



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

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August 14, 2008

Shane Parrow
Elkhorn Goldfields, Inc.
P.O. Box 41
Boulder, MT 59632

Dear Mr. Parrow:

The Department of Environmental Quality (Department) has made its decision on the Montana Air Quality Permit application for Elkhorn Goldfield, Inc., underground gold mine. The application was given permit number 4237-00. The Department's decision may be appealed to the Board of Environmental Review (Board). A request for hearing must be filed by August 29, 2008. This permit shall become final on August 30, 2008, unless the Board orders a stay on the permit.

Procedures for Appeal: Any person jointly or severally adversely affected by the final action may request a hearing before the Board. Any appeal must be filed before the final date stated above. The request for a hearing shall contain an affidavit setting forth the grounds for the request. Any hearing will be held under the provisions of the Montana Administrative Procedures Act. Submit requests for a hearing in triplicate to: Chairman, Board of Environmental Review, P.O. Box 200901, Helena, Montana 59620.

Conditions: See attached.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-3490

Julie Merkel
Air Quality Specialist
Air Resources Management Bureau
(406) 444-3626

VW:JAM
Enclosures

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Elkhorn Goldfields Inc.

Air Quality Permit Number: 4237-00

Preliminary Determination Issued: July 29, 2008

Department Decision Issued: August 14, 2008

Permit Final:

1. *Legal Description of Site:* Elkhorn Goldfields Inc. submitted a Montana Air Quality Permit (MAQP) application for the Golden Dream Mine Project (aka Elkhorn Project) located 19 miles east of Boulder, Montana. The project would be located in Jefferson County, north of the old mining town of Elkhorn, in portions of Sections 10, 11, 14, and 15 in Township 6 North, Range 3 West, and would encompass a proposed total permit area of 382.5 acres.
2. *Description of Project:* The mine would be developed on privately held claims and on unpatented mining claims within the Deer Lodge National Forest. Surface mine facilities would be located on privately held claims. Approximately 30 acres of the proposed 382.5 acres would be disturbed.
3. *Objectives of Project:* The purpose of this project is to mine gold ore bodies located by exploration drilling to provide revenue for the company. The mine would employ up to 70 employees.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because EGI demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in Permit #4237-00.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

Wildlife evaluations of the Golden Dream Mine Project site identified logging and grazing impacts as having reduced the availability of habitat for deer and elk in the project area since a 1995 study conducted by Western Technology and Engineering, Inc. (WESTECH). The proposed mine area was examined for suitable habitat and presence of bats. No evidence of bats or roosts was found. Though more recent studies in the Elkhorn Mountains have identified bats at lower elevations, no bats have been located at the elevation of the proposed mine disturbance. Potential habitat for: gray wolf, grizzly bear, Townsends Big Ear Bat, Western Toad and the Olive sided Flycatcher exists within 10 miles of the project area;, none of these species has been observed in the 1995 or 2006 studies of the proposed mine site. Grizzly bear and gray wolf would likely only occur as transients in the area, no known sightings of wolves or grizzly bears have been recorded in the area by the Montana natural Heritage Program. It is possible that Canadian lynx are present at least as transients in the Elkhorn Mountains but the habitats in and adjacent to the proposed project are not preferred. However, the probability of lynx use of the proposed permit area is considered to be low. No threatened or endangered species have been found on or near the proposed mine site. The Department believes only minor impacts would occur from the proposed project due to the relatively small amount of pollutants that would be emitted, dispersion characteristics of the pollutants and the atmosphere, and conditions placed in Permit #4237-00, including, but not limited to BACT requirements discussed in Section V of the permit analysis.

B. Water Quality, Quantity and Distribution

Water would be used, as necessary, for dust suppression on roads and on emissions from the crushing equipment. No surface water or ground water problems are expected as a result of using water for dust suppression. Historic mining, grazing, logging, and wildfires in the area of the proposed project have resulted in some surface disturbance, with associated increased erosion and sedimentation to some of the drainages. EGI would control runoff from disturbed

areas in accordance with a storm water permit from the Department and thereafter would not add sediment to area drainages. The overall effects to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

Disturbances by the permitted EGI exploration plan have already occurred on 6.9 acres. Reclamation of these disturbances would occur as part of the Metal Mine Reclamation Act (MMRA) Exploration License #00617 requirements. Soil salvage and proper reclamation would mitigate proposed disturbances. Over the short term, the cumulative impacts to area soils would be an increase in disturbances to soils already affected by past mining, grazing, wildfire, and timber harvest. However, due to the relatively small size of the project, and conditions contained in Permit #4237-00, impacts to geology and soil quality, stability and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Vegetation is predominantly coniferous forest with Douglas-fir, Subalpine fir, or Lodgepole pine in the forested areas. Deciduous forest, primarily cottonwood or aspen, is found along drainages at lower elevations. Merchantable timber on the project area has been logged. Vegetation on less than 30 acres would be disturbed as a result of the proposed project. There would also be secondary impacts to vegetation from increased road dust and an increase in weed infestations due to disturbance. Dust control would be implemented as part of Permit #4237-00. Disturbed areas would be reseeded with the approved seed mix and monitored for reclamation success. Areas of reclamation that do not establish vegetation would be reseeded. Overall, impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

The proposed project would result in the construction and operation of an underground gold mine on a site formerly used for livestock grazing, so there would be potential visual effects. However, the effects would be mitigated by the measures required as part of their preliminary approval of the permit to operate. There would be aesthetic effects due to noise and dust from increased truck traffic. However, there would be requirements in the proposed air quality permit, to use water and spray bars that would mitigate the effects. The proposed air quality permit would contain a requirement to water and spray bars that would mitigate the effects. The proposed air quality permit would contain a requirement to water or chemically treat the mine site roads to minimize reentrainment of road dust. Any disturbed land would be reclaimed on an ongoing basis. Therefore, the effects on aesthetics would be minor.

F. Air Quality

The area surrounding the proposed project is predominantly used for grazing purposes. The area is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria air pollutants. The Department believes that concentrations of the criteria pollutants in the area are at or near background levels and well below any NAAQS levels. Emissions of air pollutants would occur as a result of the current permit action. Air quality Permit #4237-00 would contain conditions limiting ore throughput, opacity, diesel generator operations and require, as necessary, the use of water, chemical dust suppressants, or water spray bars to control dust from vehicle traffic and process equipment. If the facility operates in compliance with all applicable permit requirements, then the effects would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The development of the Elkhorn Project would impact the unique endangered, fragile, or limited environmental resources because emissions of PM₁₀, NO_x, CO, VOCs and SO_x would increase in the area because of the operation of the facility. However, the Department believes that any impacts would be minor due to the relatively small amount of the above listed pollutants emitted, dispersion characteristics of the pollutants and the atmosphere, and conditions placed in Permit #4237-00, including, but not limited to, BACT requirements discussed in Section V of the permit analysis for this permit.

H. Demands on Environmental Resource of Water, Air and Energy

The installation and operation of the proposed diesel-fired engines would occur until the electrical power (energy) could be supplied for the mine. Any impact on the environmental resource of energy in the area would be minor. In addition the proposed project would not impact the demand for the environmental resource of water in the area as no water would be used to facility the proposed engines. Further, an increase in air pollution would result from the proposed project; however, the Department believes that any impacts would be minor due to the relatively small amount of the above listed pollutants emitted, dispersion characteristics of the pollutants and the atmosphere, and conditions placed in Permit #4237-00, including, but not limited to, BACT requirements discussed in Section V of the permit analysis for this permit.

I. Historical and Archaeological Sites

Between August 8 and August 29, 1994, Western Cultural Resource Management performed a reconnaissance survey of approximately 2,850 acres for the original Elkhorn Project, near the Elkhorn town site. An additional cultural survey was performed in 1996 by GCM services Inc. These surveys were intended to provide a comprehensive picture of the cultural resources present within the proposed Elkhorn Project area of 4,100 acres, including the area of the proposed projects. Several historic, prehistoric, and archaeological sites were identified within the surveys. However, only the Sourdough Complex site was considered eligible for listing on the national Register of Historic Places. Based on a review of the cultural studies and the proposed disturbance of the Elkhorn Project, this site would not be impacted by the proposed project.

Historical areas of concern would remain in place during the mine life and would not be disturbed. No archaeological sites have been found to date on the mine site's private grounds. Upon discovery of any archaeological items, all activities in the area of the archaeological items would stop until reviewed by SHPO. Overall, there would be minor, if any impacts on historical and archaeological sites within the proposed project.

J. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from the proposed installation and operation of the diesel-fired engines would result in minor impacts to the physical and biological environment in the immediate area because emissions of PM₁₀, NO_x, CO, VOCs and SO_x would increase from the Elkhorn Project as a result of operating the proposed diesel-fired engines. Air pollution from the facility would be controlled by Department-determined BACT, as discussed in Section V of the permit analysis, and conditions in Permit #4237-00. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as outlined in Permit #4237-00; therefore, cumulative and secondary impacts would be minor.

8. *The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores			X			Yes
B	Cultural Uniqueness and Diversity			X			Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities			X			Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population			X			Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals			X			Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

- A. Social Structures and Mores
- B. Cultural Uniqueness and Diversity
- C. Local and State Tax Base and Tax Revenue

The proposed project would cause minor effects to the above-listed economic and social attributes of the area of operation because the proposed project would involve the employment of up to 70 people, would increase potential industrial production at the existing mine, and would slightly change the existing industrial nature of the site and the surrounding area.

- D. Agricultural or Industrial Production

The proposed project would disturb a very small amount of grazing land. The potential effects on any agricultural land or practices would be very minor, if any. The project would result in a small increase in local industrial production. Therefore, the overall effects on agricultural or industrial production would be minor.

- E. Human Health

There would be minor effects on human health due to the slight increase in emissions of air pollutants. However, Permit #4237-00 incorporates conditions to ensure that the facility would be operated in compliance with all applicable rules and standards. These rules and standards are designed to be protective of human health. In addition the project would occur in a remote area with limited population; therefore, effects on human health would be minor.

- F. Access to and Quality of Recreational and Wilderness Activities

The Elkhorn Mountains offer a diverse recreational opportunity for public use. Hunting, fishing, sightseeing, hiking, biking, snowmobiling, four-wheeling and other recreational driving, and cross country skiing are all available recreational opportunities within the Elkhorn

Mountains. The proposed project is located on privately held claims and would be fenced and signed. Therefore, the proposed Elkhorn Project would have minor, if any, effect on any access to and quality of recreational and wilderness activities.

G. Quantity and Distribution of Employment

H. Distribution of Population

There would be minor effect on employment in the area and minor, if any, effect on the distribution of population because the facility would employ up to 70 full-time employees at full production.

I. Demands for Government Services

Demands on government services from this facility would be minor. Minor increases may be seen in truck traffic on existing roads in the area while the facility is operating. The acquisition of the appropriate permits by the facility would also require minor services from the government.

J. Industrial and Commercial Activity

Operation of the mine would result in a minor increase in the industrial activity in the area. The operation of the mine would create some additional industrial activity in the area. However, the Department believes the impacts would be minor because of the relatively small size of the project.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans or goals. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social environment in the immediate area. As previously stated, the proposed permit would result in a slight increase in employment in the area, and a slight increase in industrial process in the area. The Department believes that EGI would be expected to operate in compliance with all applicable rules and regulations as outlined in Permit #4237-00.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of the Elkhorn Project. Permit #4237-00 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program.

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: *Julie Merkel*

Date: 07/17/08