



Montana Department of
ENVIRONMENTAL **Q**UALITY

Brian Schweitzer, Governor

P. O. Box 200901

Helena, MT 59620-0901

(406) 444-2544

Website: www.deq.mt.gov

April 21, 2009

Colonel Terry Watkins
Commander, 819th RED HORSE Squadron
6944 Goddard Drive
Malmstrom AFB MT 59402-6865

Dear Mr. Watkins:

Air Quality Permit #4280-00 is deemed final as of April 21, 2009, by the Department of Environmental Quality (Department). This permit is for a portable crushing and screening facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

Conditions: See attached.

For the Department,

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

Skye Hatten, P.E.
Environmental Engineer
Air Resources Management Bureau
(406) 444-5287

VW:sh
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Air Quality Permit #4280-00

USAF 819th RED HORSE Squadron
6944 Goddard Drive
Malmstrom AFB MT 59402-6865

April 21, 2009



AIR QUALITY PERMIT

Issued To: USAF
819th RED HORSE Squadron
6944 Goddard Drive
Malmstrom AFB, MT 59402

Permit: #4280-00
Application Complete: 01/21/09
Preliminary Determination Issued: 03/02/09
Department's Decision Issued: 04/03/09
Permit Final: 04/21/09
AFS #: 777-4280

An air quality permit, with conditions, is hereby granted to USAF 819th RED HORSE Squadron (USAF) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I. Permitted Facilities

A. Permitted Equipment

USAF proposes to operate a portable crushing and screening facility and associated equipment. A complete list of the permitted equipment is contained in Section I.A of the permit analysis to Permit #4280-00.

B. Plant Location

The legal description of the initial location of the permitted USAF facility is Section 12, Township 20 North, Range 4 East, in Cascade County, Montana. Permit #4280-00 applies while operating at any location within Montana, except 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 (PM₁₀) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.

SECTION II. Conditions and Limitations

A. Emission Limitations

1. All visible emissions from any Standards of Performance for New Stationary Sources (NSPS) affected crushers shall not exhibit an opacity of 15% or greater averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
2. All visible emissions from any other NSPS-affected equipment, such as screens and conveyor transfer points, shall not exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
4. Water and spray bars shall be available on site at all times and operated as necessary to maintain compliance with the opacity limitations in Section II.A.1 II.A.2, and II.A.3 (ARM 17.8.749).
5. USAF 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).

6. USAF 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.5 (ARM 17.8.749).
7. USAF shall not operate more than two crushers at any given time and the maximum combined rated capacity of the crushers shall not exceed 120 tons per hour (TPH).
8. USAF shall not operate more than two diesel engines/generators associated with the crushers. The combined maximum rated design input capacity of the crusher engines shall not exceed 960 horsepower (hp)(ARM 17.8.749).
9. Crushing production is limited to 525,600 tons during any rolling 12-month time period (ARM 17.8.749).
10. USAF shall not operate more than one screen at any given time and the maximum rated capacity of the screen shall not exceed 60 TPH.
11. USAF shall not operate more than one diesel engine/generator associated with the screen. The maximum rated design input capacity of the screen engine shall not exceed 280 hp (ARM 17.8.749).
12. Screening production is limited to 525,600 tons during any rolling 12-month time period (ARM 17.8.749).
13. USAF shall not operate more than one diesel engine/generator associated with the water tanker. The maximum rated design input capacity of the screen engine shall not exceed 25 hp (ARM 17.8.749).
14. Operation of each diesel engine shall not exceed 4,015 hours during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
15. If the permitted equipment is used in conjunction with any other equipment owned or operated by USAF, 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 time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).
16. USAF 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).
17. USAF 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

Within 60 days after achieving maximum production, but no 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 60.675 must be performed on any NSPS affected equipment to demonstrate compliance with the emission limitations contained in Section II.A.1 and II.A.2 (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart OOO).

1. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. 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. USAF 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 not be 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. USAF 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. USAF 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 USAF 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).
5. USAF shall document, by month, the crushing production from the facility. By the 25th day of each month, USAF shall calculate the crushing production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.9. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. USAF shall document, by month, the screening production from the facility. By the 25th day of each month, USAF shall calculate the screening production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.12. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. USAF shall document, by month, the hours of operation of each diesel engine. By the 25th day of each month, USAF shall calculate the hours of operation for each diesel engine for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.14. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
8. USAF shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

1. Within 30 days of the installation date of each diesel engine, USAF shall notify the Department of the actual installation date of each engine.
2. Within 15 days of the actual start-up date of each diesel engine, USAF shall provide the Department with written notification of the actual start-up date, engine model, hp, and model year of each engine.

SECTION III. General Conditions

- A. Inspection – USAF 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 (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 USAF fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving USAF of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for 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, as amended by the 1991 Legislature, failure to pay the annual operation fee by USAF 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. USAF shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

PERMIT ANALYSIS
USAF (819th RED HORSE Squadron)
Permit #4280-00

I. Introduction/Process Description

A. Permitted Equipment

This permit is for the operation of two portable 60 tons per hour (TPH) jaw crushers with 480 horsepower (hp) engines and one portable 60 TPH screen plant with a 280 hp engine and associated equipment (including a 10,000 gallon water tanker with a 25 hp engine). At the request of the permittee, this permit has been written in a de minimis-friendly manner.

The proposed original location for the facility is in Section 12, Township 20 North, Range 4 East, in Cascade County, Montana. Permit #4280-00 will apply to the source while operating at any location in Montana, except within those areas having a Department approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum to this air quality permit will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.

B. Source Description

USAF proposes to use this crushing/screening plant and associated equipment to crush and screen sand and gravel materials for use in various construction operations. For a typical operational setup the materials are loaded into the crushing plant by a feeder, transferred by conveyor, passed through the crusher, and sent to stockpile for use in construction operations.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location 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).

USAF 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 of 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 PM₁₀

USAF 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 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.
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, USAF 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 or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. 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.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.

6. ARM 17.8.324 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 truck or trailer 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 60, Standards of Performance for New Stationary Sources (NSPS). The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, NSPS, shall comply with the standards and provisions of 40 CFR Part 60.
 - 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, Non-Metallic Mineral Processing Plants. Subjectivity to these NSPS requirements depends on the date of manufacture of the equipment and maximum capacity of the crusher(s) used for the operation. Applicability for portable sand and gravel plants is defined as a manufacture date after August 31, 1983, and a capacity greater than 150 tons per hour. Based on the information submitted by USAF, the crushing and screening facility is not an NSPS-affected facility because the capacity of the facility is less than 150 TPH. However, as this permit is written to be de minimis friendly (and the facility could become NSPS-affected as a result of the addition of a larger crusher), these requirements are included in the permit.
 - c. 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE), indicates that NSPS requirements apply to owners or operators of stationary CI ICE that commence construction, modification, or reconstruction after July 11, 2005, where the stationary CI ICE is manufactured after April 1, 2006, and is not a fire pump engine. Furthermore, CI ICE will be subject to this NSPS standard only if the engine remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. A seasonal source remains at a single location on a permanent basis (at least 2 years) and operates 3 months or more each year.
8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
 - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a Maximum Achievable Control Technology (MACT) Subpart as listed below:
 - b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). As an area source, any diesel RICE engine operated by USAF that is new or reconstructed after June 12, 2006, will be subject to this MACT standard if the engine remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. A seasonal source remains at a single location on a permanent basis (at least 2 years) and operates 3 months or more each year.

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. USAF submitted the appropriate permit application fee for the current permit action.
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 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. USAF has the potential to emit more than 15 tons per year of particulate matter (PM), nitrogen oxides (NO_x), and carbon monoxide (CO); therefore, a 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. USAF submitted the required permit application for the current permit action. (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. USAF submitted an affidavit of publication of public notice for the October 12, 2008, issue of *The Great Falls Tribune*, a newspaper of general circulation in the City of Great Falls in Cascade County, as proof of compliance with the public notice requirements.

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 USAF 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. (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 subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification--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 (FCAA) that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since it is not a listed source and the facility's potential to emit is less than 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 FCAA is defined as any stationary 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 PM₁₀ in a serious PM₁₀ nonattainment area.
 2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (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 Air Quality Permit #4280-00 for USAF, 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 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 has determined that USAF will be a minor source of emissions as defined under Title V and is not subject to Title V Operating Permit requirements because USAF requested federally enforceable limits to keep the facility below the Title V threshold.

- h. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.
 - i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.
 - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.
- 3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal by ARM 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

A BACT determination is required for each new or modified source. USAF shall install on the new or modified source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be utilized.

A. Area Source Fugitive PM/PM₁₀ Emissions and Crusher/Screen PM/PM₁₀ Emissions

Two types of emissions controls are readily available and used for dust suppression of fugitive emissions at the site, fugitive emissions for the surrounding area of operations, and for equipment emissions from the crushing/screening operation. These two control methods are water and chemical dust suppressant. Chemical dust suppressant could be used for dust suppression on the area surrounding the crushing/screening operation and for emissions from the crushing/screening operation. However, because water is more readily available, is more cost-effective, is equally effective as chemical dust suppressant, and is more environmentally friendly, water has been identified as the most appropriate method of pollution control of particulate emissions for the general plant area. In addition, water suppression has been required of recently permitted similar sources. However, USAF may use chemical dust suppressant to assist in controlling particulate emissions from the surrounding plant area where it would assist in reducing emissions of particulate matter.

USAF shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes. USAF must also take reasonable precautions to limit the fugitive emissions of airborne particulate matter from haul roads, access roads, parking areas, and the general area of operation.

USAF is required to have water spray bars and water available on site (at all times) and to apply the water, as necessary, to maintain compliance with the opacity and reasonable precaution limitations. USAF may also use chemical dust suppression to maintain compliance with emissions limitations in Section I.A of Permit #4280-00. The Department determined that using water spray bars, water, and/or chemical dust suppressant to maintain compliance with the opacity requirements and reasonable precaution limitations constitutes BACT for the crushing/screening operation.

B. Diesel Engines/Generators

Because of the limited amount of emissions produced by the diesel engines/generators and the lack of readily available and cost effective add-on controls, add-on controls would be cost prohibitive for the proposed diesel-fired engines/generators. Therefore, the Department determined that proper operation and maintenance with no additional controls constitutes BACT for the diesel engines/generators in this case.

The control options selected contain control equipment and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

IV. Emission Inventory

Source	Tons/Year					
	PM	PM ₁₀	NO _x	VOC	CO	SO _x
Jaw Crusher (up to 60 TPH)	0.31	0.13				
Jaw Crusher (up to 60 TPH)	0.31	0.13				
Screen (up to 60 TPH)	0.57	0.18				
Truck Unloading	0.00	0.00				
Material Transfer	0.18	0.06				
Pile Forming	0.83	0.39				
Bulk Loading	0.00	0.00				
Diesel Engine (Jaw Crusher, up to 480 hp)	2.09	2.09	29.75	2.43	6.40	1.95
Diesel Engine (Jaw Crusher, up to 480 hp)	2.09	2.09	29.75	2.43	6.40	1.95
Diesel Engine (Screen, up to 280 hp)	1.22	1.22	17.34	1.43	3.73	1.14
Diesel Engine (Water Tanker, up to 25 hp)	0.12	0.12	1.59	0.12	0.34	0.10
Haul Roads	12.68	3.60				
Total	20.40	10.01	78.43	6.41	16.87	5.14

A complete emission inventory for Permit #4280-00 is included below:

Operating Parameters:

Process Rate:	60 ton/hr 24 hrs/day 8760 hrs/year	(Company Information) 1440 ton/day
Restricted Operation:	11 hrs/day (restricted) 4015 hrs/year	660 ton/day

CRUSHERS - (SCC 3-05-030-03, controlled)

Jaw Crusher (up to 60 TPH)

Process Rate:	60 tons/hr 1440 tons/day	525,600 tons/year
Hours of operation:	8760 hr/yr	

PM Emissions:

Emission Factor:	0.0012 lbs/ton	(AP-42 Section 11.19.2-2 8/2004)
Calculations:	0.0012 lbs/ton * 60 tons/hr =	0.07 lbs/hr
	0.0012 lbs/ton * 1440 tons/day =	1.73 lb/day
	0.07 lbs/hr * 8760 hrs/year * 0.0005 ton/lb =	0.31 tons/yr

PM-10 Emissions:

Emission Factor:	0.00054 lbs/ton	(AP-42 Section 11.19.2-2, 8/2004)
Calculations:	0.00054 lbs/ton * 60 tons/hr =	0.03 lbs/hr
	0.00054 lbs/ton * 1440 tons/day =	0.78 lb/day
	0.03 lbs/hr * 8760 hrs/year * 0.0005 ton/lb =	0.13 tons/yr

Jaw Crusher (up to 60 TPH)

Process Rate: 60 tons/hr 525,600 tons/year
 1440 tons/day
 Hours of operation: 8760 hr/yr

PM Emissions:

Emission Factor: 0.0012 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
 Calculations: 0.0012 lbs/ton * 60 tons/hr = 0.07 lbs/hr
 0.0012 lbs/ton * 1440 tons/day = 1.73 lb/day
 0.07 lbs/hr * 8760 hrs/year * 0.0005 ton/lb = **0.31 tons/yr**

PM-10 Emissions:

Emission Factor: 0.00054 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
 Calculations: 0.00054 lbs/ton * 60 tons/hr = 0.03 lbs/hr
 0.00054 lbs/ton * 1440 tons/day = 0.78 lb/day
 0.03 lbs/hr * 8760 hrs/year * 0.0005 ton/lb = **0.13 tons/yr**

SCREENS - (SCC 3-05-020-02,-03, controlled)**Screen (up to 60 TPH)**

Process Rate: 60 tons/hr 525,600 tons/year
 1440 tons/day
 Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 0.0022 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
 Calculations: 0.0022 lbs/ton * 60 tons/hr = 0.13 lbs/hr
 0.0022 lbs/ton * 1440 tons/day = 3.17 lb/day
 0.13 lbs/hr * 8760 hrs/year * 0.0005 ton/lb = **0.57 tons/yr**

PM-10 Emissions (controlled):

Emission Factor: 0.00074 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
 Calculations: 0.00074 lbs/ton * 60 tons/hr = 0.04 lbs/hr
 0.00074 lbs/ton * 1440 tons/day = 1.07 lb/day
 0.04 lbs/hr * 8760 hrs/year * 0.0005 ton/lb = **0.18 tons/yr**

Material Transfer (SCC 3-05-020-06, controlled)**Truck Unloading**

Process Rate: 60 tons/hr
 1440 tons/day
 Number of Loads: 1 Load
 Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 1.60E-05 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
 Calculations: 0.000016 lbs/ton * Hp * MMBTU/hr = 9.60E-04 lbs/hr
 0.000016 lbs/ton * kw * MMBTU/hr = 0.02 lb/day
 0.00096 lbs/hr * 8760 hrs/year * 0.0005 tons/lb = **0.004 tons/yr**

PM-10 Emissions (controlled):

Emission Factor: 1.60E-05 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
 Calculations: 0.000016 lbs/ton * Hp * MMBTU/hr = 0.001 lbs/hr
 0.000016 lbs/ton * kw * MMBTU/hr = 0.02 lb/day
 0.001 lbs/hr * 8760 hrs/year * 0.0005 tons/lb = **0.004 tons/yr**

Material Transfer

Process Rate: 60 tons/hr
1440 tons/day
Number of Transfers 5 Transfers
Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 1.40E-04 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
Calculations: $0.00014 \text{ lbs/ton} * 60 \text{ tons/hr} * 5 \text{ Transfers} = 0.042 \text{ lbs/hr}$
 $0.00014 \text{ lbs/ton} * 1440 \text{ tons/day} * 5 \text{ Transfers} = 1.01 \text{ lb/day}$
 $0.042 \text{ lbs/hr} * 8760 \text{ hrs/year} * 0.0005 \text{ tons/lb} = \mathbf{0.184 \text{ tons/yr}}$

PM-10 Emissions (controlled):

Emission Factor: 4.60E-05 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
Calculations: $0.000046 \text{ lbs/ton} * 60 \text{ tons/hr} * 5 \text{ Transfers} = 0.014 \text{ lbs/hr}$
 $0.000046 \text{ lbs/ton} * 1440 \text{ tons/day} * 5 \text{ Transfers} = 0.33 \text{ lb/day}$
 $0.014 \text{ lbs/hr} * 8760 \text{ hrs/year} * 0.0005 \text{ tons/lb} = \mathbf{0.061 \text{ tons/yr}}$

Pile Forming

Process Rate: 60 tons/hr
1440 tons/day
Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 0.00322 lbs/ton (AP-42 Section 13.2.4 (11/06))
Calculations: $0.00322 \text{ lbs/ton} * 60 \text{ tons/hr} = 0.19 \text{ lbs/hr}$
 $0.00322 \text{ lbs/ton} * 1440 \text{ tons/day} = 4.64 \text{ lb/day}$
 $0.19 \text{ lbs/hr} * 8760 \text{ hrs/year} * 0.0005 \text{ tons/lb} = \mathbf{0.83 \text{ tons/yr}}$

PM-10 Emissions (controlled):

Emission Factor: 0.00153 lbs/ton (AP-42 Section 13.2.4 (11/06))
Calculations: $0.00153 \text{ lbs/ton} * 60 \text{ tons/hr} = 0.09 \text{ lbs/hr}$
 $0.00153 \text{ lbs/ton} * 1440 \text{ tons/day} = 2.20 \text{ lb/day}$
 $0.09 \text{ lbs/hr} * 8760 \text{ hrs/year} * 0.0005 \text{ tons/lb} = \mathbf{0.39 \text{ tons/yr}}$

Bulk Loading

Process Rate: 60 tons/hr
1440 tons/day
Number of Loads 1 load
Hours of operation: 8760 hr/yr

PM Emissions (controlled):

Emission Factor: 1.60E-05 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
Calculations: $0.000016 \text{ lbs/ton} * 60 \text{ tons/hr} * 1 \text{ load} = 9.60E-04 \text{ lbs/hr}$
 $0.000016 \text{ lbs/ton} * 1440 \text{ tons/day} = 0.02 \text{ lb/day}$
 $0.00096 \text{ lbs/hr} * 8760 \text{ hrs/year} * 0.0005 \text{ tons/lb} = \mathbf{0.004 \text{ tons/yr}}$

PM-10 Emissions (controlled):

Emission Factor: 1.60E-05 lbs/ton (AP-42 Section 11.19.2-2, 8/2004)
Calculations: $0.000016 \text{ lbs/ton} * 60 \text{ tons/hr} * 1 \text{ load} = 9.60E-04 \text{ lbs/hr}$
 $0.000016 \text{ lbs/ton} * 1440 \text{ tons/day} = 0.02 \text{ lb/day}$
 $0.00096 \text{ lbs/hr} * 8760 \text{ hrs/year} * 0.0005 \text{ tons/lb} = \mathbf{0.004 \text{ tons/yr}}$

Haul Roads

Vehicle miles travelled (estimate): 5.0 VMT/day
5.0 VMT/day

Control Efficiency is included in Emission Factor

PM Emissions (controlled):

Emission Factor (Rated Load Capacity <50 tons): 13.90 Lbs/VMT (AP-42 Section 13.2.2 (11/06))
Calculations: $(5 \text{ VMT/day})(13.90 \text{ Lbs/VMT}) = 69.5 \text{ lb/day}$
 $(5 \text{ VMT/day})(13.90 \text{ Lbs/VMT}) = 69.50 \text{ lb/day}$
 $\mathbf{12.68 \text{ tons/yr}}$

PM-10 Emissions (controlled):

Emission Factor (Rated Load Capacity <50 tons): 3.95 Lbs/VMT (AP-42 Section 13.2.2 (11/06))
Calculations: $(5 \text{ VMT/day})(3.95 \text{ Lbs/VMT}) = 19.75 \text{ lb/day}$
 $(5 \text{ VMT/day})(3.95 \text{ Lbs/VMT}) = 19.75 \text{ lb/day}$
 $\mathbf{3.60 \text{ tons/yr}}$

Diesel Engine (Jaw Crusher, up to 480 hp)

Horsepower = **480 Hp** 1 kw = 1.341 hp
Generator Size = 358 kw 1 Hp-hr = 7000 BTU
BTU/hr = 3.36 MMBTU/hr
Hours of Operation: **11 hrs/day**
4015 hrs/yr

PM Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 1.04 lb/hr
3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day= 11.46 lb/day
1.04 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **2.09 tons/yr**

PM-10 Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 1.04 lb/hr
3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day= 11.46 lb/day
1.04 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **2.09 tons/yr**

NO_x Emissions

Emission Factor: **4.41 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 4.41 lbs/MMBtu = 14.82 lb/hr
3.36 MMBTU/hr * 4.41 lbs/MMBtu * 11 hrs/day= 162.99 lb/day
14.82 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **29.75 tons/yr**

VOC Emissions

Emission Factor: **0.36 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 0.36 lbs/MMBtu = 1.21 lb/hr
3.36 MMBTU/hr * 0.36 lbs/MMBtu * 11 hrs/day= 13.31 lb/day
1.21 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **2.43 tons/yr**

CO Emissions

Emission Factor: **0.95 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 0.95 lbs/MMBtu = 3.19 lb/hr
3.36 MMBTU/hr * 0.95 lbs/MMBtu * 11 hrs/day= 35.11 lb/day
3.19 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **6.40 tons/yr**

SO_x Emissions 0.05 % sulfur

Emission Factor: **0.29 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 0.29 lbs/MMBtu = 0.97 lb/hr
3.36 MMBTU/hr * 0.29 lbs/MMBtu * 11 hrs/day= 10.72 lb/day
0.97 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **1.95 tons/yr**

Diesel Engine (Jaw Crusher, up to 480 hp)

Horsepower = **480 Hp** 1 kw = 1.341 hp
Generator Size = 358 kw 1 Hp-hr = 7000 BTU
BTU/hr = 3.36 MMBTU/hr
Hours of Operation: **11 hrs/day**
4015 hrs/yr

PM Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 1.04 lb/hr
3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day= 11.46 lb/day
1.04 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **2.09 tons/yr**

PM-10 Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 1.04 lb/hr
3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day= 11.46 lb/day
1.04 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **2.09 tons/yr**

NO_x Emissions

Emission Factor: **4.41 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 4.41 lbs/MMBtu = 14.82 lb/hr
 3.36 MMBTU/hr * 4.41 lbs/MMBtu * 11 hrs/day= 162.99 lb/day
 14.82 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **29.75 tons/yr**

VOC Emissions

Emission Factor: **0.36 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.36 lbs/MMBtu = 1.21 lb/hr
 3.36 MMBTU/hr * 0.36 lbs/MMBtu * 11 hrs/day= 13.31 lb/day
 1.21 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **2.43 tons/yr**

CO Emissions

Emission Factor: **0.95 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.95 lbs/MMBtu = 3.19 lb/hr
 3.36 MMBTU/hr * 0.95 lbs/MMBtu * 11 hrs/day= 35.11 lb/day
 3.19 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **6.40 tons/yr**

SO_x Emissions 0.05 % sulfur

Emission Factor: **0.29 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.29 lbs/MMBtu = 0.97 lb/hr
 3.36 MMBTU/hr * 0.29 lbs/MMBtu * 11 hrs/day= 10.72 lb/day
 0.97 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **1.95 tons/yr**

Diesel Engine (Screen, up to 280 hp)

Horsepower = **280 Hp** 1 kw = 1.341 hp
 Generator Size = 209 kw 1 Hp-hr = 7000 BTU
 BTU/hr = 1.96 MMBTU/hr
Hours of Operation: 11 hrs/day
4015 hrs/yr

PM Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 0.61 lb/hr
 3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day= 6.68 lb/day
 0.61 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **1.22 tons/yr**

PM-10 Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 0.61 lb/hr
 3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day= 6.68 lb/day
1.22 tons/yr

NO_x Emissions

Emission Factor: **4.41 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 4.41 lbs/MMBtu = 8.64 lb/hr
 3.36 MMBTU/hr * 4.41 lbs/MMBtu * 11 hrs/day= 95.08 lb/day
 8.64 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **17.34 tons/yr**

VOC Emissions

Emission Factor: **0.36 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.36 lbs/MMBtu = 0.71 lb/hr
 3.36 MMBTU/hr * 0.36 lbs/MMBtu * 11 hrs/day= 7.76 lb/day
 0.71 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **1.43 tons/yr**

CO Emissions

Emission Factor: **0.95 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.95 lbs/MMBtu = 1.86 lb/hr
 3.36 MMBTU/hr * 0.95 lbs/MMBtu * 11 hrs/day= 20.48 lb/day
 1.86 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **3.73 tons/yr**

SO_x Emissions 0.05 % sulfur

Emission Factor: **0.29 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.29 lbs/MMBtu = 0.57 lb/hr
 3.36 MMBTU/hr * 0.29 lbs/MMBtu * 11 hrs/day= 6.25 lb/day
 0.57 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **1.14 tons/yr**

Diesel Engine (Water Tanker, up to 25 hp)

Horsepower = **25 Hp** 1 kw = 1.341 hp
Generator Size = 19 kw 1 Hp-hr = 7000 BTU
 BTU/hr = 0.18 MMBTU/hr
Hours of Operation: **11 hrs/day**
4015 hrs/yr

PM Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 0.06 lb/hr
 3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day = 0.61 lb/day
 0.06 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **0.12 tons/yr**

PM-10 Emissions

Emission Factor: **0.31 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.31 lbs/MMBtu = 0.06 lb/hr
 3.36 MMBTU/hr * 0.31 lbs/MMBtu * 11 hrs/day = 0.61 lb/day
 0.06 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **0.12 tons/yr**

NO_x Emissions

Emission Factor: **4.41 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 4.41 lbs/MMBtu = 0.79 lb/hr
 3.36 MMBTU/hr * 4.41 lbs/MMBtu * 11 hrs/day = 8.73 lb/day
 0.79 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **1.59 tons/yr**

VOC Emissions

Emission Factor: **0.36 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.36 lbs/MMBtu = 0.06 lb/hr
 3.36 MMBTU/hr * 0.36 lbs/MMBtu * 11 hrs/day = 0.71 lb/day
 0.06 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **0.12 tons/yr**

CO Emissions

Emission Factor: **0.95 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.95 lbs/MMBtu = 0.17 lb/hr
 3.36 MMBTU/hr * 0.95 lbs/MMBtu * 11 hrs/day = 1.88 lb/day
 0.17 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **0.34 tons/yr**

SO_x Emissions

0.05 % sulfur

Emission Factor: **0.29 lbs/MMBtu** (De minimis-Friendly (worst-case) AP-42, 3.3-1, 10/96)
 Calculations: 3.36 MMBTU/hr * 0.29 lbs/MMBtu = 0.05 lb/hr
 3.36 MMBTU/hr * 0.29 lbs/MMBtu * 11 hrs/day = 0.57 lb/day
 0.05 lb/hr * 4015 hrs/year * 0.0005 tons/lb = **0.10 tons/yr**

V. Air Quality Impacts

This permit is for a portable crushing/screening plant to be located at various locations around Montana. This permit contains operational conditions and limitations that would protect air quality for this site and the surrounding area. Also, this facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and short-lived. Further, the amount of controlled particulate emissions generated by this project should not cause concentrations of PM₁₀ in the ambient air that exceed the set standard.

VI. Ambient Air Impact Analysis

The Department determined, based on ambient air modeling, that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

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)

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

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

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

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

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: USAF
819th RED HORSE Squadron
6944 Goddard Drive
Malmstrom AFB, MT 59402

Air Quality Permit Number: 4280-00

Preliminary Determination Issued: March 2, 2009

Department Decision Issued: April 3, 2009

Permit Final: April 21, 2009

1. *Legal Description of Site:* USAF proposes to operate a portable crushing and screening facility and associated equipment. The legal description of the initial location of the permitted USAF facility is Section 12, Township 20 North, Range 4 East, in Cascade County, Montana. Permit #4280-00 applies while operating at any location within Montana, except those areas having a Department Department-approved permitting program, areas considered tribal lands, or areas in or within 10 km of certain PM₁₀ nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.
2. *Description of Project:* The Department received a permit application from USAF for the operation of a portable crushing and screening facility with a maximum rated design process rate of 120 TPH (two crushers at 60 TPH each). USAF requested that this permit be written in a de minimis friendly manner.
3. *Objectives of Project:* USAF proposes to use this crushing and screening facility to crush sand and gravel materials for use in various construction operations. The issuance of Permit #4280-00 would allow USAF to operate the permitted equipment at various locations throughout Montana, including the proposed initial site location.
4. *Alternatives Considered:* In addition to the proposed action, the Department considered the "no-action" alternative. The "no-action" alternative would deny issuance of the MAQP to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because USAF 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 listing of the enforceable permit conditions and a permit analysis, including a Best Available Control Technology (BACT) analysis, would be contained in MAQP #4280-00.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined the permit conditions would be reasonably necessary to ensure compliance with applicable requirements and to demonstrate compliance with those requirements and would 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, as the proposed project would affect an existing, industrial property that has already been disturbed. Furthermore, the air emissions would have only minor effects on terrestrial and aquatic life because facility emissions would be well dispersed in the area of the operations (see Section 7.F of this EA) and would have intermittent and seasonal operations. Therefore, only minor and temporary effects to terrestrial and aquatic life and habitat would be expected from the proposed project.

B. Water Quality, Quantity, and Distribution

Water would be required for dust suppression on the surrounding roadways and general plant area. This water use would only cause minor, if any, impacts to water resources because the facility is small and only a small volume of water would be required to be used. In addition, the facility would emit air pollutants, and corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA. However, the Department determined that, due to dispersion characteristics of pollutants and conditions that would be placed in MAQP #4280-00, any impacts from deposition of pollutants on water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability, and Moisture

Only minor impacts from deposition of air pollutants on soils would result (as described in Section 7.F of this EA) and only minor amounts of water would be used for pollution control, and would be used, only as necessary, in controlling particulate emissions. Thus, only minimal water runoff would occur. Since only minor amounts of pollution would be generated and corresponding emissions would be widely dispersed before settling upon surrounding soils and vegetation (as described in Section 7.D of this EA), impacts would be minor. Therefore, any effects upon geology and soil quality, stability, and moisture from air pollutant emissions from equipment operations would be minor and short-lived.

D. Vegetation Cover, Quantity, and Quality

Only minor impacts would occur on vegetative cover, quality, and quantity because the facility would operate in an area where vegetation has been previously disturbed. During operations, the facility would be a relatively minor source of emissions and the pollutants would be greatly dispersed (as described in Section 7.F of this EA); therefore, deposition on vegetation from the proposed project would be minor. Also, because the water usage would be minimal (as described in Section 7.B of this EA) and the associated soil disturbance from the application of water and water runoff would be minimal (as described in Section 7.C of this EA), corresponding vegetative impacts would be minor.

E. Aesthetics

The crushing and screening facility would be visible and would create noise while operating at the proposed site. However, the site is located approximately one half mile from the nearest residence, and MAQP #4280-00 would include conditions to control emissions from the operation. The facility would be portable, would operate on an intermittent and seasonal basis, and would be a small industrial source. Therefore, any visual aesthetic impacts would be short-lived and minor.

F. Air Quality

Air quality impacts from the proposed project would be minor because the facility would be relatively small and operate on an intermittent and temporary basis. Permit #4280-00 would include conditions limiting the facility's opacity; require water and water spray bars be available on site and used to ensure compliance with opacity standards; and limit the facility's crushing/screening production.

Further, the Department determined that this crushing and screening facility would be a minor source of emissions as defined under the Title V Operating Permit Program because the source's potential to emit is limited to below the major source threshold level of 100 TPY for any regulated pollutant. Pollutant deposition from the facility would be minimal because the pollutants emitted would be widely dispersed (from factors such as wind speed and wind direction) and would have minimal deposition on the surrounding area. Therefore, air quality impacts from operating the crushing and screening facility in this area would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operation (Section 12, Township 20 North, Range 4 East, in Cascade County, Montana), contacted the Natural Resource Information System – Montana Natural Heritage Program. Search results concluded there are five species of concern within the area. The search area, in this case, is defined by the section, township, and range of the proposed site, with an additional 1-mile buffer. The known species of concern include one vertebrate animal: the Grasshopper Sparrow, as well as five vascular plants: Dwarf woolly-heads (Sensitive), Little Indian Breadroot, Roundleaf Water-hyssop, Many-headed Sedge, and Guadalupe Water-nymph.

While these species may be found within the search area, these animals may have many miles of potential habitat. Specific effects of operating the crushing and screening facility in this area would be minor since the facility is relatively small in size, and would have only seasonal and intermittent operations in the area. Therefore, the Department determined that any effects upon these species would be minor and short-lived.

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

Due to the relatively small size of the project, only small demands on environmental resources would be required for proper operation. Only small quantities of water would be required for dust suppression of particulate emissions being generated at the site. In addition, impacts to air resources would be minor because the source is a minor industrial source of emissions, with intermittent and seasonal operations, and because air pollutants generated by the facility would be widely dispersed as described in Section 7.F of this EA. Energy requirements would also be small, as the diesel engines would use small amounts of fuel. Overall, any impacts to water, air, and energy resources would be minor.

I. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the proposed initial location of the facility. Search results concluded that there are no previously recorded historical or archaeological sites within the area proposed for initial operations. According to the SHPO, there would be a low likelihood of adverse impacts to any known archaeological or historic site. Therefore, no impacts upon historical or archaeological sites would be expected as a result of this project.

J. Cumulative and Secondary Impacts

The operation of the crushing and screening facility would cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment because the facility would be limited in the amount of PM, PM₁₀, oxides of NO_x, CO, Volatile Organic Compounds (VOC), and oxides of Sulfur (SO_x) emissions to be generated. Emissions and noise generated from the equipment would, at most, result in only minor impacts to the area of operations because the operation of the crushing and screening facility would be seasonal and temporary. The proposed project would be short-term in nature, and have minor cumulative effects upon resources within the area. These resources include water, terrestrial and aquatic life, soils, and vegetation. Overall, cumulative and secondary impacts to the physical and biological aspects of the human environment would be minor.

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

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

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

A. Social Structures and Mores

The operation of the crushing and screening facility would cause no disruption to the social structures and mores in the area because the source is a minor industrial source of emissions and would only have temporary and intermittent operations. Further, the facility would be required to operate according to the conditions that would be placed in MAQP #4280-00, which would limit the effects to social structures and mores.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of this area would not be impacted by the operation of the proposed crushing and screening facility because the facility is a portable source, with seasonal and intermittent operations.

C. Local and State Tax Base and Tax Revenue

The operation of the crushing and screening facility would have little, if any, impact on the local and state tax base and tax revenue because the facility would be a minor industrial source of emissions and would have seasonal and intermittent operations. USAF currently utilizes approximately five employees at the current site; no new employees would be hired as a result of this project. Thus, only minor impacts to the local and state tax base and revenue could be expected from the employees and facility production. Furthermore, the impacts to local tax base and revenue would be minor because the source would be portable and the money generated for taxes would be widespread.

D. Agricultural or Industrial Production

The operation of the crushing and screening facility would have only a minor impact on local industrial production since the facility would be a minor source of air emissions. Because minimal deposition of air pollutants would occur on the surrounding land (as described in Section 7.F of this EA), only minor and temporary effects on the surrounding vegetation (i.e. agricultural production) would occur. In addition, the facility operations would be small and temporary in nature and would be permitted with operational conditions and limitations that would minimize impacts upon surrounding vegetation, as described in Section 7.D of this EA.

E. Human Health

MAQP #4280-00 would incorporate conditions to ensure that the crushing and screening facility would be operated in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As described in Section 7.F. of this EA, the air emissions from this facility would be minimized by the use of water spray and other operational limits that would be required by MAQP #4280-00. Also, the facility would be operating on a temporary basis and pollutants would disperse from the ventilation of emissions at this site (see Section 7.F of this EA). Therefore, only minor impacts would be expected on human health from the proposed project.

F. Access to and Quality of Recreational and Wilderness Activities

Pow-Wow Park, a Malmstrom Air Force Base recreational area, is located within one half mile to the proposed crushing and screening facility.

Noise from the crushing and screening facility would be minimal because the facility would be small, and the nearest residence is over one half mile away. Also, the crushing and screening facility would operate on a seasonal and intermittent basis and would be a relatively minor industrial source of emissions. Therefore, any changes in the quality of recreational and wilderness activities created by operating the equipment at this site would be expected to be minor and intermittent.

G. Quantity and Distribution of Employment

The crushing and screening facility would only require approximately five existing employees to operate and would have seasonal and intermittent operations. No individuals would be expected to permanently relocate to this area of operation as a result of operating the diesel engine. Therefore, no effects upon the quantity and distribution of employment in this area would be expected.

H. Distribution of Population

The crushing and screening facility is a portable industrial facility that would only require employees currently employed by USAF to operate. No individuals would be expected to permanently relocate to the area as a result of operating the facility. Therefore, the crushing and screening facility would not impact the normal population distribution in the initial area of operation or any future operating site.

I. Demands of Government Services

Minor increases may be seen in traffic on existing roadways in the area while the crushing and screening facility is being operated. In addition, government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, demands for government services would be minor.

J. Industrial and Commercial Activity

The operation of the crushing and screening facility would represent only a minor increase in the industrial activity in the proposed area of operation because the source would be a relatively small industrial source that would be portable and temporary in nature. No additional industrial or commercial activity would be expected as a result of the proposed operation.

K. Locally Adopted Environmental Plans and Goals

USAF would be allowed, by Permit #4280-00, to operate in areas designated by EPA as attainment or unclassified for ambient air quality. An Addendum would be required to operate in or within 10 km of a PM₁₀ nonattainment area. MAQP #4280-00 would contain operational restrictions for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards, as a locally adopted environmental plan or goal for operating at this proposed site. Because the crushing and screening facility is a portable source and would have intermittent and seasonal operations, any impacts from the project would be minor and short-lived.

L. Cumulative and Secondary Impacts

The operation of the crushing and screening facility would cause only minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area of operation because the source would be a portable and temporary source. Minor increases in traffic would have minor effects on local traffic in the immediate area. Because the source is relatively small and temporary, only minor economic impacts to the local economy would be expected from operating the facility. Further, this facility may be operated in conjunction with other equipment owned and operated by USAF, but any cumulative impacts upon the social and economic aspects of the human environment would be minor and short-lived. Thus, only minor and temporary cumulative effects would result to the local economy.

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 operation of a portable crushing and screening facility with a maximum rated design process rate of 120 TPH. MAQP #4280-00 would include conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

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

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

Prepared By: Skye Hatten
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