

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
Environmental Assessment

**PERMITTING AND COMPLIANCE DIVISION**  
Water Protection Bureau

**Name of Project:** Montana Pollutant Discharge Elimination System (MPDES) permit MT0030252 renewal for TVX Mineral Hill Mine, Inc (TVX).

**Type of Project:** The Department of Environmental Quality (DEQ) proposes to renew the MPDES permit for TVX for a five-year cycle. The mine drainage is treated by a zero valent iron system for the precipitation of arsenic and effluent is discharged continuously. TVX discharges to Bear Creek, a tributary to the Yellowstone River.

**Location of Project:** TVX Mineral Hill Mine, 13 Crevice Mountain Road, Gardiner, MT 59030

**Description of Project:** MPDES permit renewal

**Agency Action and Applicable Regulations:** The proposed action is to renew the MPDES permit for another five-year cycle.

ARM Title 17, Chapter 30, Sub-chapter 2 - Water Quality Permit Application and Annual Fees.

ARM Title 17, Chapter 30, Sub-chapter 5 - Mixing Zones in Surface and Ground Water.

ARM Title 17, Chapter 30, Sub-chapter 6 - Surface Water Quality Standards.

ARM Title 17, Chapter 30, Sub-chapter 7 - Nondegradation of Water Quality.

ARM Title 17, Chapter 30, Sub-chapter 12 and 13 - Montana Pollutant Discharge Elimination System Standards.

Montana Water Quality Act, MCA 75-5-101 et. seq.

**Summary of Issues:** This permit renewal maintains the current technology-based effluent limit (TBEL) for total suspended solids (TSS) and adds a new TBEL for pH. Water quality-based effluent limits have been maintained for arsenic. New effluent, in-stream, and whole effluent toxicity monitoring requirements have been included in this permit.

**Benefits and Purpose of Action:** The permit will ensure compliance with the Montana Water Quality Act and protect beneficial uses of Bear Creek and the downstream receiving water.

**Affected Environment & Impacts of the Proposed Project:**

*Y = Impacts may occur (explain under Potential Impacts). Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

*N = Not present or No Impact will likely occur. Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
1. <b>GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:</b> Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] This facility is long established and represents no new impacts.
2. <b>WATER QUALITY, QUANTITY AND DISTRIBUTION:</b> Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] Effluent limits will continue to assure discharge quality and protect receiving water beneficial uses.
3. <b>AIR QUALITY:</b> Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N]
4. <b>VEGETATION COVER, QUANTITY AND QUALITY:</b> Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] This facility is long established and represents no new impacts.
5. <b>TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:</b> Is there substantial use of the area by important wildlife, birds or fish?	[N] No impacts should occur because this is a renewal of an existing source, and effluent limits are the same or more stringent than previous limits.
6. <b>UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:</b> Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] According to Montana Natural Heritage Program (August 2012), the area near the discharge is habitat for the aquatic species Yellowstone Cutthroat Trout. In addition, the area around the discharge is habitat for the following terrestrial species: Bald Eagle, Northern Goshawk, Peregrine Falcon, Pileated Woodpecker, Clark's Nutcracker, Cassin's Finch, Hoary Bat, Grizzly Bear, Wolverine, Canada Lynx, and Bison.  No impacts should occur because this is a renewal of an existing source, and effluent limits are the same or more stringent than previous limits.
7. <b>HISTORICAL AND ARCHAEOLOGICAL SITES:</b> Are any historical, archaeological or paleontological resources present?	[N] No impacts should occur because this is a renewal of an existing source.  However, should structures need to be altered or if cultural materials be inadvertently discovered, the State Historic Preservation Office (SHPO) should be contacted.
8. <b>AESTHETICS:</b> Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N]
9. <b>LAND USE:</b> (waste disposal, agricultural lands [grazing, cropland, forest lands, prime farmland], recreational lands [waterways, parks, playgrounds, open space, federal lands), access, commercial and industrial facilities [production & activity, growth or decline], growth, land-use change, development activity)	[N]
10. <b>IMPACTS ON OTHER ENVIRONMENTAL RESOURCES:</b> Are there other activities nearby that will affect the project?	[N]

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] Effluent limits will protect public health.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No impacts are expected at this time.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] No impacts are expected at this time.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] No impacts are expected at this time.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] No impacts are expected at this time.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] No impacts are expected at this time.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] No impacts are expected at this time.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] No impacts are expected at this time.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] No impacts are expected at this time.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] No impacts are expected at this time.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] No impacts are expected at this time.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N] No impacts are expected at this time.
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[N]

**IMPACTS ON THE HUMAN ENVIRONMENT**

<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[N]

- 23. **Description of and Impacts of other Alternatives Considered:** None
- 24. **Summary of Magnitude and Significance of Potential Impact:** None
- 25. **Cumulative Effects:** None
- 26. **Preferred Action Alternative and Rationale:** The preferred action is to reissue the MPDES permit. This action is preferred because the permit program provides the regulatory mechanism for protecting water quality by enforcing the terms of the MPDES permit.

**Recommendation for Further Environmental Analysis:**

Environmental Impact Statement (EIS)       More Detailed EA       No Further Analysis

**Rationale for Recommendation:** An EIS is not required under the Montana Environmental Policy Act (MEPA) because the project lacks significant adverse effects to the human and physical environment.

- 27. **Public Involvement:** A 30-day public comment period will be held.
- 28. **Persons and agencies consulted in the preparation of this analysis:** Martin Miller, Data Assistant, Montana Natural Heritage Program.

**EA Checklist Prepared By:**

EA prepared by: Chris Hill  
Date: August 6, 2012

**Approved by:**

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Jenny Chambers, Chief  
Water Protection Bureau

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Date