



Montana Department of
ENVIRONMENTAL **Q**UALITY

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January 23, 2013

The Chippewa Cree Tribe
Timothy Rosette
96 Clinic Road
Box Elder, Montana 59521

Dear Mr. Rosette:

Montana Air Quality Permit #4562-01 is deemed final as of January 23, 2013, by the Department of Environmental Quality (Department). This permit is for a portable drum mix asphalt plant. 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,

Julie Merkel
Air Permitting Supervisor
Air Resources Management Bureau
(406) 444-3626

Tashia Love
Environmental Science Specialist
Air Resources Management Bureau
(406) 444-5280

JM:TL
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #4562-01

The Chippewa Cree Tribe of the Rocky Boy's Reservation
96 Clinic Road
Box Elder, MT 59521

January 23, 2013



MONTANA AIR QUALITY PERMIT

Issued To: The Chippewa Cree Tribe of the Rocky Boy's Reservation
RR1 Box 664
Box Elder, Montana 59521

MAQP: #4562-01
Administrative Amendment (AA)
Request Received: 12/28/2012
Department's Decision on AA: January 7, 2013
Permit Final: January 23, 2013
AFS #: 777-4562

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to the Chippewa Cree Tribe of the Rock Boy's Reservation (Chippewa Cree) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

The Chippewa Cree portable drum mix asphalt plant is located in Section 35, Township 31 North, Range 14 East, in Hill County, Montana.

B. Current Permit Action

On May 14, 2012, the Department received correspondence from Chippewa Cree requesting a transfer of ownership of MAQP #4562-00 from MC Equipment to Chippewa Cree. On August 29, 2012, the Department received correspondence from MC Equipment requesting a transfer of ownership of MAQP #4562-00 from MC Equipment to Chippewa Cree. The current permit action updates the facility ownership information.

SECTION II: Conditions and Limitations

A. Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) from the asphalt drum mix drier exhaust and mineral filler storage silo exhaust (ARM 17.8.340, ARM 17.8.752, and 40 Code of Federal Regulations (CFR) 60, Subpart I).
2. Chippewa Cree shall not cause or authorize to be discharged into the atmosphere from dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart I).
3. Chippewa Cree 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. Chippewa Cree 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 and ARM 17.8.752).

5. Chippewa Cree shall install, operate, and maintain a fabric-filter baghouse for particulate matter air pollution control from the asphalt drum mix drier exhaust and mineral filler storage silo exhaust. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control device (baghouse) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the asphalt drum mix drier exhaust control device inlet and outlet must be installed and maintained (ARM 17.8.749 and ARM 17.8.752).
6. Once a stack test is performed, the asphalt production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).
7. Hours of operation of the asphalt plant (including the generator engines) shall be limited to 3,400 hours per rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
8. Asphalt production is limited to 850,000 tons per year during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
9. Chippewa Cree shall not operate or have on-site more than two diesel generator engines. The maximum combined capacity of the generator engines shall not exceed 1,641 hp (ARM 17.8.749).
10. The 1,495-hp diesel generator engine exhaust stack shall stand no less than 20 feet above ground level (ARM 17.8.749).
11. If the permitted equipment is used in conjunction with any other equipment owned or operated by Chippewa Cree, 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 (ARM 17.8.749).
12. Chippewa Cree shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart I, *Standards of Performance for Hot Mix Asphalt Facilities* (ARM 17.8.340 and 40 CFR 60, Subpart I).
13. Chippewa Cree shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Testing shall continue on an every four-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105, ARM 17.8.340, ARM 17.8.749, and 40 CFR 60 Subpart I).
2. Since asphalt production will be limited to the average production rate during the compliance source test, it is suggested that the test be performed at the highest practical production rate (ARM 17.8.749).

3. Temperature and pressure drop across the pollution control device must be recorded daily and kept on site according to Section II.C.4 (ARM 17.8.749).
4. Temperature and pressure drop across the pollution control device must be recorded during the compliance source test and reported as part of the test results (ARM 17.8.749).
5. Chippewa Cree may retest at any time in order to test at a higher production rate (ARM 17.8.749).
6. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
7. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this portable asphalt 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. Chippewa Cree 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, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Chippewa Cree 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(l)(d) (ARM 17.8.745).
4. Chippewa Cree 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 Chippewa Cree 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. Chippewa Cree shall document, by month, the hours of operation of the facility. By the 25th day of each month, Chippewa Cree shall calculate the hours of operation of the facility for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
6. Chippewa Cree shall document, by month, the asphalt production from the facility. By the 25th day of each month, Chippewa Cree shall calculate the asphalt production from the facility for the previous month. The monthly information will be used to demonstrate 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).
7. Chippewa Cree shall annually certify that its emissions are less than those that would require the facility 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 commencement of construction of any New Source Performance Standard (NSPS)-affected equipment, Chippewa Cree shall notify the Department of the date of commencement of construction of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).
2. Within 15 days of the actual start-up date of any NSPS-affected equipment, Chippewa Cree shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).
3. Within 15 days of the actual start-up date of any non-NSPS-affected equipment, Chippewa Cree shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.749).

SECTION III: General Conditions

- A. Inspection – Chippewa Cree 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 such as continuous emissions monitoring systems (CEMS) or 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 Chippewa Cree fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Chippewa Cree 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. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Chippewa Cree 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. Chippewa Cree 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.

Montana Air Quality Permit (MAQP) Analysis
The Chippewa Cree Tribe of the Rocky Boy's Reservation
MAQP #4562-01

I. Introduction/Process Description

The Chippewa Cree Tribe of the Rocky Boy's Reservation (Chippewa Cree) owns and operates a portable drum mix asphalt plant with maximum rated design capacity of 250 tons per hour (TPH) powered by a 1,495 horsepower (hp) diesel generator engine and a 146 hp diesel generator engine.

A. Permitted Equipment

1. A portable drum mix asphalt plant and associated equipment with a maximum production capacity of 250 TPH utilizing a propane-fired burner in the asphalt drier.
2. Two diesel-fired generator engines with a combined maximum capacity of up to 1,641 horsepower (hp).

B. Source Description

For a typical operational set-up, aggregate materials are taken from the on-site aggregate stockpiles and dumped via a front end loader into the cold aggregate feed bins. The cold aggregate is then transferred from the cold aggregate feed bins via conveyor to the drum mixer. The cold aggregate is dried and heated within the drum mixer which is fired with propane and exhausts through the primary baghouse. Mineral filler and asphalt oil are then introduced into the drum mixer. Mineral filler is delivered from a storage silo to the drum via an enclosed feed auger system. Particulate emissions from the mineral filler storage and feeder system are routed to a baghouse. Asphalt oil is delivered through hoses from the portable hot oil heater tank. Once all the raw materials have been introduced into the drum mixer they are continuously mixed and heated by the drum mixer burner. A primary diesel-fired generator powers the operation. There is also a secondary diesel-fired generator.

After heating and mixing is completed, the asphalt product is transferred from the drum mixer to the asphalt product silo via a conveyor. The asphalt remains in the asphalt silo until it is loaded into trucks for transport to a given job location.

C. Permit History

On June 10, 2010, the Department of Environmental Quality – Air Resources Management Bureau (Department) received a complete application from MC Equipment Holdings, LLC (MC Equipment). The application was for a portable drum mix asphalt plant. On September 4, 2010, MC Equipment was issued **MAQP #4562-00** for the portable drum mix asphalt plant.

D. Current Permit Action

On May 14, 2012 the Department received correspondence from Chippewa Cree requesting a transfer of ownership of MAQP #4562-00 from MC Equipment to Chippewa Cree. On August 29, 2012, the Department received correspondence from MC Equipment requesting a transfer of ownership of MAQP #4562-00 from MC Equipment to Chippewa Cree. The current permit action updates the facility ownership information. **MAQP #4562-01** replaces #4562-00.

E. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations 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. 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).

Chippewa Cree 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 17.8.221 Ambient Air Quality Standard for Visibility
6. ARM 17.8.223 Ambient Air Quality Standard for Particulate Matter with an Aerodynamic Diameter of 10 Microns or Less (PM₁₀)

Chippewa Cree 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, Chippewa Cree 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 (PM), Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere PM 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 PM 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 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Chippewa Cree is considered an NSPS affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.
 - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
 - b. 40 CFR 60, Subpart I – Standards of Performance for Hot Mix Asphalt Facilities. In order for an asphalt plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Chippewa Cree, the asphalt plant equipment to be used under MAQP #4562-01 is subject to this subpart because the facility is a hot mix asphalt facility.
 - c. 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump

engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by the facility, some of the CI ICE equipment to be used under MAQP #4562-01 is subject to this subpart because of the manufacturing date. Since this MAQP is written in a de minimis-friendly manner, this subpart may apply to other facility CI ICE in the future.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Chippewa Cree is considered an NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts.
 - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.
 - b. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. Based on the information submitted by Chippewa Cree, the RICE equipment to be used under MAQP #4562-01 is subject to this subpart because the facility is an area source of HAP emissions.

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. The current permit action is an administrative amendment and did not require an application or application fee.
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.

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 (TPY) of any pollutant. Chippewa Cree has a PTE greater than 15 TPY of PM, PM₁₀, PM with an aerodynamic diameter of 2.5 microns or less (PM_{2.5}), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC); therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements.
(1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for this action because it is an administrative amendment. (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. The current permit action is an administrative amendment and did not require a public notice.
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 MC Equipment 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 MAQP 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 FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and the facility's PTE is less than 250 TPY 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 TPY of any pollutant;
 - b. PTE > 10 TPY of any one hazardous air pollutant (HAP), PTE > 25 TPY of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 TPY 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 MAQP #4562-01 for Chippewa Cree, the following conclusions were made:
 - a. Chippewa Cree agreed to federally enforceable permit conditions that when complied with will limit the facility's PTE to less than 100 TPY of any pollutant.
 - b. The facility's PTE is less than 10 TPY for any one HAP and less than 25 TPY of all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is subject to a current NSPS. (40 CFR 60, Subpart I – Standards of Performance for Hot Mix Asphalt Plants and 40 CFR 60, Subpart III – Standards of Performance for CI ICE apply to this facility)
 - e. This facility is subject to a current NESHAP. (40 CFR 63, Subpart ZZZZ – NESHAP for Stationary RICE applies to this facility)
 - f. This source is not a Title IV affected source
 - g. This source is not a solid waste combustion unit.
 - h. This source is not an EPA designated Title V source.

Chippewa Cree requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations, the Department determined that this facility is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit, this source will be subject to the Title V Operating Permit Program.

- i. 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. Chippewa Cree 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 BACT analysis was not required for the current permit action because the current permit action is considered an administrative permit action.

IV. Emission Inventory

Emission Source	TPY						
	PM	PM ₁₀	PM _{2.5}	NO _x	CO	VOC	SO _x
Cold Aggregate Storage Piles	1.40	0.66	0.10	--	--	--	--
Cold Aggregate Handling/Conveyors	2.55	0.94	0.38	--	--	--	--
Propane-Fired Asphalt Oil Heater	--	--		--	0.01	--	--
250 TPH Drum Mix Asphalt Plant Drier	21.98	15.11	11.13	11.05	55.25	13.60	1.45
Asphalt Product Silo Filling	0.25	0.25	0.25	--	0.50	5.18	--
Plant Load-Out	0.22	0.22	0.22	--	0.57	1.66	--
Lime Silo (via baghouse)	0.50	0.25	0.15	--	--	--	--
Haul Roads / Vehicle Traffic	4.41	1.22	0.12	--	--	--	--
1495 hp Diesel Engine Main Generator	5.59	5.59	5.59	78.79	16.98	6.39	5.21
146 hp Diesel Engine: Secondary Generator	0.55	0.55	0.55	7.69	1.66	0.62	0.51
Total Emissions	37.45	24.78	18.49	97.53	74.97	27.45	7.16

NOTES:

SO_x oxides of sulfur

Inventory reflects enforceable limits on hours of operation to keep emissions below the Title V threshold of 100 TPY of any pollutant; the allowable emissions remain at or above 80 TPY.

All PM, PM₁₀, and PM_{2.5} values in the table represent the sum of the filterable and condensable fractions.

Natural gas emission factors are used to estimate the drum mix asphalt drier emissions due to lack of propane emission factors.

Calculations

Cold Aggregate Storage Piles

Maximum Process Rate = 250 TPH (Maximum plant process rate)

Maximum Hours of Operation = 3,400 hrs/yr

Number of Piles = 1 piles (for simplicity, emissions are modeled as max process rate at one pile)

Filterable PM Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

Emission Factor = $k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00331 \text{ lb/ton}$

Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00331 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) = 1.40 \text{ TPY}$

Filterable PM₁₀ Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

$$\text{Emission Factor} = k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00156 \text{ lb/ton}$$

Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$$\text{Calculation: } (250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00156 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) = 0.66 \text{ TPY}$$

Filterable PM_{2.5} Emissions:

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.

$$\text{Emission Factor} = k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00024 \text{ lb/ton}$$

Where: k = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)

U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

$$\text{Calculation: } (250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) = 0.10 \text{ TPY}$$

Conveyor Transfer Point

Number of Transfers = 2 transfer (Company Information, Excludes RAP transfers)

Filterable PM Emissions:

Emission Factor = 0.003 lb/ton (0.0030 uncontrolled, AP 42, Table 11.19.2-2, 8/04)

$$\text{Calculation: } (250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.003 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (2 \text{ transfer}) = 2.55 \text{ TPY}$$

Filterable PM₁₀ Emissions:

Emission Factor = 0.0011 lb/ton (0.00110 uncontrolled, AP 42, Table 11.19.2-2, 8/04)

$$\text{Calculation: } (250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.0011 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (2 \text{ transfer}) = 0.94 \text{ TPY}$$

Filterable PM_{2.5} Emissions:

Emission Factor = 0.00045 lb/ton (uncontrolled PM_{2.5} = 15% of PM, AP 42, Appendix B-2, Table B.2.2, Category 3, 9/90)

$$\text{Calculation: } (250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00045 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (2 \text{ transfer}) = 0.38 \text{ TPY}$$

Asphalt Oil Heater

Production Rate = 564 ft³/hr (Company information)

Maximum Hours of Operation = 3,400 hrs/yr

CO Emissions:

Emission Factor = 0.0000089 lb/ft³ (AP-42, Section 11.1, Table 11.1-13, Natural Gas, 3/04)

$$\text{Calculation: } (3400 \text{ hrs/yr}) * (564 \text{ ft}^3/\text{hr}) * (0.0000089 \text{ lb/ft}^3) * (\text{ton}/2000 \text{ lb}) = 0.01 \text{ TPY}$$

Drum Mix Asphalt Plant Drier

Operating Parameters:

Plant Elevation:	4300	ft.	(estimate)
Actual Pressure:	25.62	in. Hg	(estimate)
Standard Pressure:	29.92	in. Hg	
Actual Flowrate (V2):	45,000	Actual cubic feet per minute (acfm)	(Company Information)
Assumed Stack Temp.	300	degrees Fahrenheit (F)	= 760 degrees Rankine (R)
Standard Volumetric Flowrate Correction:	$V1 = V2 (P2/P1) (T1/T2)$		
Standard Volumetric Flowrate:	$V1=45000 \text{ acfm} * (25.62 \text{ in. Hg} / 29.92 \text{ in. Hg}) * (528 \text{ R} / 760 \text{ R})$		
Standard Volumetric Flowrate (V1):	26,770	standard cubic feet per minute (scfm)	
Stack Gas Moisture Content (M):	12	%	(estimate)
Dry Standard Volumetric Flowrate:	$=V1*(1 - M/100) = 26,770 \text{ scfm} * (1 - 12/100)$		
Dry Standard Volumetric Flowrate:	23,558	dry standard cubic feet per minute (dscfm)	

Filterable PM Emissions:

Emission Factor = 0.04 gr/dscf (permit limit)

Calculation: $(0.04 \text{ gr/dscf}) * (23,558 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 8.08 \text{ lb/hr}$

Calculation: $(8.08 \text{ lb/hr}) * (3400 \text{ hrs/yr}) * (0.0005 \text{ ton/lb}) = 13.73 \text{ TPY}$

Filterable PM₁₀ Emissions:

Emission Factor = 0.02 gr/dscf (permit limit, assume 50% of PM is PM₁₀, Department Policy)

Calculation: $(0.02 \text{ gr/dscf}) * (23,558 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 4.04 \text{ lb/hr}$

Calculation: $(4.04 \text{ lb/hr}) * (3400 \text{ hrs/yr}) * (0.0005 \text{ ton/lb}) = 6.87 \text{ TPY}$

Filterable PM_{2.5} Emissions:

Emission Factor = 0.0084 gr/dscf (permit limit, assume 21% of PM is PM_{2.5}, AP 42, Table 11.1-4, 3/04)

Calculation: $(0.0084 \text{ gr/dscf}) * (23,558 \text{ dscfm}) * (1 \text{ lb} / 7000 \text{ gr}) * (60 \text{ min/hr}) = 1.70 \text{ lb/hr}$

Calculation: $(1.70 \text{ lb/hr}) * (3400 \text{ hrs/yr}) * (0.0005 \text{ ton/lb}) = 2.88 \text{ TPY}$

Condensable PM_{2.5} Emissions:

Emission Factor = 0.0194 lb/ton (fabric filter, organic + inorganic, AP 42, Table 11.1-3, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.0194 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 8.25 \text{ TPY}$

NO_x Emissions:

Emission Factor = 0.026 lb/ton (propane (as natural gas)-fired dryer, AP 42, Table 11.1-7, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.026 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 11.05 \text{ TPY}$

CO Emissions:

Emission Factor = 0.13 lb/ton (propane (as natural gas)-fired dryer, AP 42, Table 11.1-7, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.13 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 55.25 \text{ TPY}$

VOC Emissions:

Emission Factor = 0.032 lb/ton (propane (as natural gas)-fired dryer, AP 42, Table 11.1-8, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.032 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 13.60 \text{ TPY}$

SO_x Emissions:

Emission Factor = 0.0034 lb/ton (propane (as natural gas)-fired dryer, AP 42, Table 11.1-7, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.0034 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 1.45 \text{ TPY}$

Asphalt Silo Filling

Filterable PM_{2.5} Emissions (all PM is assumed to be PM_{2.5} according to AP-42):

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.000332 + 0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} - 0.00025 = 0.00033 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00033 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.14 \text{ TPY}$

Condensable PM_{2.5} Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00105(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00025 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00025 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.11 \text{ TPY}$

CO Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00488(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00118 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00118 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.50 \text{ TPY}$

VOC Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.0504(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.01219 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.01219 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 5.18 \text{ TPY}$

Plant Load-Out

Filterable PM_{2.5} Emissions (all PM is assumed to be PM_{2.5} according to AP-42):

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.000181 + 0.00141(-V)e^{((0.0251)(T + 460) - 20.43)} - 0.00034 = 0.00018 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00018 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.08 \text{ TPY}$

Condensable PM_{2.5} Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00141(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00034 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00034 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.14 \text{ TPY}$

VOC Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.0172(-V)e^{((0.0251)(T + 460) - 20.43)} * 94\% = 0.00391 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00391 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 1.66 \text{ TPY}$

CO Emissions:

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.

Emission Factor = $0.00558(-V)e^{((0.0251)(T + 460) - 20.43)} = 0.00135 \text{ lb/ton}$

Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)

T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: $(250 \text{ TPH}) * (3400 \text{ hrs/yr}) * (0.00135 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.57 \text{ TPY}$

Lime Silo**Operating Parameters:**

Actual Flowrate (V2): 1,000 acfm (Company Information)

Assumed Stack Temp. 68 F (ambient air) = 528 R

Standard Volumetric Flowrate Correction: $V1 = V2 (P2/P1) (T1/T2)$

Standard Volumetric Flowrate: $V1 = 1000 \text{ acfm} * (25.62 \text{ in. Hg} / 29.92 \text{ in. Hg}) * (528 \text{ R} / 528 \text{ R})$

Standard Volumetric Flowrate (V1): 856 scfm

Stack Gas Moisture Content (M): 0 % (ambient air)

Dry Standard Volumetric Flowrate: $= V1 * (1 - M/100) = 856 \text{ scfm} * (1 - 0/100)$

Dry Standard Volumetric Flowrate: 856 dry standard cubic feet per minute (dscfm)

Filterable PM Emissions:

Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)

Calculation: $(856 \text{ cfm}) * (3400 \text{ hrs/yr}) * (0.04 \text{ gr/dscf}) * (\text{lb}/7000 \text{ gr}) * (\text{ton}/2000 \text{ lb}) * (60 \text{ min/hr}) = 0.50 \text{ TPY}$

Filterable PM₁₀ Emissions:

Emission Factor = 0.02 gr/dscf (Assume PM₁₀ = 50% of PM, Department Policy)

Calculation: $(856 \text{ cfm}) * (3400 \text{ hrs/yr}) * (0.02 \text{ gr/dscf}) * (\text{lb}/7000 \text{ gr}) * (\text{ton}/2000 \text{ lb}) * (60 \text{ min/hr}) = 0.25 \text{ TPY}$

Filterable PM_{2.5} Emissions:

Emission Factor = 0.012 gr/dscf (Assume PM_{2.5} = 30% of PM, AP-42, Appendix B-2, Category 4)

Calculation: $(856 \text{ cfm}) * (3400 \text{ hrs/yr}) * (0.012 \text{ gr/dscf}) * (\text{lb}/7000 \text{ gr}) * (\text{ton}/2000 \text{ lb}) * (60 \text{ min/hr}) = 0.15 \text{ TPY}$

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)

VMT per hour = $(5 \text{ VMT/day}) * (\text{day}/24 \text{ hrs}) = 0.21 \text{ VMT/hr}$

PM Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor = $k * (s / 12)^a * (W / 3)^b = 12.46 \text{ lb/VMT}$

Where: k = constant = 4.9 lbs/VMT (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)

s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)

W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)

a = constant = 0.7 (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM₃₀/TSP, AP 42, Table 13.2.2-2, 11/06)

Calculation: $(3400 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (12.46 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) = 4.41 \text{ TPY}$

PM₁₀ Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

$$\text{Emission Factor} = k * (s / 12)^a * (W / 3)^b = 3.43 \text{ lb/VMT}$$

Where: k = constant = 1.5 lbs/VMT (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)
 s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
 W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
 a = constant = 0.9 (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)
 b = constant = 0.45 (Value for PM₁₀, AP 42, Table 13.2.2-2, 11/06)

$$\text{Calculation: } (3400 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) = 1.22 \text{ TPY}$$

PM_{2.5} Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

$$\text{Emission Factor} = k * (s / 12)^a * (W / 3)^b = 0.34 \text{ lb/VMT}$$

Where: k = constant = 0.15 lbs/VMT (Value for PM_{2.5}, AP 42, Table 13.2.2-2, 11/06)
 s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
 W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
 a = constant = 0.9 (Value for PM_{2.5}, AP 42, Table 13.2.2-2, 11/06)
 b = constant = 0.45 (Value for PM_{2.5}, AP 42, Table 13.2.2-2, 11/06)

$$\text{Calculation: } (3400 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.34 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) = 0.12 \text{ TPY}$$

Diesel Engine Main Generator

Note: Emissions are based on the power output of the engine (1495 hp). Emission factors for small engines are used for a conservative de minimis-friendly emissions estimate

Operational Capacity of Engine = 1,495 hp

Total PM/PM₁₀/PM_{2.5} Emissions:

Emission Factor = 0.0022 lbs/hp-hr (All PM < 1 mm, AP-42, Sec. 3.3, Table 3.3-1, 10/96)

$$\text{Calculation: } (3,400 \text{ hrs/yr}) * (1,495 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 5.59 \text{ TPY}$$

NO_x Emissions:

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

$$\text{Calculation: } (3,400 \text{ hrs/yr}) * (1,495 \text{ hp}) * (0.031 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 78.79 \text{ TPY}$$

CO Emissions:

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

$$\text{Calculation: } (3,400 \text{ hrs/yr}) * (1,495 \text{ hp}) * (0.00668 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 16.98 \text{ TPY}$$

VOC Emissions:

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)

$$\text{Calculation: } (3,400 \text{ hrs/yr}) * (1,495 \text{ hp}) * (0.0025141 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 6.39 \text{ TPY}$$

SO_x Emissions:

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

$$\text{Calculation: } (3,400 \text{ hrs/yr}) * (1,495 \text{ hp}) * (0.00205 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 5.210 \text{ TPY}$$

Diesel Engine: Secondary Generator

Note: Emissions are based on the power output of the engine (146 hp). Emission factors for small engines are used for a conservative de minimis-friendly emissions estimate

Operational Capacity of Engine = 146 hp

Total PM/PM₁₀/PM_{2.5} Emissions:

Emission Factor = 0.0022 lbs/hp-hr (All PM < 1 mm, AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,400 hrs/yr) * (146 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 0.55 TPY

NO_x Emissions:

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,400 hrs/yr) * (146 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 7.69 TPY

CO Emissions:

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,400 hrs/yr) * (146 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 1.66 TPY

VOC Emissions:

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)

Calculation: (3,400 hrs/yr) * (146 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 0.62 TPY

SO_x Emissions:

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (3,400 hrs/yr) * (146 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 0.51 TPY

V. Air Quality Impacts

MAQP #4562-01 covers operation of this portable drum mix asphalt plant while operating in areas within Montana that are classified as being in attainment with federal ambient air quality standards and areas not yet classified, excluding counties that have a Department-approved permitting program and areas that are tribal lands. This permit contains conditions and limitations that would protect air quality for the site and surrounding area, and that would limit the facility's emissions below the major source threshold. Based on the information provided, the amount of controlled emissions generated by this facility will not exceed any ambient air quality standard.

VI. Ambient Air Impact Analysis

The current permit action is an administrative amendment action with no changes to potential emissions or ambient air impacts. MAQP #4562-01 contains conditions designed to be protective of ambient air quality standards. The Department believes that the facility would not cause or contribute to a violation of any ambient air quality standard.

VII. Taking or Damaging Implication Analysis

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

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

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

VIII. Environmental Assessment

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

Analysis Prepared By: Tashia Love
 Date: December 28, 2012