



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P. O. Box 200901

Helena, MT 59620-0901

(406) 444-2544

Website: www.deq.mt.gov

PRELIMINARY DETERMINATION
ON PERMIT APPLICATION

Date of Mailing: September 27, 2011

Name of Applicant: Butte Highlands Joint Venture

Source: Butte Highlands Project

Proposed Action: The Department of Environmental Quality (Department) proposes to issue a permit, with conditions, to the above-named applicant. The application was assigned Permit Application Number 4449-03.

Proposed Conditions: See attached.

Public Comment: Any member of the public desiring to comment must submit such comments in writing to the Air Resources Management Bureau (Bureau) of the Department at the above address. Comments may address the Department's analysis and determination, or the information submitted in the application. In order to be considered, comments on this Preliminary Determination are due by October 12, 2011. Copies of the application and the Department's analysis may be inspected at the Bureau's office in Helena. For more information, you may contact the Department.

Departmental Action: The Department intends to make a decision on the application after expiration of the Public Comment period described above. A copy of the decision may be obtained at the above address. The permit shall become final on the date stated in the Department's Decision on this permit, unless an appeal is filed with the Board of Environmental Review (Board).

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 by the date stated in the Department's Decision on this permit. 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, MT 59620.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Ed Warner
Environmental Engineer
Air Resources Management Bureau
(406) 444-2467

VW:EW
Enclosure

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

DRAFT ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Butte Highlands Joint Venture

Montana Air Quality Permit Number: 4449-03

Preliminary Determination Issued: 9/27/11

Department Decision Issued:

Permit Final:

1. *Legal Description of Site:* Sections 31 and 32, Township 1 North, Range 7 West, in Silver Bow County, Montana.
2. *Description of Project:* the current project addresses the changes in operations from exploration activities to the mining of gold ore. The permit modification would include increases in daily and annual aggregate throughputs to 2,000 tons per day (730,000 TPY) of combined gold ore and production rock, the corresponding increases in activities associated with the increase in throughput (blasting, loading, unloading, and haul road traffic), the addition of a 150 TPH crusher powered by a 350-bhp diesel engine, a 500 TPH screen powered by a 100-bhp diesel engine, a new generator powered by a 1,502-bhp diesel engine, an upgraded air compressor powered by a 540-bhp diesel engine, and two 15,000 gallon diesel storage tanks. Equipment that would be removed from the permit are a 275-bhp diesel engine from the old air compressor and an 8,000 gallon diesel storage tank that had been included in the original permit but had never been installed.
3. *Objectives of Project:* the objectives of this project are to enter the production stage of the BHJV mine development. The facility began as an underground exploration project consisting of drifting, ore recovery for bulk sampling, and development rock removal and storage. Now the project is transitioning to the mining of gold ore and would therefore require additional aggregate throughput capacity as well as upgrades to some equipment. No extraction of gold from the ore would take place at BHJV. Gold ore would be transported offsite by haul trucks to a separate processing facility for gold extraction.
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 BHJV 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 MAQP #4449-03.
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

This permitting action would have a minor effect on terrestrial and aquatic life and habitats in the project area. There would be an increase in air emissions from the facility which could increase the deposition of pollutants within the terrestrial and aquatic life habitats. The Department has determined that any impacts would be minor due to the dispersion characteristics of the pollutants, the atmosphere, and conditions that would be placed in MAQP #4449-03.

B. Water Quality, Quantity and Distribution

This project would have a minor effect on the water quality, quantity, and distribution due to the use of water for fugitive dust suppression. Water would be required for fugitive dust suppression in the surface activities including the proposed crushing and screening operations. Typical application of water spray for dust suppression results in the water being evaporated to the atmosphere shortly after its application. Therefore, any effects to the water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

The project would have a minor effect on the geology and soil quality, stability, and moisture from the increase in mining production. The impacts from emissions or deposition of pollutants would be minor due to dispersion characteristics of the pollutants, the atmosphere, and the conditions that would be placed in MAQP #4449-03.

D. Vegetation Cover, Quantity, and Quality

The project would have a minor affect on the local vegetation. The impacts from emissions or deposition of pollutants would be minor due to dispersion characteristics of the pollutants, the atmosphere, and the conditions that would be placed in MAQP #4449-03. Reclaimed areas would be seeded with native seed mixture and would be applied in the late fall or early spring to reduce the invasion of noxious weeds.

E. Aesthetics

The proposed project would have a minor effect on the local aesthetics. There will be additional equipment added to the worksite. There are potential visual emissions associated with the proposed crushing and screening operations. However, conditions would be placed in MAQP #4449-03 to limit visible emissions.

F. Air Quality

The area surrounding the proposed project is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria air pollutants. The proposed site location is not in or within 10 kilometers of the Butte PM₁₀ nonattainment area. The Department believes that concentrations of the criteria pollutants in the area are at or near background levels and well below any NAAQS levels. An increase in emissions of air pollutants would occur as a result of the current permit action. BHJV demonstrated with ambient air modeling that the proposed new equipment would not cause or contribute to violations of the NO₂ NAAQS and MAAQS. MAQP #4449-03 would contain conditions limiting opacity and 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. Compliance with all applicable permit requirements would ensure that the effects would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The proposed permitting action would have a minor impact on the unique endangered, fragile, or limited environmental resources because emissions of PM₁₀, NO_x, CO, VOC, and SO₂ would increase in the area from the operation of the new equipment. 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 MAQP #4449-03, including, but not limited to, BACT requirements discussed in Section V of the permit analysis for this permit.

During the initial permit application for the BHJV project, the Montana Natural Heritage Program (MNHP) identified occurrences of 12 plant and animal species of concern within the vicinity of the proposed project location. The Canada lynx is a threatened species of concern identified by the MNHP with the remaining species of concern being classified as sensitive or without classification. Sensitive animal species of concern are the Brewer's Sparrow, Westslope Cutthroat Trout, Gray Wolf, and Wolverine. Sensitive plant species of concern are the Sapphire Rockcress, Small-flowered Pennycress, Lemhi Beardtongue, and Hall's Rush. Unclassified animals are the Grasshopper Sparrow and Black Rosy-Finch. The unclassified plant is the Slender Fleabane.

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

The current permitting action would have a minor impact on the environmental resources of water, air, and energy. Water will be required for fugitive dust suppression. Electrical energy for the project would be provided by diesel-fired generator/engines. Line power is available near the site; however, this line does not have sufficient power to support all the exploration activities.

I. Historical and Archaeological Sites

The proposed project would involve the disturbance of 76 acres. The Department contacted the Montana Historical Society, State Historical Preservation Office (SHPO) during the initial permitting for the BHJV project in an effort to identify any historical and archaeological sites that may be present in the area of operation. Search results concluded that there are several previously recorded sites near the designated project area. The proposed site is in the area of the historic Highland Mine; however, few if any of the original structures remain and the proposed new portal and waste rock dump would not be located near the historic shafts and adits.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the physical and biological environment in the immediate area would be minor because this permitting action adds equipment to an existing facility. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #4449-03. BHJV has demonstrated through an ambient air modeling analysis that the potential emissions expected from operating the facility at its maximum throughput on a continuous basis would not violate ambient air quality standards. Therefore, the MAQP is written to reflect the expected emissions from operating continuously at the maximum rate. BHJV may be restricted on annual throughput by other government jurisdictions which would limit ore production to a level less than described in the MAQP.

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

The current permitting action would have no impact on the social structures and mores and cultural diversity and uniqueness because the action increases production limits and adds equipment to an existing facility. There would be no change to the nature of the operations due to this permitting action.

- C. Local and State Tax Base and Tax Revenue

The project would have a minor effect on the local and state tax base and revenue due to the taxes generated from the purchase of supplies to support the new equipment. There are no planned increases in employees associated with this project.

- D. Agricultural or Industrial Production

The project would result in a minor impact to the agricultural production because additional potential grazing land will be cleared for the project. A fence would be constructed around the ventilation raise upon its completion to secure this mine entry consistent with mining safety regulations. In addition to providing security, this would also prevent cattle from grazing in the enclosed area. Industrial production would be increased by the proposed project due to increased production rates at the mine.

- E. Human Health

There would be minor effects on human health due to the slight increase in emissions of air pollutants. However, MAQP #4449-03 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. BHJV has demonstrated with ambient air modeling that emissions from the proposed project would not violate any ambient air quality standards which are 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 project would not have an impact to the access to recreational and wilderness activities because no road closures will occur and the site would be located on private property. The project would have a minor impact on the quality of recreational and wilderness activities due to the slight increase in emissions of air pollutants and the noise generated by the equipment.

- G. Quantity and Distribution of Employment
- H. Distribution of Population

The project would not have an impact on the quantity and distribution of employment or population because no new employees are expected to be hired and there are no plans to house workers onsite.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permits from government agencies. In addition, the permitted source of emissions would be subject to periodic inspections by government personnel. The project would use existing roads to access the site. Demands for government services would be minor.

J. Industrial and Commercial Activity

The project would have a minor impact on industrial and commercial activity from the increase in production at the facility.

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. The proposed project location is outside of the Butte PM₁₀ nonattainment area and no effects to the nonattainment area are expected from this project.

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 project would result in a slight increase in industrial process in the area. The Department believes that BHJV would be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #4449-03.

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 underground gold ore mine. MAQP #4449-03 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, Montana Department of Environmental Quality – Hard Rock Mining 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: Ed Warner
Date: September 14, 2011