

The primary purpose of the BABCGA is to ensure that no new development of groundwater occurs that would utilize contaminated alluvial or bedrock groundwater. In addition, the BABCGA will protect non-contaminated water resources by requiring that existing wells, which pose a threat of contaminating other waters or spreading contamination in the aquifer, be abandoned.

The following summarizes the protective provisions being proposed:

1. New groundwater wells will only be permitted after review and approved by appropriate authorities.
 2. Existing wells used for irrigation or industrial use maybe replace at owner's expense only if the replacement well meets the requirements.
 3. All wells that do no meet criteria for human consumption will cease being used for such purposes. The user will be providing with an approved drinking water source. A verification process will be use to determine if the well can be used in the future.
 4. The boundaries and provisions can be amended with an acceptable approval process.
 5. Irrigation/Industrial Use Exemption allows approval of new or replacement wells for limited irrigation or industrial use.
6. Agencies consulted during preparation of the Environmental Assessment:
- a. EPA – Helena Office
 - b. MT DEQ
 - c. Water & Environmental Technologies, Butte Silver Bow Consultant
 - d. Butte Silver Bow Health Department
 - e. DNRC, Water Resources specialists

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Determination: This closure is proposed for human health reasons and to prevent contaminate migration. Its purpose is also to ensure that no new development of groundwater occurs that would utilize contaminate alluvial or bedrock ground water. The groundwater source in the area is not identified as a chronically dewatered source and water availability is not at question.

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Determination: The water within the bedrock and alluvial aquifer are not suited for human consumption. The control of use of the water for human consumption is difficult due to local regulations may not be controlled through enforcement. This is due ordinances that relate to distance and/or date the well provided water. Thus the proposed CGWA is to ensure that no new development of groundwater occurs that would utilize contaminated alluvial or bedrock ground water. In addition, the BABACGA will protect non-contaminate water resources by requiring that existing wells, which pose a threat of contaminating other waters or spreading contamination in the aquifer be abandoned. Also, no new wells will be allowed to be drilled within the CGWA. The desired results will prevent human consumption; prevent all other uses such as irrigation and present migration of the low quality water. It is hoped that current and future remediation measures will continue to improve the water quality.

Groundwater - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

Determination: The project is intended to establish an institutional control administered by the department to prevent uses of low quality water within the bedrock and alluvial aquifer from coming in contact with non-contaminated water. Most of the wells are used for monitoring activities related to the Superfund sites. Most of the monitoring wells within the alluvial and bedrock aquifers have been sampled to evaluate the quality of the water. The data indicate that groundwater contamination exceeds water quality standards over broad areas and demonstrate the need for a controlled groundwater area. Furthermore, by controlling the development of new wells and use of existing wells will protect those waters from contaminating thus protecting the groundwater water quality.

DIVERSION WORKS - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

Determination: There would be no construction directly associated with this groundwater closure.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."

Determination: The groundwater closure area would have no impact. Cleanup of the contamination will eventually positively impact any species of concern that may visit the area. No endangered species or species of special concern were identified in the site assessment.

Wetlands - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

Determination: There are wetlands adjacent to the proposed closure area but none are identified within the delineated closure area.

Ponds - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.

Determination: No ponds are involved in the proposed action.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.

Determination: Soil quality will be improved upon completion of the remediation activities.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.

Determination: Establishment of the controlled area would have no negative effect on vegetative cover and will not cause a spread or establishment of noxious weeds. There may be a net long-term positive impact from decreased disturbance from human activity. Consideration will have to be given when human activities occur those activities do not transport noxious weeds into the area.

AIR QUALITY - Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.

Determination: There are no air quality or air pollutants that will be associated with the closure. There may be a net long-term benefit to air quality by decreasing the use of large pieces of equipment.

HISTORICAL AND ARCHEOLOGICAL SITES - Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.

Determination: The creation of a controlled groundwater area is an institutional control and will have no effect on any archeological or historical sites. Preventing drilling of new wells may have a net long-term benefit by reducing land impacts from drill rigs.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - Assess any other impacts on environmental resources of land, water and energy not already addressed.

Determination: No other impacts have been identified.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

Determination: The plan is consistent with local, state and national adopted environmental goals for the site.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

Determination: Closure of groundwater resources within the proposed boundary will not affect any recreational activities. There are no wilderness areas nearby.

HUMAN HEALTH - Assess whether the proposed project impacts on human health.

Determination: The proposed closure to groundwater appropriation will provide a regulatory control to prevent ingestion of contaminated groundwater and potential induced migration of the contaminate plume until the site can be reclaimed. The institutional controls will have a long-term net positive impact t human health.

PRIVATE PROPERTY - Assess whether there are any government regulatory impacts on private property rights.

Yes X No . If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: The closure will not allow new wells within the BABCGA to be drilled unless they can meet the criteria established by MT DEQ-7 groundwater human health standards for arsenic, lead, cadmium, copper and /or zinc. If the water exceeds these standards those wells cease being used for such beneficial purposes. These standards must be verified and re-tested for verification. However, current Butte Silver Bow County Municipal Codes point out that not all groundwater well can be controlled due to the distance, 300 feet, from a municipal source to the property line or the parcel of property was exclusively served with domestic water by a well prior to July 31, 1992. It is being considered by the BABCGA to control all wells due to the potential of contamination. This issue needs to be addressed such that domestic users have water to meet their desired needs.

Keeping the regulations in mind the purpose of the BABCGA, being an institutional control, is to supplement the Superfund remedies for these aquifers. However, it is ultimately to protect human health and/or the environment by preventing the consumption and/or spread of contamination from groundwater containing elevated concentrations of contaminants. This can be accomplished by not allowing new developments of groundwater and to protect non-contaminated water sources. The BABCGA can only improve property owners situation relating to health and spreading of contaminants. Working with the various agencies should bring remedies to situations the current situation and minimize and or eliminate the regulation of property rights.

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) Cultural uniqueness and diversity? None identified.
- (b) Local and state tax base and tax revenues? The local tax base may decrease if the full development potential of the land is prevented.
- (c) Existing land uses? None identified.
- (d) Quantity and distribution of employment? Limiting future development may limit future local employment.
- (e) Distribution and density of population and housing? None identified, as other areas are readily available in the immediate area.

- (f) Demands for government services? The department will be required to prevent wells from being drilled. Regulation will require public notification, advertisement, and monitoring and possible enforcement action to prevent inadvertent drilling.
- (g) Industrial and commercial activity? The BABCGA has potential for industrial and commercial activity. There are remedies to accommodate this potential. The Water Quality District, in conjunction with USEPA and MDEQ, may approve new or replacement wells within the BABCGA for limited irrigation or industrial use. Any proposed new well owner must supply data indicating that the uses will not be detrimental to the environment or to human health.
- (h) Utilities? No impacts identified.
- (i) Transportation? No negative impacts were identified.
- (j) Safety? None identified other than the beneficial impacts of preventing health concern from using the contaminated water.
- (k) Other appropriate social and economic circumstances? None identified.

2. Secondary and cumulative impacts on the physical environment and human population:

Land values and the local tax base may be affected by limitation on type of development that can occur due to water availability. There will be a net long –term positive impact to the human population by preventing consumption of contaminated water.

3. Describe any mitigation/stipulation measures: There are no other measures that can be enacted that will prevent new well from being drilled.

4. Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:
 No Action – Denial of the petition for closer of the area to groundwater appropriations could make enforcement of remediation activities more difficult as other agencies have identified this process as an institutional control to help them in their processes.

PART III. Conclusion

- 1. Preferred Alternative: To allow the BABCGA to be initiated as proposed.
- 2. Finding:
 Yes ___ No X Based on the significance criteria evaluated in this EA, is an EIS required?

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: The proposed action is a regulatory control and this EA did not identify any significant impacts to the environment.

Name of person(s) responsible for preparation of EA:
 Name: Terry Eccles

Title: DNRC Water Resources, Helena/Bozeman Regional Manager
Date: February 6, 2009