



Montana Department of  
**ENVIRONMENTAL QUALITY**

Brian Schweitzer, Governor

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April 13, 2009

Crazy Mountain Rock, Inc  
Mr. Dan Bates  
PO Box 10337  
Bozeman, MT 59719

Dear Mr. Bates:

Montana Air Quality Permit #2733-03 is deemed final as of April 11, 2009, by the Department of Environmental Quality (Department). This permit is for a portable sand and gravel facility. 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

Shawn Juers  
Environmental Engineer  
Air Resources Management Bureau  
(406) 444-2049

VW:SJ  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Air Quality Permit #2733-03

Crazy Mountain Rock, Inc  
PO Box 10337  
Bozeman, MT 59719

April 11, 2009



## MONTANA AIR QUALITY PERMIT

Issued To: Crazy Mountain Rock, Inc.  
PO Box 10337  
Bozeman, MT 59719

MAQP: # 2733-03  
Administrative Amendment (AA) Request  
Received: 01/28/09  
Department Decision on AA: 3/25/2009  
Permit Final: 4/11/2009  
AFS: 777-2733

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Crazy Mountain Rock, Inc. (Crazy Mountain) pursuant to Section 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

Crazy Mountain operates a portable screening facility, which will be initially located at Section 35, Township 1 South, Range 10 East, in Park County, Montana. However, MAQP #2733-03 applies while operating in any location in Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or, areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County.* An addendum will be required for locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas. A complete list of the permitted equipment is contained in the permit analysis.

#### B. Current Permit Action

On January 28<sup>th</sup> 2009, the Department received a letter requesting the transfer of MAQP #2733-02 from Livingston Sand and Gravel, Inc to Crazy Mountain. In addition, Crazy Mountain requested that the crushers be removed from the permitted equipment and requested a de-minimis increase in production limitations on the remaining equipment. The current permit action is to transfer the permit from Livingston Sand and Gravel, Inc to Crazy Mountain pursuant to ARM 17.8.765. The current permit action also updates the permit to reflect current permit language and rule references used by the Department, removes equipment from the permit as requested, and updates the emissions inventory to reflect the de-minimis increase, and to use more recently published emissions factors.

### Section II: Conditions and Limitations

#### A. Emission Limitations

1. Crazy Mountain 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 and ARM 17.8.752).
2. Water and spray bars shall be available on site at all times and operated as needed to maintain compliance with the opacity limitations in Section II.A.1 (ARM 17.8.749).

3. Crazy Mountain 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).
4. Crazy Mountain shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.3 (ARM 17.8.749).
5. Total drying operation shall be limited to 118,140 tons during any rolling 12-month time period (ARM 17.8.749).
6. Screening operation is limited to 669,460 tons during any rolling 12-month time period (ARM 17.8.749).
7. Crazy Mountain shall not operate more than three screens at any given time and the maximum combined rated capacity of the screens shall not exceed 170 TPH (ARM 17.8.749).
8. Crazy Mountain shall not operate more than one diesel-powered engine/generator and the horsepower (hp) for the engine/generator shall not exceed 100 hp (ARM 17.8.749).
9. Operation of the facility shall not exceed 3938 hours during any rolling 12-month time period (ARM 17.8.749).
10. If the permitted equipment is used in conjunction with any other equipment owned or operated by Crazy Mountain, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12 month period. Any calculations used to establish production levels shall be approved by the Department (ARM17.8.749).

B. Testing Requirements

1. Crazy Mountain 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 (ARM 17.8.105).
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 Reporting Requirements

1. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Crazy Mountain shall supply the Department with annual production information for all emission points, as required by the Department in the annual emissions 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 for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Crazy Mountain shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, 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 startup 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).
4. Crazy Mountain shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Crazy Mountain as a permanent business record for at least 5-years following the date of the measurement, shall be submitted to the Department upon request, and shall be available at the plant site for inspection by the Department (ARM 17.8.749).
5. Crazy Mountain shall document, by month, the dryer production of the facility. By the 25<sup>th</sup> day of each month, Crazy Mountain shall total the dryer production of the facility during the previous month. The monthly information will be used to verify compliance with the limitation in Section II.A.5. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
6. Crazy Mountain shall document, by month, the screening production from the facility. By the 25<sup>th</sup> day of each month, Crazy Mountain shall calculate the screening production from the facility during the previous month. The monthly information will be used to verify compliance with the limitation in Section II.A.6. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
7. Crazy Mountain shall document, by month, the hours of operation of the drying/screening facility. By the 25<sup>th</sup> day of each month, Crazy Mountain shall total the hours of operation of the facility during the previous month. The monthly information will be used to verify compliance with the limitation in Section II.A.9. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).

Section III: General Conditions

- A. Inspection – Crazy Mountain shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting

samples, obtaining data, auditing any monitoring equipment (continuous emission monitoring systems (CEMS), continuous emission rate monitoring systems (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 Crazy Mountain fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving the permittee 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 therefore, 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 Fee - Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Crazy Mountain 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).
- I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.
- J. Crazy Mountain shall comply with the conditions contained in this permit while operating in any location in the state of Montana, except within those areas having a Department approved permitting program or areas considered tribal lands.

PERMIT ANALYSIS  
Crazy Mountain Rock, Inc.  
MAQP #2733-03

I. Introduction/Process Description

A. Permitted Equipment

Crazy Mountain Rock, Inc. (Crazy Mountain) operates a portable washing/screening facility including three screens with a maximum combined rated capacity of 170 tons per hour (TPH), a 30 TPH Drum Dryer, a 100 horsepower (hp) diesel-powered engine/generator, and associated equipment.

B. Process Description

The screening plant will be used sort sand and gravel materials for sale and use in construction operations. For a typical operational setup, material is conveyed to a screening operation. Material is sorted into various piles, with sand being further washed and conveyed to a dryer and screen and onto a stockpile.

C. Permit History

On June 22, 1992, Eggar, Inc., was issued Montana Air Quality Permit (**MAQP #2733-00**) for the operation of a portable 1950 Traylor 8" cone crusher (maximum capacity 70 TPH); a 1940 10"x36" Universal jaw crusher (maximum capacity 20 TPH); a 1944 30" x 24" Universal roll crusher (maximum capacity 30 TPH); a 1960 Hewitt Robbins 4'x12' 2-deck screen (maximum capacity 60 TPH); a 1963 Simplicity 4'x13' screen (maximum capacity 80 TPH); and associated equipment.

**MAQP #2733-01** was issued July 24, 2001, as an alteration for the addition of a 1962 Barber Green (4'x12') 2-deck screen (maximum capacity 30 TPH), a 1962 Barber Green (33"x14') drum dryer (maximum capacity 15 TPH), a 1960 30 kW Caterpillar diesel generator, and two conveyors. The permit was also updated to reflect the current format used for writing permits. MAQP #2733-01 replaced MAQP #2733-00.

**MAQP #2733-02** was issued on October 19, 2002, as a modification to change the permit name from Eggar, Inc. to Livingston Sand and Gravel Inc (Livingston). Livingston submitted a letter requesting the change on September 3, 2002. MAQP #2733-02 replaced MAQP #2733-01.

D. Current Permit Action

On January 28<sup>th</sup> 2009, the Department of Environmental Quality (Department) received a letter requesting the transfer of MAQP #2733-02 from Livingston Sand and Gravel, Inc to Crazy Mountain. The current permit action is to transfer the permit from Livingston Sand and Gravel, Inc to Crazy Mountain pursuant to the Administrative Rules of Montana (ARM) 17.8.765. The current permit action also updates the permit to reflect current permit language and rule references used by the Department, removes equipment from the permit as requested, and updates the emissions inventory with more recently published emissions factors. **MAQP #2733-03** replaces MAQP #2733-02

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, are included in the initial analysis associated with each change to the permit

II. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the 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 rule 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 emission 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).  
  
Crazy Mountain 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 Test 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 that, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that 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:

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 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.223 Ambient Air Quality Standard for PM<sub>10</sub>

Crazy Mountain must comply 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 November 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 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Crazy Mountain 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 17.8.310 Particulate matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
4. 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). This facility is not an NSPS affected source because it does not meet the definition of any NSPS subpart defined in 40 CFR Part 60.

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. Crazy Mountain shall 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.
3. 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. This 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 pro-rate 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 asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. Crazy Mountain has a PTE greater than 15 tons per year of Particulate Matter (PM); 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. (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 permit change is considered an administrative permit change.
  5. 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.
  6. ARM 17.8.745 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.
  7. 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.

8. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Crazy Mountain 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.*
  9. ARM 17.8.759. 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.
  10. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this sub-chapter, 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, that in no event may be less than 1-year after the permit is issued.
  11. 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).
  12. 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.
  13. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) 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 sub-chapter.
  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 Federal Clean Air Act (FCCA) that it would emit, except as this sub-chapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and does not have the potential to emit more than 250 tons per year of any air 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 FCCAA is defined as any stationary source having:
  - a. Potential to Emit (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. Sources with PTE > 70 tons/year of PM<sub>10</sub> in a serious PM<sub>10</sub> nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCCAA 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 #2733-03 for Crazy Mountain, 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 PM<sub>10</sub> nonattainment area.
  - d. This facility is not subject to a current NSPS.
  - e. This facility is not subject to any current NESHAP standards.
  - f. This source is not a Title IV affected source or a solid waste combustion unit.
  - g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that this facility is not subject to the Title V Operating Permit Program .

### III. Emission Inventory

<b>Source</b>	<b>PM</b>	<b>PM10</b>	<b>NOX</b>	<b>VOC</b>	<b>CO</b>	<b>SOX</b>
Agregate Dryer (30 TPH)	118.14	41.11	1.83			
Screen (80 TPH)	1.97	0.69				
Screen (30 TPH)	0.74	0.26				
Screen (60 TPH)	1.48	0.51				
Material Transfer (14 transfers)	3.31	1.21				
Pile Forming	0.06	0.03				
Bulk Loading	0.06	0.03				
Deisel Generator	0.43	0.43	6.10	0.49	1.32	0.41
Haul Roads	3.06	0.35				
<b>Total</b>	<b>129.25</b>	<b>44.62</b>	<b>7.93</b>	<b>0.49</b>	<b>1.32</b>	<b>0.41</b>

**Dryer  
(SCC 3-05-027-20, uncontrolled)**

Process Rate 30.0000 tons/hr  
Hours of operation 3938.0000 hrs

PM Emissions:

Emission Factor: 2.0000 lb/ton (AP-42 Table 11.19.1-1, 11/1995)  
Calculations: 2 lb/ton \* 30 tons/hr = 60.0000 lb/hr  
60 lb/hr \* 3938 hrs \* 0.0005 lb/ton = **118.1400 ton/yr**

PM 10 Emissions:

Emission Factor: 0.6960 lb/ton (Assumed PM10/PM of Screening AP-42 Values)  
Calculations: 0.696 lb/ton \* 30 tons/hr = 20.8800 lb/hr  
20.88 lb/hr \* 3938 hrs \* 0.0005 lb/ton = **41.1127 ton/yr**

NOx Emissions:

Emissions Factor: 0.0310 lb/ton (AP-42 Table 11.19.1-1, 11/1995)  
Calculations: 0.031 lb/ton \* 30 tons/hr = 0.9300 lb/hr  
0.93 lb/hr \* 3938 hrs \* 0.0005 lb/ton = **1.8312 ton/yr**

**Screening - water spray control of 50%  
(SCC 3-05-020-02, 03)**

1963 Screen (80 TPH)

Process Rate 80.0000 tons/hr  
Hours of Operation 3938.0000

PM Emissions:

Control Efficiency: 50.0% water Spray  
Emissions Factor: 0.0250 lb/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations: 0.025 lb/ton \* 80 tons/hr \* 50% = 1.0000 lb/hr  
1 lb/hr \* 3938 hrs \* 0.0005 lb/ton \* 50% = **1.9690 ton/yr**

PM 10 Emissions:

Emissions Factor: 0.0087 lb/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations: 0.0087 lb/ton \* 0.025 lb/ton \* 80 tons/hr \* 50 = 0.3480 lb/hr  
0.348 lb/hr \* 3938 hr \* 0.0005 lb/ton = **0.6852 ton/yr**

1960 Screen (60 TPH)

Process Rate 60.0000 tons/hr  
Hours of Operation 3938.0000

PM Emissions:

Emissions Factor: 0.0250 lb/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations:  $0.025 \text{ lb/ton} * 60 \text{ tons/hr} * 50\% = 0.7500 \text{ lb/hr}$   
 $0.75 \text{ lb/hr} * 3938 \text{ hrs} * 0.0005 \text{ lb/ton} = \mathbf{1.4768 \text{ ton/yr}}$

PM 10 Emissions:

Emissions Factor: 0.0087 lb/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations:  $0.0087 \text{ lb/ton} * 0.025 \text{ lb/ton} * 60 \text{ tons/hr} * 50 = 0.2610 \text{ lb/hr}$   
 $0.261 \text{ lb/hr} * 3938 \text{ hr} * 0.0005 \text{ lb/ton} = \mathbf{0.5139 \text{ ton/yr}}$

1963 Screen (30 TPH)

Process Rate 30.0000 tons/hr  
Hours of Operation 3938.0000

PM Emissions:

Emissions Factor: 0.0250 lb/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations:  $0.025 \text{ lb/ton} * 30 \text{ tons/hr} * 50\% = 0.3750 \text{ lb/hr}$   
 $0.375 \text{ lb/hr} * 3938 \text{ hrs} * 0.0005 \text{ lb/ton} = \mathbf{0.7384 \text{ ton/yr}}$

PM 10 Emissions:

Emissions Factor: 0.0087 lb/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations:  $0.0087 \text{ lb/ton} * 30 \text{ tons/hr} * 50\% = 0.1305 \text{ lb/hr}$   
 $0.1305 \text{ lb/hr} * 3938 \text{ hr} * 0.0005 \text{ lb/ton} = \mathbf{0.2570 \text{ ton/yr}}$

**Material Transfer - water spray control of 50% (4 transfers)  
(SCC 3-05-020-06, uncontrolled)**

Process Rate: 80.0000 tons/hr  
Number of Transfers 14.0000 Transfers  
Hours of operation: 3938.0000 hr/yr or 24.0000 hr/day

PM Emissions:

Emission Factor: 0.0030 lbs/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations:  $80 \text{ tons/hr} * 0.003 \text{ lbs/ton} * 50\% * 14 = 1.6800 \text{ lbs/hr}$   
 $1.68 \text{ lbs/hr} * 3938 \text{ hrs} * 0.0005 \text{ lb/ton} = \mathbf{3.3079 \text{ tons/yr}}$

PM-10 Emissions:

Emission Factor: 0.0011 lbs/ton (AP-42 Table 11.19.2-2, 8/2004)  
Calculations:  $80 \text{ tons/hr} * 0.0011 \text{ lbs/ton} * 50\% * 14 = 0.6160 \text{ lbs/hr}$   
 $0.616 \text{ lbs/hr} * 3938 \text{ hrs} * 0.0005 \text{ lb/ton} = \mathbf{1.2129 \text{ tons/yr}}$

## Pile Forming - water spray control of 50% (1 Pile)

Process Rate: 80.0000 tons/hr  
 Hours of operation: 3938.0000 hr/yr or 24.0000 hr/day

PM Emissions:

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (pound [lb]/ton)}$$

where:  
 E = emission factor  
 k = particle size multiplier (dimensionless)  
 U = mean wind speed, meters per second (m/s) (miles per hour [mph])  
 M = material moisture content (%)

k = 0.7400 for PM  
 k = 0.3500 for PM10  
 U = 9.1000 MPH statewide average : <http://met-www.cit.cornell.edu/ccd/wndspd98.html>  
 M = 7.4000 % average moisture content for sand - AP-42 Table 13.2.4-1

PM E = 0.0008 lbs/ton  
 PM10 E = 0.0004 lbs/ton

PM Emissions:

Emission Factor: 0.0008 lbs/ton (AP 42 13.2.4, 11/06)  
 Calculations: 0.0008 lb/ton \* 80 tons/hr \* 50% = 0.0320 lbs/hr  
 0.032 lbs/hr \* 3938 hr \* 0.0005 lb/ton = **0.0630 tons/yr**

PM-10 Emissions:

Emission Factor: 0.0004 lbs/ton (AP 42 13.2.4, 11/06)  
 Calculations: 0.0004 lb/ton \* 80 tons/hr \* 50% = 0.0160 lbs/hr  
 0.016 lbs/hr \* 3938 hr \* 0.0005 lb/ton = **0.0315 tons/yr**

## Bulk Loading - water spray control of 50%

Process Rate 80.0000 tons/hr  
 Hours of operation: 3938.0000 hr/yr

PM Emissions:

Emission Factor: 0.0008 lbs/ton (AP 42 13.2.4, 11/06)  
 Calculations: 0.0008 lb/ton \* 80 tons/hr \* 50% = 0.0320 lbs/hr  
 0.032 lbs/hr \* 3938 hr \* 0.0005 lb/ton = **0.0630 tons/yr**

PM10 Emissions:

Emission Factor: 0.0004 lbs/ton (AP 42 13.2.4, 11/06)  
 Calculations: 0.0004 lb/ton \* 80 tons/hr \* 50% = 0.0160 lbs/hr  
 0.016 lbs/hr \* 3938 hr \* 0.0005 lb/ton = **0.0315 tons/yr**



## Generators - (SCC 2-02-001-02, 2-03-001-01)

### Diesel Generator: 30kw

Rated hp: 100.0000 hp  
3938.0000 hrs

#### PM Emissions - hP

Emissions Factor: 0.0022 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)  
Calculations: 0.0022 lb/hp-hr \* 100 hp = 0.2200 lb/hr  
0.22 lb/hr \* 3938 hr \* 0.0005 lb/ton = **0.4332 tons/yr**

#### PM-10 Emissions

assume all PM emissions are PM10 emissions (AP-42 Table 3.3-1, 10/1996)

0.2200 lb/hr  
**0.4332 tons/yr**

#### NO<sub>x</sub>

Emissions Factor: 0.0310 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)  
Calculations: 0.031 lb/hp-hr \* 100 hp = 3.1000 lb/hr  
3.1 lb/hr \* 3938 hr \* 0.0005 lb/ton = **6.1039 tons/yr**

#### CO

Emissions Factor: 0.0067 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)  
Calculations: 0.0067 lb/hp-hr \* 100 hp = 0.6700 lb/hr  
0.67 lb/hr \* 3938 hr \* 0.0005 lb/ton = **1.3192 tons/yr**

#### SO<sub>x</sub>

Emissions Factor: 0.0021 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)  
Calculations: 0.0021 lb/hp-hr \* 100 hp = 0.2100 lb/hr  
0.21 lb/hr \* 3938 hr \* 0.0005 lb/ton = **0.4135 tons/yr**

#### VOC

Emissions Factor: 0.0025 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)  
Calculations: 0.0025 lb/hp-hr \* 100 hp = 0.2500 lb/hr  
0.25 lb/hr \* 3938 hr \* 0.0005 lb/ton = **0.4923 tons/yr**

#### Total HAPs

Emissions Factor: 0.0037 lb/MMBTU (AP-42 Table 3.3-2, 10/1996)  
Conversion Factor: 7000.0000 BTU/hp-hr (AP-42 Table 3.3-1, 10/1996)  
Calculations: 7000 BTU/hp-hr \* 100 hp \* 0.0037 lb/MMBTU \* 10<sup>-6</sup> BTU/  
lb/hr \* 3938 hr \* 0.0005 tons/lb = **0.0051**

## Haul Roads

Vehicle Miles Traveled: 5.0000 miles/day, estimated  
Days Traveled: 164.0833

AP-42 Section 13.2.2-4, 11/2006

$$E = k (s/12)^a (W/3)^b$$

E = size-specific emission factor (lb/VMT)

s = surface material silt content (%)

W = mean vehicle weight (tons)

s = 4.8000 (AP-42 Table 13.2.2-1, 11/2006)  
W = 25.0000 tons estimated average  
PM k = 4.9000 (AP-42 Table 13.2.2-2, 11/2006)  
PM10 k = 1.5000 (AP-42 Table 13.2.2-2, 11/2006)  
PM a = 0.7000 (AP-42 Table 13.2.2-2, 11/2006)  
PM10 a = 0.9000 (AP-42 Table 13.2.2-2, 11/2006)  
PM b = 0.4500 (AP-42 Table 13.2.2-2, 11/2006)  
PM10 b = 0.4500 (AP-42 Table 13.2.2-2, 11/2006)

### PM Emissions

Emissions Factor: 6.6989 lb/VMT  
Calculations: 6.6989 lb/VMT \* 5 miles \* 50% = 16.7473 lbs/day  
16.7473 lbs/day \* 164.0833 day/yr \* 0.0005 lb/ton = **3.0564 ton/yr**

### PM10 Emissions

Emissions Factor: 1.7073 lb/VMT  
Calculations: 1.7073 lb/VMT \* 5 miles/day \* 50% = 4.2683 lbs/day  
4.2683 lbs/day \* 164.0833 day/yr \* 0.0005 lbs/ton = **0.3502 ton/yr**

## IV. BACT Analysis

A BACT determination is required for each new or modified source. Crazy Mountain shall install on new or modified sources the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized. Crazy Mountain was not subject to a BACT determination because there are no new or modified sources being permitted as part of this permit action.

## V. Existing Air Quality

MAQP #2733-03 is for the operation of a portable drying/screening plant. MAQP #2733-03 covered the operation when operating at any location within the state of Montana, excluding those areas having a Department approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain PM<sub>10</sub> nonattainment areas. An addendum will be required for locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas. In the view of the Department, the amount of controlled particulate emissions generated by this project would not cause concentrations of PM<sub>10</sub> in the ambient air that would exceed any set ambient standard. In addition, because this source is portable, any air quality impacts will be minimized.

## VI. Taking or Damaging Implication Analysis

YES	NO	
xx		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	xx	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	xx	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	xx	4. Does the action deprive the owner of all economically viable uses of the property?
	xx	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?
	xx	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	xx	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?
	xx	7a. Is the impact of government action direct, peculiar, and significant?
	xx	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	xx	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?
	xx	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.

Permit Analysis Completed by: Shawn Juers

Date: March 10, 2009