

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**Environmental Assessment**

**Permitting and Compliance Division**  
**Water Protection Bureau**

**Name of Project:** Paradine Mill

**Type of Project:** Contract Floatation Mill

**Location of Project:** Northwest ¼, Section 21, T 5N, R 1E

**City/Town:** Radersburg

**County:** Broadwater

**Description of Project:**

Paradine Mill, Inc applied for a renewed Montana Ground Water Pollution Control System (MGWPCS) permit for the wastewater management associated with its mill. The existing permit for the mill site was issued in 1994 and expired in 1999. A renewal application was received in 2002. A Department letter, dated January 9, 2004, documents that the 1999-expired permit was administratively extended.

The mill is a contract mill for various small mines in the area. It does not have a site-specific mine on its property. The mill has been at the present location since the early 1980's. The milling process used is froth floatation and tailings are disposed on site in three impoundments. Prior to 1995, cyanide vat leaching was used at the mill. The current owner operates under a Small Miner Exclusion license, required by the Montana Metal Mine Reclamation Act (MMRA). Cyanide leaching is not allowed by the SME license or this MGWPCS permit.

In 1985, a tailings pond liner failure resulted in an unauthorized discharge of cyanide-enriched wastewater to state ground water. A second unauthorized cyanide discharge to ground water occurred in 1994, this time under the ownership of Geneva Mill, L.C.. Following the discharge, the Department required the owner to install a cyanide leak detection system. The installed system is essentially an absorbent geofabric sandwiched between two impermeable (30-mil PVC) synthetic liners. Any moisture detected in the geofabric signified a leak in the impoundment. The 1994-issued MGWPCS permit required monitoring of the leak detection system. If wastewater was present in the leak detection system, water quality analysis was required.

The mill ceased operations in March 1995 and has remained inactive since. Montana Gold Mining, LLC purchased the property shortly after milling ceased, then sold the property to Paradine Mill, Inc (PMI) in August 2008. PMI transferred the MGWPCS permit in September 2008. The facility name was changed from the Geneva Mill to the Paradine Mill.

An Environmental Assessment (EA) was completed for the Contact Mill in December 1994 by the Montana Department of Health and Environmental Sciences Water Quality Bureau (today's DEQ).

The receiving ground water classification is a Class I, as defined at ARM 17.30.1006. The permit does not allow a discharge to state water, but contains monitoring and reporting requirements of the ground water quality. Mitigation measures have been included in the permit should the ground water monitoring data indicates that the wastewater from tailings impoundment is impacting the ground water quality and/or beneficial uses. The permit, under Part IV, includes "Reopener Provisions" that allow the Department to reopen the permit.

**Agency Action and Applicable Regulations:** The proposed action is to issue an individual MGWPCS permit that has effluent limits and effluent monitoring requirements. The permit is issued under the authority of the Montana Water Quality Act 75-5-101 *et seq.* Montana Ground Water Pollution Control System Administrative Rules of Montana (ARM) 17.30.1001-1070, and Montana Numeric Water Quality Standards in the Department Circular DEQ-7 (February 2008).

The project predates the Montana Metal Mine Reclamation Act (MMRA) and does not have any associated permits or licenses.

**Summary of Issues:** The purpose of this action is to regulate the discharges of pollutants to state waters from the regulated facility. Issuance of an individual permit will require the applicant to implement, monitor, and management practices to prevent pollution and degradation of groundwater.

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

Y = Impacts may occur (explain under Potential Impacts).

N = Not present or No Impact will likely occur.

## IMPACTS ON THE PHYSICAL ENVIRONMENT

RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: 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] Refer to the 1994 EA for further information.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: 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?	[Y] Refer to the 1994 EA for further information. Ambient ground water quality has been established during the period of inactivity; please refer to the permit statement of basis for further information. is not known.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N] Ore hauling could generate road dust and diesel particulate increases around the mine site. The mill equipment is housed in a metal building. There are residences along the roads around/near the mill site.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] The mill has been at the current location since the early 1980's. The mill operated regularly from the 1980s through 1994. Further impacts to vegetation are not anticipated.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] Refer to the 1994 EA for further information.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] Refer to the 1994 EA for further information. The mill has been in operation since the early 1980's. Further impacts to unique, endangered, fragile or limited environmental resources are not anticipated.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] Refer to the 1994 EA for further information. The mill has been in operation since the early 1980's. Further impacts to vegetation are not anticipated.
8. AESTHETICS: 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] Refer to the 1994 EA for further information. The tailings impoundments and buildings have been used since the early 1980's. PMI completed rehabilitation of the site in 2008 and disposed of scrap metal. The outer impoundment dikes are vegetated.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	[N] The operation has been in existence since the early 1980's. Milling is anticipated to be continuous, so continuous tailings disposal should be anticipated. No significant impacts have been identified during EA preparation.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] No significant impacts have been identified during EA preparation.

<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] No significant impacts have been identified during EA preparation. The permit conditions protect ground water quality and the receiving water beneficial uses, including human health.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] The operation is run by a small company. It is anticipated that employment potential/impacts will be minimal through the permitting action. No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] The operation has been in existence since the early 1980's and no changes in traffic and/or demands on other services are anticipated. No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
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] County roads pass by the mill. The tailings impoundments and associated infrastructure are on private land. Privately owned property surrounds the mill site, with exception to the local cemetery to the south. No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] Refer to #13 & #15. No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] No significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] No significant impacts have been identified during EA preparation. Refer to the 1992 EA for further details.
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 significant impacts have been identified during EA preparation. Refer to the 1994 EA for further details.

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
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/A] see 22 a.
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/A] see 22 a.

23. Description of and Impacts of other Alternatives Considered:

A. No Action: Under the ‘No Action’ alternative the Department would not issue an individual ground water discharge permit under the Montana Ground Water Pollution Control System administrative rules.

B. Approval with modification: The Department has not identified any necessary modifications to grant approval.

24. Summary of Magnitude and Significance of Potential Impacts: Impacts were assessed with the assumption that the permittee will comply with the terms and conditions of the permit. Violations of the permit could lead to significant adverse impacts to state waters. In preparing permit effluent limits, the Department has taken steps to ensure that beneficial uses of the receiving water are preserved and exceedance of water quality standards will not occur, which includes that the discharge will remain “nonsignificant”, as required by ARM 17.30.subchapter 7 “Nondegradation of Water Quality”. The Department provides assistance to applicants in understanding and implementing the requirements of the permit and conducts periodic inspections of permitted facilities, where potential problems with design or management practices might be identified. If violations of the permit do occur, the Department will take appropriate action under the water quality act (Section 75-5-617, MCA). Enforcement sanctions for violations of the permit include injunctions, civil and administrative penalties, and cleanup orders.

25. Cumulative Effects: The issuance of this individual MGWPCS discharge permit would not have cumulative effects because the permit prohibits pollution and degradation of state waters.

26. Preferred Action Alternative and Rationale: The preferred action is to issue the individual MGWPCS discharge permit. This action is preferred because the permit provides a regulatory mechanism for protecting ground water quality by applying effluent limits and monitoring requirements to the discharged wastewater.

**Recommendation for Further Environmental Analysis:**

EIS     More Detailed EA     No Further Analysis

Rationale for Recommendation:

27. Public Involvement: A 30-day public comment period will be from June 29 through July 29, 2009. A public hearing is not scheduled.

28. Persons and agencies consulted in the preparation of this analysis:  
Robert Cronholm, DEQ Environmental Management Bureau

**EA Checklist Prepared By:**

Rebecca Ridenour

June 17, 2009

**Approved By:**

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Jenny Chambers, Chief  
Water Protection Bureau

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Date