



Montana Department of
ENVIRONMENTAL QUALITY

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June 3, 2011

Mr. Paul Thompson
Jim Gilman Excavating, Inc.
3099 Grand Ave.
Butte, MT 59701

Dear Mr. Thompson:

Montana Air Quality Permit #1198-03 is deemed final as of June 3, 2011, by the Department of Environmental Quality (Department). This permit is for a Portable Rotary Drum-Mix Asphalt Plant and Associated Equipment. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Doug Kuenzli
Environmental Science Specialist
Air Resources Management Bureau
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VW:DCK
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #1198-03

Jim Gilman Excavating, Inc.
3099 Grand Ave.
Butte, MT 59701

June 3, 2011



MONTANA AIR QUALITY PERMIT

Issued To: Jim Gilman Excavating, Inc. MAQP: #1198-03
3099 Grand Ave. Application Complete: 03/07/2011
Butte, MT 59701 Preliminary Determination Issued: 04/14/2011
Department's Decision Issued: 05/18/2011
Permit Final: 06/03/2011
AFS #: 777-1198

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Jim Gilman Excavating, Inc. (Gilman), pursuant to Section 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. Plant Location

Gilman operates a portable rotary drum-mix asphalt plant with attached baghouse and associated equipment, including various generators. The initial site location has been identified as Section 20, Township 3 North, Range 7 West in Silver Bow County, Montana. A list of permitted equipment is included in Section I.A of the Permit Analysis.

MAQP #1198-03 applies while operating in any location in the state of Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas other than the current location. *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 if Gilman moves from the current location.

B. Current Permit Action

On February 18, 2011, the Department received a complete application from Gilman requesting a modification to MAQP #1198-02. Gilman requested that permit language specific to rating of diesel generators be changed from rated output of generator(s) in kilowatts (kW) to size of engine powering generator(s) in horsepower (hp). The permit was also updated to reflect the current language used by the Department.

Section II: Limitations and Conditions

A. Operational

1. Asphalt plant particulate matter emissions shall be limited to 0.10 grains per dry standard cubic foot (gr/dscf) (ARM 17.8.749).
2. Gilman shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack, any visible emissions that exhibit opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304 and ARM 17.8.752).

3. Gilman shall not cause or authorize to be discharged into the atmosphere from 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 17.8.304 and ARM 17.8.752).
4. Gilman 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).
5. Gilman 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.4 (ARM 17.8.752).
6. A baghouse for air pollution control, with a device to measure the pressure drop (magnehelic gauge, manometer, etc.) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained. Pressure drop on the control device and temperature must be recorded daily and kept on site according to Section II.C.2 (ARM 17.8.749).
7. Once a stack test is performed, the asphalt plant production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).
8. Total asphalt plant production shall not exceed 987,500 tons of asphalt during any rolling 12-month period (ARM 17.8.749).
9. The asphalt plant shall not exceed 3,950 hours of operation during any rolling 12-month time period (ARM 17.8.749).
10. Gilman shall not operate more than two diesel engines/generators at any given time and the combined maximum rated design capacity of the engines shall not exceed 905 hp (ARM 17.8.749).
11. Gilman shall limit diesel engine(s)/generator(s) operation to less than a combined total of 4,650 hours on a rolling 12-month period (ARM 17.8.749 and ARM 17.8.1204).
12. Gilman shall comply with all applicable standards and limitations, and the reporting, record keeping, and notification requirements contained in 40 Code of Federal Regulations (CFR) 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, for any applicable diesel engines (ARM 17.8.340, 40 CFR 60, Subpart III).
13. If the permitted equipment is used in conjunction with any other equipment owned or operated by Gilman, 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).

B. Emission Testing

1. All source tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The Department may require testing (ARM 17.8.105).

C. Reporting Requirements

1. If this asphalt plant is moved to another location, an Intent to Transfer form must be sent to the Department. In addition, 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. This Change of Location notice must be published at least 15 days prior to the move. The Intent to Transfer form and the proof of publication (affidavit) of the Change of Location Form must be submitted to the Department prior to the move. These forms are available from the Department. Once the asphalt plant is moved to another location, the facility shall not operate in the new location for longer than one year (ARM 17.8.765).
2. Gilman shall maintain on-site records showing daily hours of operation, daily production rates, and daily pressure drop and temperature readings for the last 12 months. The records compiled in accordance with this permit shall be maintained by Gilman as a permanent business record for at least 5 years following the date of the measurement, shall be available for inspection by the Department, and shall be submitted to the Department upon request (ARM 17.8.749).
3. Gilman shall document, by month, the production from the asphalt plant. By the 25th day of each month, Gilman shall calculate the monthly production of asphalt during the previous month. The monthly information will be used to verify 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).
4. Gilman shall document, by month, the hours of operation of the asphalt plant. By the 25th day of each month, Gilman shall calculate the hours of operation for the asphalt plant 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).
5. Gilman shall document, by month, the hours of operation of the diesel generator(s). By the 25th day of each month, Gilman shall calculate the hours of operation for each diesel engine(s)/generator(s) for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.11. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
6. Gilman shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory requires. 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.

7. Gilman 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).
8. Gilman 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, and the annual certification shall be submitted with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

Section III: General Conditions

- A. Inspection – Gilman shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (Continuous Emissions Monitoring System (CEMS), Continuous Emissions Rate Monitoring System (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 Gilman fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Gilman 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 Gilman 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. Gilman 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
Jim Gilman Excavating, Inc.
MAQP #1198-03

I. Introduction/Process Description

A. Permitted Equipment

Jim Gilman Excavating, Inc. (Gilman) operates a portable asphalt drum-mix plant which includes, but is not limited to, the following equipment:

- 1970 Cedar Rapids rotary drum dryer-mix asphalt plant with a natural gas dryer burner (maximum capacity 250 tons per hour (TPH) of asphalt, limited to the maximum production rate during the most recent stack test). The asphalt plant and hydrated lime storage silo are controlled by a baghouse;
- 1994 Childer Asphalt heater (1.75 million British thermal units per hour (MM Btu/hr) natural gas);
- Aggregate handling equipment;
- Asphalt storage silo;
- Two diesel engines/generators with a total engine capacity not to exceed 905 horsepower (hp); and
- Associated equipment.

B. Process Description

A typical operation begins by loading the cold aggregate into bins where material is screened and conveyed to the rotary drum. Within the drum the aggregate is completely dried and mixed with hot asphalt oil. A baghouse is used to control particulate emissions from the drum mixer. The asphalt mixture is loaded into a silo for storage or loaded directly into haul trucks and taken to the project site.

C. Permit History

On April 26, 1978, Gilman was issued **MAQP #1198-00** for the operation of a portable 1970 Cedar Rapids batch asphalt plant (maximum capacity 250 TPH) with an attached baghouse. The plant was initially located in Section 20, Township 3 North, Range 7 West, in Silver Bow County, Montana.

On October 28, 2000, the Department of Environmental Quality (Department) issued permit modification to update emission factors, update permit language, and establish the appropriate limitations and conditions to keep this facility below the Title V permitting threshold. **MAQP #1198-01** replaced MAQP #1198-00.

On March 9, 2007, the Department received a request from Gilman to administratively amend their permit to clarify that the permitted “associated equipment,” including the existing asphalt heater and generators, may be operated at the site. Gilman later requested to limit operations to maintain their synthetic minor status. The permit was also updated to reflect the current language used by the Department. **MAQP #1198-02** replaced MAQP #1198-01.

D. Current Permit Action

On February 18, 2011, the Department received a complete application from Gilman requesting a modification to MAQP #1198-02. Gilman requested that permit language specific to rating of diesel generators be changed from rated output of generator(s) in

kilowatts (kW) to size of engine powering generator(s) in hp. The permit was also updated to reflect the current language used by the Department. **MAQP #1198-03** replaces MAQP #1198-02.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, 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 locations of complete copies of all applicable rules and regulations or copies where appropriate.

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

1. ARM 17.8.101 Definitions. This rule is a list of applicable definitions used in this sub-chapter, unless indicated otherwise in a specific sub-chapter.
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.*, MCA.

Gilman shall comply with all 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. 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. No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

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 17.8.213 Ambient Air Quality Standard for Ozone
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
7. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Gilman must comply with the applicable ambient air quality standards.

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

1. ARM 17.8.304 Visible Air Contaminants. This rule states that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne Particulate Matter (PM). (2) Under this section, Gilman 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 section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.
6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (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, shall comply with the standards and provisions of 40 CFR Part 60.

Based on the information submitted by Gilman, the portable 1970 Cedar Rapids batch asphalt plant and associated equipment are subject to NSPS (40 CFR Part 60), as follows:

- 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. Owners and operators of hot mix asphalt facilities that commence construction or modification after June 11, 1973, is subject to the requirements of this subpart. Based on the information submitted by Gilman, the portable 1970 Cedar Rapids batch asphalt plant and associated equipment are not currently subject to NSPS (40 CFR Part 60), Subpart I, Standards of Performance of Hot-Mix Asphalt Facilities. Subsequent modification or replacement of equipment could potentially alter the sources applicability to the provisions of this subpart.
- c. 40 CFR 60, Subpart III - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CIICE). 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. This permit is written in a de minimis friendly manner which allows substitution of the two diesel engines/generators as long as combined maximum rated design capacity does not exceed 905 hp. Therefore, the provision of this subpart could apply depending upon the engines/generators selected and utilized.

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. Gilman 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. Based on the information submitted by Gilman, the RICE equipment to be used under MAQP #1198-03 is subject to this subpart because the engine is a stationary reciprocating internal combustion engine at an area source of HAP emissions that is not a test cell/stand.

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. Gilman shall submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Gilman 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. This air quality operation fee is based on the actual or estimated 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 which 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 alteration to construct, alter or use any asphalt plant, crusher, or screen that has the Potential to Emit (PTE) greater than 15 tons per year of any pollutant. Gillman has a PTE greater than 15 tons per year of PM and particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀), nitrogen oxides (NO_x), volatile organic compounds (VOC), and carbon monoxide (CO); 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, alteration, or use of a source. Gilman submitted the require 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. Gilman submitted an affidavit of publication of public notice for the February 13, 2011 issue of the *Montana Standard*, a newspaper of general circulation, printed and published in Butte within the County of Silver Bow, 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 Gillman 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 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. 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 altered 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 one year after the permit is issued.
13. 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).
14. 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.
15. 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 Modifications-- Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Federal Clean Air Act (FCAA) that it would emit, except as this sub-chapter would otherwise allow.

This facility is not a major stationary source because it is not listed and does not have the potential to emit 250 tons per year or more (excluding fugitive emissions) of any air pollutant.

G. ARM 17.8, Sub-Chapter 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
 - c. Sources with the PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ non-attainment area
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. 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 #1198-03 for Gilman, the following conclusions were made:
 - a. Federally-enforceable permit operating limits maintain the facility's PTE less than 80 tons/years for any pollutant.
 - b. The facility's PTE is less than 10 tons/year of 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 potentially subject to a current NSPS (40 CFR 60, Subpart III).

- e. This facility is potentially subject to area source provisions of a current NESHAP standard (40 CFR 63, Subpart ZZZZ).
- 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.

Gilman 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.

- 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 required by ARM 17.8.1204(3) shall contain a certification of truth, accuracy, and completeness by a responsible official. 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. Best Available Control Technology

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

The current permit action is to modify MAQP #1198-02 in order to change rating method of existing diesel engines/generators. Because of the limited amount of emissions produced by the diesel engines and the lack of readily available, cost effective add-on controls would be cost prohibitive. Therefore, the Department determined that proper operation and maintenance with no additional controls would constitute BACT for the diesel engines/generators.

IV. Emission Inventory

| Emission Source | Emissions Tons/Year [PTE] | | | | | | |
|----------------------------------------------------------|---------------------------|------------------|-------------------|--------------|-----------------|-----------------|--------------|
| | PM | PM ₁₀ | PM _{2.5} | CO | NO _x | SO ₂ | VOC |
| Rotary Drum Mix Asphalt Plant w/ Baghouse ^(a) | 43.25 | 30.27 | 30.27 | 64.19 | 12.84 | 1.68 | 15.80 |
| 1994 Childer Asphalt Heater | 0.03 | 0.03 | 0.03 | 0.28 | 0.34 | 0.002 | 0.02 |
| Aggregate Handling & Storage Piles | 3.38 | 1.60 | 0.24 | | | | |
| Aggregate Screening & Conveying | 2.31 | 0.78 | 0.51 | | | | |
| Lime Silo transfer & Conveying | 0.04 | 0.04 | 0.04 | | | | |
| Asphalt Storage (Silo Filling) | 0.29 | 0.29 | 0.29 | 0.58 | | | 6.02 |
| Asphalt Load-Out | 0.26 | 0.26 | 0.26 | 0.67 | | | 2.05 |
| (2) Diesel Generators - Totaling 905 hp ^(a) | 4.63 | 4.63 | 4.63 | 14.06 | 65.23 | 4.31 | 5.28 |
| Unpaved Roadways | 10.98 | 3.03 | 0.30 | | | | |
| TOTAL EMISSIONS > | 65.17 | 40.92 | 36.57 | 79.78 | 78.40 | 5.99 | 29.17 |

a. Emission Inventory reflects enforceable limits on [hours of operation] to keep allowable emissions below the Title V threshold AND 80 tpy.

CO, carbon monoxide
 NO_x, oxides of nitrogen
 PM, particulate matter
 PM₁₀, particulate matter with an aerodynamic diameter of 10 microns or less
 PM_{2.5}, particulate matter with an aerodynamic diameter of 2.5 microns or less
 SO₂, oxides of sulfur
 TPY, tons per year
 VOC, volatile organic compounds

1970 Cedar Rapids Rotary Drum Dryer-Mix Asphalt Plant with Baghouse (SCC 3-05-002-55)

Production Rate: 250 Tons/Hour (Maximum) 2190000 tons/year (Maximum)
 987500 tons/year (Restricted Maximum)
 Operating Schedule: 3950 Hours/Year (Restricted Maximum)

Dryer fuel Configuration: Natural Gas
 Power Plant: 755 hp Diesel Generator (Asphalt Plant)
 150 hp Diesel Generator (Supplemental Power)
 Note: Asphalt Plant May Operate On Utility/commercial Power

Stack Test Data: [October 5, 2006]
 Air Flow[Volume] 25547 dscfm
 Stack Test Results 0.037 gr/dscf
 Test Throughput Demonstrated 150 tons/hour

Particulate Emissions: Permit Limit

PM Emissions (controlled):

Emission Rate 0.10 gr/dscf [Permit Limit]
 Calculations (0.1 gr/dscf) * (25547 dscfm) * (60 min/hr) * (0.000143 lb/gr) = 21.90 lbs/hr
 (21.90 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 43.25 TPY

PM₁₀ Emissions (controlled):

Emission Rate 0.07 gr/dscf [70% PM₁₀ to PM, AP-42 Table 11.1-3, 3/04]
 Calculations (0.07 gr/dscf) * (25547 dscfm) * (60 min/hr) * (0.000143 lb/gr) = 15.33 lbs/hr
 (15.33 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 30.27 TPY

PM_{2.5} Emissions (controlled):

Emission Rate 0.07 gr/dscf [70% PM₁₀ to PM, AP-42 Table 11.1-3, 3/04]

| | | | |
|--------------|-----------------------------------------------------------------------------------------------------|-------|--------|
| Calculations | $(0.07 \text{ gr/dscf}) * (25547 \text{ dscfm}) * (60 \text{ min/hr}) * (0.000143 \text{ lb/gr}) =$ | 15.33 | lbs/hr |
| | $(15.33 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ | 30.27 | TPY |

Particulate Emissions: Emission Factor Determination

PM Emissions (controlled):

| | | | |
|---------------|-----------------------------------------------------------------------------------|-------|--------|
| Emission Rate | 0.033 lbs/ton Processed [AP-42 Table 11.1-3, 3/04] | | |
| Calculations | $(0.033 \text{ lbs/ton}) * (250 \text{ tons/hour}) =$ | 8.25 | lbs/hr |
| | $(8.25 \text{ lbs/hr}) * (3950 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) =$ | 16.29 | TPY |

PM₁₀ Emissions (controlled):

| | | | |
|---------------|-----------------------------------------------------------------------------------|-------|--------|
| Emission Rate | 0.023 lbs/ton Processed [AP-42 Table 11.1-3, 3/04] | | |
| Calculations | $(0.023 \text{ lbs/ton}) * (250 \text{ tons/hour}) =$ | 5.75 | lbs/hr |
| | $(5.75 \text{ lbs/hr}) * (3950 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) =$ | 11.36 | TPY |

PM_{2.5} Emissions (controlled):

| | | | |
|---------------|-----------------------------------------------------------------------------------|-------|--------|
| Emission Rate | 0.023 lbs/ton Processed [AP-42 Table 11.1-3, 3/04] | | |
| Calculations | $(0.023 \text{ lbs/ton}) * (250 \text{ tons/hour}) =$ | 5.75 | lbs/hr |
| | $(5.75 \text{ lbs/hr}) * (3950 \text{ hours/year}) * (0.0005 \text{ tons/lbs}) =$ | 11.36 | TPY |

CO Emissions:

| | | | |
|-----------------|-------------------------------------------------------------------------------|-------|--------|
| Emission Factor | 0.13 lbs/ton processed [AP-42 Table 11.1-7, 3/04] | | |
| Calculations | $(0.13 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$ | 32.50 | lbs/hr |
| | $(32.50 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ | 64.19 | TPY |

NO_x Emissions:

| | | | |
|-----------------|------------------------------------------------------------------------------|-------|--------|
| Emission Factor | 0.026 lbs/ton processed [AP-42 Table 11.1-7, 3/04] | | |
| Calculations | $(0.026 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$ | 6.50 | lbs/hr |
| | $(6.50 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ | 12.84 | TPY |

SO₂ Emissions:

| | | | |
|-----------------|------------------------------------------------------------------------------|------|--------|
| Emission Factor | 0.0034 lbs/ton processed [AP-42 Table 11.1-7, 3/04] | | |
| Calculations | $(0.0034 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$ | 0.85 | lbs/hr |
| | $(0.85 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ | 1.68 | TPY |

VOC Emissions:

| | | | |
|-----------------|------------------------------------------------------------------------------|-------|--------|
| Emission Factor | 0.032 lbs/ton processed [AP-42 Table 11.1-7, 3/04] | | |
| Calculations | $(0.032 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$ | 8.00 | lbs/hr |
| | $(8.00 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ | 15.80 | TPY |

1994 Childer Asphalt Heater (SSC 3-05-002-06)

Burner Firing Rate: 1.75 MMBtu/hr
 Operating Hours: 3950 hrs/year
 Fuel Type: Natural Gas

Particulate Emissions:

PM Emissions:

| | | | |
|-----------------|-------------------------------------------------------------------------------|-------|--------|
| Emission Factor | 0.0075 lbs/MMBtu [AP-42 Table 1.4-2, 7/98] | | |
| Calculations | $(0.0075 \text{ lbs/MMBtu}) * (1.75 \text{ MMBtu/hr}) =$ | 0.013 | lbs/hr |
| | $(0.013 \text{ lbs/hr}) * (3950 \text{ hrs/yr}) * (0.0005 \text{ tons/lb}) =$ | 0.03 | TPY |

PM₁₀ Emissions:

Emission Factor 0.0075 lbs/MMBtu [AP-42 Table 1.4-2, 7/98]
 Calculations (0.0075 lbs/MMBtu) * (1.75 MMBtu/hr) = 0.013 lbs/hr
 (0.013 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 0.03 TPY

PM_{2.5} Emissions:

Emission Factor 0.0075 lbs/MMBtu [AP-42 Table 1.4-2, 7/98]
 Calculations (0.0075 lbs/MMBtu) * (1.75 MMBtu/hr) = 0.013 lbs/hr
 (0.013 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 0.03 TPY

CO Emissions:

Emission Factor 0.082 lbs/MMBtu [AP-42 Table 1.4-1, 7/98]
 Calculations (0.082 lbs/MMBtu) * (1.75 MMBtu/hr) = 0.14 lbs/hr
 (0.14 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 0.28 TPY

NO_x Emissions:

Emission Factor 0.098 lbs/MMBtu [AP-42 Table 1.4-1, 7/98]
 Calculations (0.098 lbs/MMBtu) * (1.75 MMBtu/hr) = 0.17 lbs/hr
 (0.17 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 0.34 TPY

SO₂ Emissions:

Emission Factor 0.00059 lbs/MMBtu [AP-42 Table 1.4-2, 7/98]
 Calculations (0.00059 lbs/MMBtu) * (1.75 MMBtu/hr) = 0.001 lbs/hr
 (0.001 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 0.002 TPY

VOC Emissions:

Emission Factor 0.0054 lbs/MMBtu [AP-42 Table 1.4-2, 7/98]
 Calculations (0.0054 lbs/MMBtu) * (1.75 MMBtu/hr) = 0.009 lbs/hr
 (0.009 lbs/hr) * (3950 hrs/yr) * (0.0005 tons/lb) = 0.019 TPY

Aggregate Handling & Storage Piles (Pile Load-In / Load-Out to Aggregate Bins)

Process Rate: 250 tons/hour
 Number of Piles: 2 piles
 Operating Hours: 3950 hour/year

Particulate Emissions:

Emission Factor $EF = k (0.0032) * [(U/5)^{1.3} / (M / 2)^{1.4}]$ [AP-42 13.2.4, 11/06]

where: EF, Emission Factor = lbs Emitted / ton Processed
 k, Dimensionless Particle Size Multiplier PM = 0.74 [AP-42 13.2.4, 11/06]
 k, Dimensionless Particle Size Multiplier PM₁₀ = 0.35 [AP-42 13.2.4, 11/06]
 k, Dimensionless Particle Size Multiplier PM_{2.5} = 0.053 [AP-42 13.2.4, 11/06]
 U, Mean Wind Speed (mph) = 7.0 [ASOS Data Butte, MT]
 M, Material Moisture Content (%) = 2.1 [AP-42 13.2.4-1, 11/06]

PM Emissions:

Emission Factor $EF = 0.74(0.0032) * [(7.0/5)^{1.3} / (2.1 / 2)^{1.4}] = 0.0034$ lbs/ton
 Calculations (0.0034 lbs/ton) * (250 tons/hr) * (2 pile) = 1.71 lbs/hr
 (1.71 lbs/hr) * (3950 hrs/year) * (0.0005 lbs/ton) = 3.38 TPY

PM₁₀ Emissions:

| | | | | |
|-----------------|--------------------------------------------------------------------------------|--------|---------|-------------|
| Emission Factor | $EF = 0.35(0.0032) * (7.0/5)^{1.3} * (2.1 / 2)^{1.4} =$ | 0.0016 | lbs/ton | |
| Calculations | $(0.0016 \text{ lbs/ton}) * (250 \text{ tons/hr}) * (2 \text{ Pile}) =$ | | | 0.81 lbs/hr |
| | $(0.81 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$ | | | 1.60 TPY |

PM_{2.5} Emissions:

| | | | | |
|-----------------|--------------------------------------------------------------------------------|--------|---------|-------------|
| Emission Factor | $EF = 0.053(0.0032) * (7.0/5)^{1.3} * (2.1 / 2)^{1.4} =$ | 0.0002 | lbs/ton | |
| Calculations | $(0.0002 \text{ lbs/ton}) * (250 \text{ tons/hr}) * (2 \text{ Pile}) =$ | | | 0.12 lbs/hr |
| | $(0.12 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$ | | | 0.24 TPY |

Aggregate Screening & Conveying (SCC 3-05-020-02 & 3-05-020-06)

Process Rate: 250 tons/hour
Number of Transfers: 2 Transfers
Operating Hours: 3950 hours/year

PM Emissions (controlled):

| | | | | |
|-----------------|--------------------------------------------------------------------------------|---------------------|-------------------------------|-------------|
| Emission Factor | 0.0023 | lbs/ton transferred | [AP-42 Table 11.19.2-2, 8/04] | |
| Calculations | $(0.0023 \text{ lbs/ton}) * (250 \text{ tons/hr}) * (2 \text{ Transfers}) =$ | | | 1.17 lbs/hr |
| | $(1.17 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$ | | | 2.31 TPY |

PM₁₀ Emissions (controlled):

| | | | | |
|-----------------|--------------------------------------------------------------------------------|---------------------|-------------------------------|-------------|
| Emission Factor | 0.0008 | lbs/ton transferred | [AP-42 Table 11.19.2-2, 8/04] | |
| Calculations | $(0.0008 \text{ lbs/ton}) * (150 \text{ tons/hr}) * (2 \text{ Transfers}) =$ | | | 0.39 lbs/hr |
| | $(0.39 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$ | | | 0.78 TPY |

PM_{2.5} Emissions (controlled):

| | | | | |
|-----------------|--------------------------------------------------------------------------------|---------------------|-------------------------------|-------------|
| Emission Factor | 0.0005 | lbs/ton transferred | [AP-42 Table 11.19.2-2, 8/04] | |
| Calculations | $(0.0005 \text{ lbs/ton}) * (150 \text{ tons/hr}) * (2 \text{ transfers}) =$ | | | 0.26 lbs/hr |
| | $(0.26 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$ | | | 0.51 TPY |

Lime Silo Product transfer & Conveying (SCC 3-05-016-24)

Process Rate: 250 tons/hour
Operating Hours: 3950 hours/year

Particulate Emissions:

PM Emissions (controlled):

| | | | | |
|-----------------|--------------------------------------------------------------------------------|------------------------------|-----------------------------|--------------|
| Emission Factor | 0.000088 | lbs/ton material transferred | [AP-42 Table 11.17-4, 2/98] | |
| Calculations | $(0.000088 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$ | | | 0.022 lbs/hr |
| | $(0.02 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$ | | | 0.04 TPY |

PM₁₀ Emissions (controlled):

| | | | | |
|-----------------|--------------------------------------------------------------------------------|------------------------------|-----------------------------|--------------|
| Emission Factor | 0.000088 | lbs/ton material transferred | [AP-42 Table 11.17-4, 2/98] | |
| Calculations | $(0.000088 \text{ lbs/ton}) * (250 \text{ tons/hr}) =$ | | | 0.022 lbs/hr |
| | $(0.02 \text{ lbs/hr}) * (3950 \text{ hrs/year}) * (0.0005 \text{ lbs/ton}) =$ | | | 0.04 TPY |

PM_{2.5} Emissions (controlled):

| | | | |
|-----------------|------------------------------------------------------|-----------------------------|-------------|
| Emission Factor | 0.000088 lbs/ton material transferred | [AP-42 Table 11.17-4, 2/98] | |
| Calculations | (0.000088 lbs/ton) * (250 tons/hr) = | | 0.02 lbs/hr |
| | (0.02 lbs/hr) * (3950 hrs/year) * (0.0005 lbs/ton) = | | 0.04 TPY |

Asphalt Storage & Silo Filling (SCC 3-05-002-13)

Process Rate: 250 tons/hour
 Operating Schedule: 3950 tons/year

Particulate Emissions:

| | | |
|-----------------|-------------------------------------------------------------------------|-----------------------------|
| Emission Factor | $EF = 0.000332 + 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$ | [AP-42 Table 11.1-14, 3/04] |
| where: | EF, Emission Factor = lbs emitted / ton HMA produced | |
| | V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04] | |
| | T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04] | |

PM Emissions:

| | | |
|-----------------|---------------------------------------------------------------------------|---------------------|
| Emission Factor | $EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ | 0.00059 lbs/ton HMA |
| Calculations | (0.00059 lbs/ton) * (250 tons/hr) = | 0.15 lbs/hr |
| | (0.15 lbs/hr) * (3950 tons/year) * (0.0005 lbs/ton) = | 0.29 TPY |

PM₁₀ Emissions:

| | | |
|-----------------|---------------------------------------------------------------------------|---------------------|
| Emission Factor | $EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ | 0.00059 lbs/ton HMA |
| Calculations | (0.00059 lbs/ton) * (250 tons/hr) = | 0.15 lbs/hr |
| | (0.15 lbs/hr) * (3950 tons/year) * (0.0005 lbs/ton) = | 0.29 TPY |

PM_{2.5} Emissions:

| | | |
|-----------------|---------------------------------------------------------------------------|---------------------|
| Emission Factor | $EF = 0.000332 + 0.00105 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ | 0.00059 lbs/ton HMA |
| Calculations | (0.00059 lbs/ton) * (250 tons/hr) = | 0.15 lbs/hr |
| | (0.15 lbs/hr) * (3950 tons/year) * (0.0005 lbs/ton) = | 0.29 TPY |

CO Emissions:

| | | |
|-----------------|-------------------------------------------------------------------------|-----------------------------|
| Emission Factor | $EF = 0.00488(-V)e^{((0.0251)(T+460)-20.43)}$ | [AP-42 Table 11.1-14, 3/04] |
| where: | EF, Emission Factor = lbs Emitted / ton Processed | |
| | V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04] | |
| | T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04] | |

CO Emissions:

| | | |
|-----------------|----------------------------------------------------------------|--------------------|
| Emission Factor | $EF = 0.00488 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ | 0.0012 lbs/ton HMA |
| Calculations | (0.0012 lbs/ton) * (250 tons/hr) = | 0.29 lbs/hr |
| | (0.29 lbs/hr) * (3950 tons/year) * (0.0005 lbs/ton) = | 0.58 TPY |

VOC Emissions:

| | | |
|-----------------|-------------------------------------------------------------------------|-----------------------------|
| Emission Factor | $EF = 0.0504(-V)e^{((0.0251)(T+460)-20.43)}$ | [AP-42 Table 11.1-14, 3/04] |
| where: | EF, Emission Factor = lbs Emitted / ton Processed | |
| | V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04] | |
| | T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04] | |

VOC Emissions:

| | | |
|-----------------|---------------------------------------------------------------|--------------------|
| Emission Factor | $EF = 0.0504 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)}$ | 0.0122 lbs/ton HMA |
| Calculations | (0.0122 lbs/ton) * (250 tons/hr) = | 3.05 lbs/hr |

$$(3.05 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 6.02 \text{ TPY}$$

Asphalt Plant Load-Out (SCC 3-05-002-14)

Process Rate: 250 tons/hour
 Operating Schedule: 3950 hours/year

Particulate Emissions:

Emission Factor $EF = 0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs emitted / ton HMA produced
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

PM Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00052$ lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.13$ lbs/hr
 $(0.13 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.26$ TPY

PM₁₀ Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00052$ lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.13$ lbs/hr
 $(0.13 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.26$ TPY

PM_{2.5} Emissions:

Emission Factor $EF = 0.000181 + 0.00141 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00052$ lbs/ton HMA
 Calculations $(0.00052 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.13$ lbs/hr
 $(0.13 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.26$ TPY

CO Emissions:

Emission Factor $EF = 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

CO Emissions:

Emission Factor $EF = 0.00558 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00135$ lbs/ton HMA
 Calculations $(0.00135 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 0.34$ lbs/hr
 $(0.34 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 0.67$ TPY

VOC Emissions:

Emission Factor $EF = 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$ [AP-42 Table 11.1-14, 3/04]

where: EF, Emission Factor = lbs Emitted / ton Processed
 V, Asphalt Volatility = -0.05 [Default value AP-42 Table 11.1-14, 3/04]
 T, HMA temperature = 325°F [Default value AP-42 Table 11.1-14, 3/04]

VOC Emissions:

Emission Factor $EF = 0.0172 * (0.05) * e^{((0.0251) * (325 + 460) - 20.43)} = 0.00416$ lbs/ton HMA
 Calculations $(0.00416 \text{ lbs/ton}) * (250 \text{ tons/hr}) = 1.04$ lbs/hr
 $(1.04 \text{ lbs/hr}) * (3950 \text{ tons/year}) * (0.0005 \text{ lbs/ton}) = 2.05$ TPY

Diesel Generators

Engine Rating: 905 hp
Operating Hours: 4650 hours/year

Particulate Emissions:

PM Emissions:

Emission Factor 0.0022 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0022 lb/hp-hr) * (905 hp) = 1.99 lbs/hr
(1.99 lbs/hr) * (4650 hrs/yr) * (0.0005 tons/lb) = 4.63 TPY

PM₁₀ Emissions:

Emission Factor 0.0022 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0022 lb/hp-hr) * (905 hp) = 1.99 lbs/hr
(1.99 lbs/hr) * (4650 hrs/yr) * (0.0005 tons/lb) = 4.63 TPY

PM_{2.5} Emissions:

Emission Factor 0.0022 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0022 lb/hp-hr) * (905 hp) = 1.99 lbs/hr
(1.99 lbs/hr) * (4650 hrs/yr) * (0.0005 tons/lb) = 4.63 TPY

CO Emissions:

Emission Factor 0.0067 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0067 lb/hp-hr) * (905 hp) = 6.05 lbs/hr
(6.05 lbs/hr) * (4650 hrs/yr) * (0.0005 tons/lb) = 14.06 TPY

NO_x Emissions:

Emission Factor 0.031 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.031 lb/hp-hr) * (905 hp) = 28.06 lbs/hr
(28.06 lbs/hr) * (4650 hrs/yr) * (0.0005 tons/lb) = 65.23 TPY

SO₂ Emissions:

Emission Factor 0.0021 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0021 lb/hp-hr) * (905 hp) = 1.86 lbs/hr
(1.86 lbs/hr) * (4650 hrs/yr) * (0.0005 tons/lb) = 4.31 TPY

VOC Emissions:

Emission Factor 0.0025 lb/hp-hr [AP-42 3.3-1, 10/96]
Calculations (0.0025 lb/hp-hr) * (905 hp) = 2.27 lbs/hr
(2.27 lbs/hr) * (4650 hrs/yr) * (0.0005 tons/lb) = 5.28 TPY

Unpaved Roadways

Particulate Emissions:

Emission Factor $EF = k(s/12)^a * (W/3)^b$ [AP-42 13.2.2, 11/06]
where: EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)
k, Empirical Constant PM = 4.9 [AP-42 Table 13.2.2-2, 11/06]
k, Empirical Constant PM₁₀ = 1.5 [AP-42 Table 13.2.2-2, 11/06]
k, Empirical Constant PM_{2.5} = 0.15 [AP-42 Table 13.2.2-2, 11/06]
s, Surface Material Silt Content (%) = 7.1 [AP-42 Table 13.2.2-1, 11/06]
W, Mean Vehicle Weight (tons) = 50 [Gilman Provided Data]

- a, Empirical Constant PM = 0.7 [AP-42 Table 13.2.2-2, 11/06]
- a, Empirical Constant PM₁₀/PM_{2.5} = 0.9 [AP-42 Table 13.2.2-2, 11/06]
- b, Empirical Constant PM - PM_{2.5} = 0.45 [AP-42 Table 13.2.2-2, 11/06]

PM Emissions:

Emission Factor EF = $4.9 * (7.1/12)^{0.7} * (50/3)^{0.45} = 12.04$ lbs/VMT
 Calculations (12.04 lbs/VMT) * (5 miles/day) = 60.18 lbs/day
 (60.18 lbs/day) * (365 days/yr) * (0.0005 tons/lb) = 10.98 TPY

PM₁₀ Emissions:

Emission Factor EF = $1.5 * (7.1/12)^{0.9} * (50/3)^{0.45} = 3.32$ lbs/VMT
 Calculations (3.32 lbs/VMT) * (5 miles/day) = 16.59 lbs/day
 (16.59 lbs/day) * (365 days/yr) * (0.0005 tons/lb) = 3.03 TPY

PM_{2.5} Emissions:

Emission Factor EF = $0.15 * (7.1/12)^{0.9} * (50/3)^{0.45} = 0.33$ lbs/VMT
 Calculations (0.33 lbs/VMT) * (5 miles/day) = 1.66 lbs/day
 (1.66 lbs/day) * (365 days/yr) * (0.0005 tons/lb) = 0.30 TPY

V. Existing Air Quality

This permit is for a portable asphalt plant to originally be located in Section 20, Township 3 North, Range 7 West, in Silver Bow County, Montana. The area which Gilman has been located since originally permitted is in nonattainment for PM₁₀; however, this permit was originally issued in 1978 and the facility has not been moved. Therefore, this facility is permitted without an Addendum for operation in the existing site location.

VI. Air Quality Impacts

This permit is for a portable asphalt plant. The amount of controlled particulate emissions generated by this project should not cause concentrations of PM₁₀ in ambient air that exceed any set standard. Additionally, this facility is a portable source that will operate on an intermittent and seasonal basis; therefore, any impacts to air quality will be minor and short-term. Further, the permit action within this modification does not result in an increase in emissions.

VII. Ambient Air Impact Analysis

The Department determined 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.

VIII. 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.

IX. 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: Jim Gilman Excavating, Inc.

Montana Air Quality Permit (MAQP) #1198-03

Preliminary Determination Issued: April 14, 2011

Department Decision Issued: May 18, 2011

Permit Final: June 3, 2011

1. *Legal Description of Site:* Section 20, Township 3 North, Range 7 West, Silver Bow County, Montana
2. *Description of Project:* Gilman owns and operates a portable hot mix asphalt plant with a capacity of 250 tons per hour, as described within MAQP #1198-03 and associated permit analysis.
3. *Objectives of Project:* In an effort to update the Gilman's permit to more accurately represent the facility's potential to emit, Gilman requested to modify permit conditions to change means of rating generators from output in kilowatts (kW) to size of engine powering generators in horsepower (hp).
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Gilman has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #1198-03.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

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

| | | Major | Moderate | Minor | None | Unknown | Comments Included |
|---|----------------------------------------------------------------|-------|----------|-------|------|---------|-------------------|
| A | Terrestrial and Aquatic Life and Habitats | | | | X | | Yes |
| B | Water Quality, Quantity, and Distribution | | | | X | | Yes |
| C | Geology and Soil Quality, Stability and Moisture | | | | X | | Yes |
| D | Vegetation Cover, Quantity, and Quality | | | | X | | Yes |
| E | Aesthetics | | | | X | | Yes |
| F | Air Quality | | | | X | | Yes |
| G | Unique Endangered, Fragile, or Limited Environmental Resources | | | | X | | Yes |
| H | Demands on Environmental Resource of Water, Air and Energy | | | | X | | Yes |
| I | Historical and Archaeological Sites | | | | X | | Yes |
| J | Cumulative and Secondary Impacts | | | | X | | Yes |

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

A. Terrestrial and Aquatic Life and Habitats

The proposed permitting action would not impact terrestrial and aquatic life and habitats because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

B. Water Quality, Quantity and Distribution

The proposed permitting action would not impact water quality, quantity and distribution because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

C. Geology and Soil Quality, Stability and Moisture

The proposed permitting action would not impact geology and soil quality, stability and moisture because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

D. Vegetation Cover, Quantity, and Quality

The proposed permitting action would not impact vegetation cover, quantity, and quality because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

E. Aesthetics

The proposed permitting action would not impact aesthetics because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

F. Air Quality

The proposed permitting action would not impact air quality because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The proposed permitting action would not impact unique endangered, fragile, or limited environmental resources because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

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

The proposed permitting action would not impact demands on environmental resource of water, air and energy because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

I. Historical and Archaeological Sites

No change in the manner in which this facility would be permitted to operate would occur in the issuance of MAQP # 1198-03. Furthermore, the proposed location has previously been permitted for this asphalt operation and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action. Therefore, the permitting action would not be expected to have any effects to historical and archaeological sites.

J. Cumulative and Secondary Impacts

The proposed permitting action would not have cumulative and secondary impacts because the asphalt plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

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 proposed permitting action would not impact social structures and mores because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

B. Cultural Uniqueness and Diversity

The proposed permitting action would not impact cultural uniqueness and diversity because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

C. Local and State Tax Base and Tax Revenue

The proposed permitting action would not impact local and state tax base and tax revenue because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

D. Agricultural or Industrial Production

The proposed permitting action would not impact agricultural or industrial production because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

E. Human Health

The proposed permitting action would not impact human health because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed permitting action would not impact access to and quality of recreational and wilderness activities because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

G. Quantity and Distribution of Employment

The proposed permitting action would not impact quantity and distribution of employment because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

H. Distribution of Population

The proposed permitting action would not impact distribution of population because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

I. Demands for Government Services

The proposed permitting action would have minor impacts on demands for government services because issuance of, and assuring compliance with, this permit requires government action and resources.

J. Industrial and Commercial Activity

The proposed permitting action would not impact industrial and commercial activity because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

K. Locally Adopted Environmental Plans and Goals

The proposed permitting action would not impact locally adopted environmental plans and goals because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

L. Cumulative and Secondary Impacts

The proposed permitting action would not have cumulative and secondary impacts because the plant is an existing facility and no significant increases or decreases in operational schedule, new construction, new discharges or new emissions are proposed by this permitting action.

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 existing diesel generator engines associated with a portable asphalt plant. MAQP #1198-03 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

EA prepared by: D. Kuenzli

Date: March 7, 2011