



Montana Department of
ENVIRONMENTAL **Q**UALITY

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December 28, 2010

Mr. John Parks
Barretts Minerals, Inc.
Regal Mine
8625 MT Hwy 92 South
Dillon, MT 59725

Dear Mr. Parks:

Montana Air Quality Permit #3086-01 is deemed final as of December 28, 2010, by the Department of Environmental Quality (Department). This permit is for operation of a talc mine. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Deanne Fischer, P.E.
Environmental Engineer
Air Resources Management Bureau
(406) 444-3403

VW:DF
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #3086-01

Barretts Minerals, Inc.
Regal Mine
8625 MT Hwy 92 South
Dillon, MT 59725

December 28, 2010



MONTANA AIR QUALITY PERMIT

Issued to: Barretts Minerals, Inc.
Regal Mine
8625 MT Hwy 91 South
Dillon, MT 59725

MAQP: #3086-01
Administrative Amendment (AA) Request
Received: 06/02/2010
Department Decision on AA: 12/09/2010
Permit Final: 12/28/2010
AFS#: 057-0013

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Barretts Minerals, Inc. Regal Mine (Barretts Regal Mine), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8. 740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Barretts Regal Mine operates a talc mine located at the N½, NW¼ of Section 2, Township 8 South, Range 7 West, Madison County, Montana. A list of permitted equipment is contained in Section I of the Permit Analysis.

B. Current Permit Action

On June 2, 2010, the Department of Environmental Quality (Department) received a request to add a 180 horsepower (hp) John Deere diesel-fueled generator at the Barretts Regal Mine. The additional equipment will not result in the increase of any pollutant emissions by 5 tons or greater per year. Therefore, the generator is being added as a de minimis change in accordance with ARM 17.8.745. The current permit action will add the new equipment to the list of permitted equipment and update the permit to reflect current permit language and rule references used by the Department.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Barretts Regal Mine shall not cause or authorize emissions to be discharged into the outdoor atmosphere, from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
2. All visible emissions from any Standards of Performance for New Stationary Source (NSPS) – affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart OOO):
 - a. For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity
 - b. For crushers that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 15% opacity

3. All visible emissions from any NSPS-affected equipment, other than a crusher (such as screens and conveyors), shall not exhibit an opacity in excess of the following averaged over six consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart OOO):
 - a. For equipment that commences construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
 - b. For equipment that commences construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 10% opacity
4. Maximum ore production at Barretts Regal Mine shall be limited to 200,000 tons during any twelve (12) month rolling period (ARM 17.8.749).
5. Maximum waste production at Barretts Regal Mine shall be limited to 3,500,000 tons during any twelve (12) month rolling period (ARM 17.8.749).
6. The 180-hp engine/generator shall be compliant with EPA non-road compression-ignition engine Tier 3 (at minimum) emission standards for all pollutants for the same model year and maximum engine power (ARM 17.8.749).
7. Barretts Regal Mine shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
8. Barretts Regal Mine shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.7 (ARM 17.8.749)
9. Barretts Regal Mine shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
10. Barretts Regal Mine shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving the maximum production rate, but not later than 180 days after initial start up, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures as specified in 40 CFR Part 60.675 must be performed on any NSPS-affected equipment, to demonstrate compliance with the emission limitations contained in Sections II.A.2 and II.A.3 (ARM 17.8.340, 40 CFR 60, Subpart A and Subpart OOO).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require further testing (ARM 17.8.105).

C. Operational and Emission Inventory Reporting Requirements

1. Barretts Regal Mine shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

2. Barretts Regal Mine shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745 (1) that would include the *addition of a new emissions unit*, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
3. All records compiled in accordance with this permit must be maintained by Barretts Regal Mine as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
4. Barretts Regal Mine shall document, by month, the ore and waste production at the facility. By the 25th day of each month, Barretts Regal Mine shall total the ore and waste production for the previous month. This monthly information will be used to verify compliance with the rolling 12-month limitations in Sections II.A.4 and 5. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

D. Notification

Barretts Regal Mine shall supply the Department the following notification (ARM 17.8.749).

1. Anticipated date of initial start up of any NSPS Subpart OOO affected facilities postmarked not more than 60 days nor less than 30 days prior to such date (ARM 17.8.749).
2. Actual date of initial start up of any NSPS Subpart OOO affected facilities

postmarked within 15 days after such date (ARM 17.8.749).

3. Make, model, year of manufacture, and date of installation of any equipment (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection - Barretts Regal Mine shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections, surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Barretts Regal Mine fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Barretts Regal Mine of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.740, et seq. (ARM 17.8.756).
- D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, et seq., MCA.
- E. Appeals - Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Permit Fees - Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Barretts Regal Mine may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.
- H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

Montana Air Quality Permit (MAQP) Analysis
Barretts Minerals, Inc. Regal Mine
MAQP #3086-01

I. Introduction/ Process Description

Barretts Minerals, Inc. Regal Mine (Barretts Regal Mine) owns and operates a talc mine located at the N½, NW¼ of Section 2, Township 8 South, Range 7 West in Madison County, Montana. This mine is located along Sweetwater Road approximately 11 miles east-southeast of Dillon, Montana.

A. Permitted Equipment

The current permit will allow Barretts Regal Mine to drill, blast, crush, screen, and stockpile talc. Originally, Barretts Regal Mine did not have any equipment on site. The operation at the site now includes a 180 horsepower (hp) diesel fueled Tier 3 engine/generator and a 200 kilowatt (kw) diesel fueled emergency engine/generator.

B. Source Description

Barretts Regal Mine, a talc mine, has been undergoing exploration and development activities since 1972. The talc is drilled and blasted from the mine and hauled to the Barretts Mill Complex for processing. This permit covers the operations of the facility. Operations include blasting, drilling, crushing, screening, and conveying of material. Emissions are also generated from diesel generators, bulk loading, stockpiles, diesel vehicle exhaust, and haul and access roads.

C. Permit History

On March 7, 2000, the Department of Environmental Quality (Department) received a completed application from Barretts Regal Mine to operate a talc mine. **MAQP #3086-00** was issued final on May 6, 2000 to Barretts Regal Mine.

D. Current Permit Action

On June 2, 2010, the Department received a request for the addition of a Tier 3, 180-hp diesel engine/generator. The current permit action will add the diesel engine/generator to the list of permitted equipment and update the permit to reflect the current permit language and rule references used by the Department. **MAQP #3086-01** replaces MAQP #3086-00.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations which apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available upon request from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101, Definitions. This section includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105, Testing Requirements. Any person or persons responsible for the emissions of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary, using methods approved by the Department.
3. ARM 17.8.106, Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Barretts Regal Mine shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Testing Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110, Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation, or to continue for a period greater than 4 hours.
5. ARM 17.8.111, Circumvention. (1) No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance..

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.210, Ambient Air Quality Standards for Sulfur Dioxide,
2. ARM 17.8.211, Ambient Air Quality Standards for Nitrogen Dioxide,

3. ARM 17.8.212, Ambient Air Quality Standards for Carbon Monoxide,
4. ARM 17.8.213, Ambient Air Quality Standard for Ozone,
5. ARM 17.8.214, Ambient Air Quality Standard for Hydrogen Sulfide,
6. ARM 17.8.220, Ambient Air Quality Standard for Settled Particulate Matter,
7. ARM 17.8.221, Ambient Air Quality Standard for Visibility,
8. ARM 17.8.222, Ambient Air Quality Standard for Lead, and
9. ARM 17.8.223, Ambient Air Quality Standard for PM₁₀.

Barretts Regal Mine must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304, Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after Nov. 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308, Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Barretts Regal Mine shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309, Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310, Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322, Sulfur Oxide Emissions--Sulfur in Fuel. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.
6. ARM 17.8.324(3), Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340, Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Barretts Regal Mine is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.

- a. 40 CFR 60, Subpart A – General Provisions. apply to all equipment or facilities subject to an NSPS Subpart as listed below:
 - b. 40 CFR 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing/screening plant to be subject to NSPS requirements, two specific criteria must be met. First, the crushing/screening plant must meet the definition of an affected facility and, second, the equipment in question must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Barretts Regal Mine, at the time of issuance of MAQP #3086-01, the crushing/screening equipment to be used under MAQP #3086-01 may potentially be subject to New Source Performance Standards (NSPS) requirements (40 CFR 60, Subpart A General Provisions, and Subpart OOO, Non-Metallic Mineral Processing Plants).
 - c. 40 CFR 60, Subpart IIII- Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Owners and operators of stationary compression ignition internal combustion engines (CI ICE) that commence construction after July 11, 2005 where the stationary CI ICE are manufactured after April 1, 2006 and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by Barretts Regal Mine, the 180 hp Tier III diesel engine generator to be used under MAQP #3086-01 was constructed after April 1, 2006 and is subject to this subpart.
8. ARM 17.8.341, Standards of Performance for Hazardous Air Pollutants. The source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate.
9. ARM 17.8.342, Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Barretts Regal Mine is considered an NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts:
- a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:
 - b. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. Pursuant to 40 CFR 63.6590(a), an affected source is any existing, new, or reconstructed

stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. Pursuant to 40 CFR 63.6590(a)(2)(iii), a stationary RICE located at an area source of HAP emissions is new if construction commenced on the stationary RICE on or after June 12, 2006. Based on the information submitted by Barretts Regal Mine, the RICE equipment to be used under MAQP #3086-01 is subject to this subpart because the 180 hp Tier III diesel generator to be used under MAQP #3086-01 was constructed after April 1, 2006.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504, Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.
2. ARM 17.8.505, Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740, Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743, Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Barretts Regal Mine has a PTE greater than 25 tons per year of total PM, and PM₁₀; therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit

program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the change is considered an administrative permit change.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Barretts Regal Mine of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana,

the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801, Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications-- Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201, Definitions. (23) Major Source under Section 7412 of the Federal Clean Air Act (FCAA) is defined as any source having:
 - a) PTE > 100 tons/year of any pollutant;
 - b) PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c) PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) in a serious PM₁₀ nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #3086-01 for Barretts Regal Mine, the following conclusions were made:

- a) The facility's PTE is less than 100 tons/year for any pollutant.
- b) The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.
- c) This source is not located in a serious PM₁₀ nonattainment area.
- d) This facility is subject to an NSPS (40 CFR 60, Subpart IIII and potentially subject to Subpart OOO).
- e) This facility is subject to a current NESHAP standard (40 CFR 60, Subpart ZZZZ).
- f) This source is not a Title IV affected source, nor a solid waste combustion unit.
- g) This source is not an EPA designated Title V source.

Based on these facts, the Department determined that Barretts Regal Mine will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Barretts Regal Mine will be required to obtain a Title V Operating Permit.

III. BACT Determination

A BACT determination is required for any new or modified source. Barretts Regal Mine shall install on the new or modified source the maximum air pollution control capability which is technologically practicable and economically feasible, except that BACT shall be utilized. A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change.

IV. Emission Inventory

	Tons/year						
	TSP	PM-10	NOx	CO	VOC	SO2	
Drilling	3.75	3.75					
Blasting	1.50	0.75	4.08	16.08	5.02	0.48	
Crushing	25.00	2.50					
Screening	7.50	0.75					
Conveying	6.00	3.00					
Emergency Diesel Generator (200kw)		0.19	0.19	2.70	0.58	0.22	0.18
180 hp Tier III Diesel Generator	0.23	0.23	4.67	1.69	1.98	1.62	
Bulk Loading	0.50	0.20					
Stckpls/Wst Pl	8.75	4.38					
Haul Roads	115.52	51.99					
Access Roads	39.42	17.74					
Total	207.75	85.49	11.45	18.35	7.22	2.27	

Note: MAQP #3086-01 changed the hours of operation for the emergency generator from 8760 hrs/yr to 500 hrs/yr in

accordance with EPA Guidance Memo dated 9/6/1995. The emissions estimate was revised based on the actual size of the emergency generator (200 kw) instead of the estimated size of 65 hp. Diesel exhaust emissions were also omitted because they are associated with mobile sources (ARM 17.8.744(1)(b)).

Drilling

Holes Drilled: 5000 holes
 Hours of operation: 8760 hr/yr

TSP Emissions:

Emission Factor: 1.5 lb/hole {AP-42}
 Control Efficiency: 0%
 Calculations: 5000 holes * 1.5 lb/hole * 1 ton/2000 lb = 3.75 tons/yr

PM-10 Emissions:

Emission Factor: 0.75 lb/hole {AP-42}
 Control Efficiency: 0%
 Calculations: 5000 holes * 0.8 lb/hole * 1 ton/2000 lb = 1.88 tons/yr

Blasting

Number of Blasts: 60 blasts
 Hours of Operation: 8760 hr/yr
 480 ton ANFO/yr or 8 ton ANFO/blast

TSP Emissions:

Emission Factor: 50 lb/blast {AP-42}
 Control Efficiency: 0%
 Calculations: 60 blasts * 50 lb/blast * 1 ton/2000 lb = 1.50 tons/yr

PM-10 Emissions:

Emission Factor: 25 lb/blast {AP-42}
 Control Efficiency: 0%
 Calculations: 60 blasts * 25 lb/blast * 1 ton/2000 lb = 0.75 tons/yr

SO2 Emissions:

Emission Factor: 2 lb/ton ANFO {AP-42, Table 13.3-1, 1/95}
 Control Efficiency: 0%
 Calculations: 480 ton ANFO/yr * 2 lb/ton ANFO * 1 ton/2000 lb = 0.48 tons/yr

NOx Emissions:

Emission Factor: 17 lb/ton ANFO {AP-42, Table 13.3-1, 1/95}
 Control Efficiency: 0%
 Calculations: 480 ton ANFO/yr * 17 lb/ton ANFO * 1 ton/2000 lb = 4.08 tons/yr

CO Emissions;

Emission Factor: 67 lb/ton ANFO {AP-42, Table 13.3-1, 1/95}
 Control Efficiency: 0%
 Calculations: 480 ton ANFO/yr * 67 lb/ton ANFO * 1 ton/2000 lb = 16.08 tons/yr

VOC Emissions:

Emission Factor: 20.9 lb/ton ANFO {AP-42, Table 13.3-1, 1/95}

Control Efficiency: 0%
Calculations: 480 ton ANFO/yr * 21 lb/ton ANFO * 1 ton/2000 lb = 5.02 tons/yr

Crushing

Processed Ore: 200000 ton/yr
Hours of Operation: 8760 hr/yr

TSP Emissions:

Emissions Factor: 0.5 lb/ton {AP-42, Table 11.24-2}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.5 lb/ton 1 ton/2000 lb = 50.00 ton/yr
50.00 ton/yr * (1.00-0.50) = 25.00 ton/yr

PM-10 Emissions:

Emissions Factor: 0.05 lb/ton {AP-42, Table 11.24-2}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.05 lb/ton 1 ton/2000 lb = 5.00 ton/yr
50.00 ton/yr * (1.00-0.50) = 2.50 ton/yr

Screening

Processed Ore: 200000 ton/yr
Hours of Operation: 8760 hr/yr

TSP Emissions:

Emissions Factor: 0.15 lb/ton {AP-42, Table 11.19.2-2}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.15 lb/ton 1 ton/2000 lb = 15.00 ton/yr
50.00 ton/yr * (1.00-0.50) = 7.50 ton/yr

PM-10 Emissions:

Emissions Factor: 0.015 lb/ton {AP-42, Table 11.19.2-2}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.015 lb/ton 1 ton/2000 lb = 1.50 ton/yr
50.00 ton/yr * (1.00-0.50) = 0.75 ton/yr

Conveying

Conveyed Ore: 200000 ton/yr
Hours of Operation: 8760 hr/yr

TSP Emissions:

Emissions Factor: 0.12 lb/ton {AP-42, Table 11.24-2}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.12 lb/ton 1 ton/2000 lb = 12.00 ton/yr
50.00 ton/yr * (1.00-0.50) = 6.00 ton/yr

PM-10 Emissions:

Emissions Factor: 0.06 lb/ton {AP-42, Table 11.24-2}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.06 lb/ton 1 ton/2000 lb = 6.00 ton/yr

$$50.00 \text{ ton/yr} * (1.00-0.50) = 3.00 \text{ ton/yr}$$

Diesel Generator (Emergency, 200 kw = 349 hp)

Hours of operation: 500 hr/yr
Number of Generators 1 Generator

TSP Emissions

Emission Factor: 0.0022 lbs/hp-hr (AP-42, Table 3.3-1)
Calculations: 0.0022 lbs/hp-hr * 500 hr/yr * 268 hp * 0.0005 tons/lb = 0.19 tons/yr

PM-10 Emissions:

Emission Factor: .0022 lbs/hp-hr (AP-42, Table 3.3-1)
Calculations: 0.0022 lbs/hp-hr * 500 hr/yr * 349 hp * 0.0005 tons/lb = 0.19 tons/yr

NOx Emissions:

Emission Factor: 0.0031 lbs/hp-hr (AP-42, Table 3.3-1)
Calculations: 0.0031 lbs/hp-hr * 500 hr/yr * 349 hp * 0.0005 tons/lb = 2.70 tons/yr

VOC Emissions:

Emission Factor: .00251 lbs/hp-hr (AP-42, Table 3.3-1)
Calculations: .00251 lbs/hp-hr * 500 hr/yr * 349 hp * 0.0005 tons/lb = 0.22 tons/yr

CO Emissions:

Emission Factor: 0.00668 lbs/hp-hr (AP-42, Table 3.3-1)
Calculations: 0.00668 lbs/hp-hr * 500hr/yr * 349 hp * 0.0005 tons/lb = 0.58 tons/yr

SOx Emissions:

Emission Factor: 0.00205 lbs/hp-hr (AP-42, Table 3.3-1)
Calculations: 0.00205 lbs/hp-hr * 500 hr/yr * 349 hp * 0.0005 tons/lb = 0.18 tons/yr

Diesel Generator (180 hp – Tier III)

Hours of operation: 8760 hr/yr
Number of Generators 1 Generator

$$180 \text{ hp} * 0.746 \text{ kw/hp} = 134 \text{ kw}$$

TSP Emissions

Emission Factor: 0.18 g/kw-hr (manufacturer's data) * 0.0022 lbs/g = 0.000397 lbs/kw-hr
Calculations: 0.000397 lbs/kw-hr * 134 kw * 8760 hr/yr * 0.0005 tons/lb = 0.23 tons/yr

PM-10 Emissions:

Emission Factor: 0.18 g/kw-hr (manufacturer's data) * 0.0022 lbs/g = 0.000397 lbs/kw-hr
Calculations: 0.000397 lbs/kw-hr * 134 kw * 8760 hr/yr * 0.0005 tons/lb = 0.23 tons/yr

NOx Emissions:

Emission Factor: 3.6 g/kw-hr (manufacturer's data) * 0.0022 lbs/g = 0.0079 lbs/kw-hr
Calculations: 0.0079 lbs/kw-hr * 134 kw * 8760 hr/yr * 0.0005 tons/lb = 4.67 tons/yr

VOC Emissions:

Emission Factor: 0.0025 lbs/hp-hr (AP-42, Table 3.3 Table 3.3-1, TOC, Exhaust+crankcase)
Calculations: 0.0025 lbs/hp-hr * 180 hp * 8760 hr/yr * 0.0005 tons/lb = 1.98 tons/yr

CO Emissions:

Emission Factor: 1.3 g/kw-hr (manufacturer's data) * 0.0022 lbs/g = 0.000287 lbs/kw-hr
Calculations: 0.000287 lbs/kw-hr * 134 kw * 8760 hr/yr * 0.0005 tons/lb = 1.69 tons/yr

SOx Emissions:

Emission Factor: 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1)
Calculations: 0.00205 lbs/hp-hr * 180 hp * 8760 hr/yr * 0.0005 tons/lb = 1.62 tons/yr

Bulk Loading

Processed Ore: 200000 ton/yr
Hours of Operation: 8760 hr/yr

TSP Emissions:

Emissions Factor: 0.01 lb/ton {AP-42, Section 8.23}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.01 lb/ton 1 ton/2000 lb = 1.00 tons/yr
1.000 tons/yr * (1.00-0.50) = 0.50 tons/yr

PM-10 Emissions:

Emissions Factor: 0.004 lb/ton {AP-42, Section 8.23}
Control Efficiency: 50%
Calculations: 200000 ton/yr * 0.004 lb/ton 1 ton/2000 lb = 0.40 tons/yr
0.400 tons/yr * (1.00-0.50) = 0.20 tons/yr

Stockpiles/Waste Pile

Stockpiled Ore: 3,500,000 tons/yr
Hours of Operation: 8760 hr/yr

TSP Emissions:

Emissions Factor: 0.01 lb/ton {AP-42}
Control Efficiency: 0%
Calculations: 3500000 tons/yr * 0.01 lb/ton 1 ton/2000 lb = 17.50 tons/yr
17.50 tons/yr * (1.00 - 0.50) = 8.75

PM-10 Emissions:

Emissions Factor: 0.005 lb/ton {AP-42}
Control Efficiency: 0%
Calculations: 3500000 tons/yr * 0.005 lb/ton 1 ton/2000 lb = 8.75 tons/yr
8.75 tons/yr * (1.00 - 0.50) = 4.38

Haul Roads

Vehicle miles traveled: 211 VMT/day {Estimated}
Control Efficiency: 50% for watering

TSP Emissions:

TSP Emission Factor (Rated Load Capacity <50 tons): 6 Lbs/VMT

$$E(\text{TSP}) = (211 \text{ VMT/day})(6.00 \text{ Lbs/VMT})(0.5) = 633.00 \text{ Lbs/day or } 115.52 \text{ tons/yr}$$

PM10 Emissions:

PM10 Emission Factor is determined by AQD policy dated 4/25/94:

PM10 Emission Factor (Rated Load Capacity <50 tons): 2.70 Lbs/VMT

$$E(\text{PM10}) = (211 \text{ VMT/day})(2.70 \text{ Lbs/VMT})(0.5) = 284.85 \text{ Lbs/day or } 51.99 \text{ tons/yr}$$

Access Roads

Vehicle miles traveled: 72 VMT/day {Estimated}

Control Efficiency: 50% for watering

TSP Emissions:

TSP Emission Factor (Rated Load Capacity <50 tons): 6 Lbs/VMT

$$E(\text{TSP}) = (72 \text{ VMT/day})(6.00 \text{ Lbs/VMT})(0.5) = 216.00 \text{ Lbs/day or } 39.42 \text{ tons/yr}$$

PM10 Emissions:

PM10 Emission Factor is determined by AQD policy dated 4/25/94:

PM10 Emission Factor (Rated Load Capacity <50 tons): 2.70 Lbs/VMT

$$E(\text{PM10}) = (72 \text{ VMT/day})(2.70 \text{ Lbs/VMT})(0.5)$$

$$E(\text{PM10}) = 97.20 \text{ Lbs/day or } 17.74 \text{ tons/yr}$$

V. Existing Air Quality

Barretts Regal Mine is located approximately 12 miles southeast of Dillon, Montana. The air quality in this areas is currently attainment or unclassified for all pollutants.

VI. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?

	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

VII. Environmental Assessment

This permitting action will not result in an increase of emissions from the facility and is considered an administrative action; therefore, an Environmental Assessment is not required.

Analysis Prepared By: Deanne Fischer
Date: December 1, 2010