



Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor

P. O. Box 200901

Helena, MT 59620-0901

(406) 444-2544

Website: www.deq.mt.gov

September 16, 2010

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

Dear Mr. Thompson:

Montana Air Quality Permit #2542-04 is deemed final as of September 15, 2010, by the Department of Environmental Quality (Department). This permit is for a portable 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,

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

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

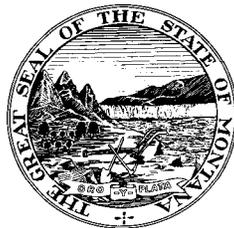
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Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2542-04

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

September 15, 2010



MONTANA AIR QUALITY PERMIT

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

MAQP: #2542-04
Application Complete: 6/18/2010
Preliminary Determination Issued: 7/28/2010
Department's Decision Issued: 8/30/2010
Permit Final: 9/15/2010
AFS #: 777-2542

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

Gilman owns a portable asphalt plant that may operate at various locations throughout Montana. The facility is initially permitted to be located at Section 36, Township 1 North, Range 5 West in Jefferson County. Gilman's home pit location is Section 25, Township 4North, Range 10 West. For a complete list of equipment, see Section I.A of the permit analysis.

MAQP #2542-04 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department) approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM₁₀ nonattainment areas.

B. Current Permit Action

On June 11, 2010, the Department received an application from Gilman. On June 18, 2010, the Department received further information requesting to modify the MAQP to allow for up to four generator engines, and to divide the hour limitations on those engines to provide for more operational flexibility due to the manner in which they operate. The current permit action modifies the permit accordingly. This action revises hours of operation limitations on the generator engines, updates the emissions inventory to reflect the change in generator engine operations allowed, updates the emissions inventory to include particulate matter with an aerodynamic diameter of 2.5 microns or less (PM_{2.5}), removes the Addendum permitting operations within nonattainment areas, and updates the permit to the current format used by the Department.

SECTION II: Limitations and Conditions

A. Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60 Subpart I).
2. Gilman shall be limited to a maximum of 550,000 tons of asphalt production during any rolling 12-month period (ARM 17.8.749 and ARM 17.8.1204).

3. Gilman shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack emissions that exhibit 20% opacity or greater averaged over 6 consecutive minutes (ARM 17.8.340).
4. 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 17.8.308).
5. 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).
6. Gilman shall treat all unpaved portions of the haul roads, access roads, and the general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.5 (ARM 17.8.752).
7. Gilman shall operate and maintain all control equipment (ARM 17.8.749).
8. 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 control device inlet and outlet must be installed and maintained (ARM 17.8.749).
9. The asphalt production rate shall be limited to the average production rate during the last source test demonstrating compliance (ARM 17.8.749).
10. The maximum capacity of the engine used to drive the generator to supply power for the test trailers shall not exceed 150 horsepower (hp). The engine/generator shall not operate more than 5,800 hours during any rolling 12 month period (ARM 17.8.749 and ARM 17.8.1204).
11. The maximum capacity of the engine used to drive the generator to supply power during downtime (periods in which power is desired but asphalt production is not occurring or commencing to occur) shall not exceed 150 hp. The engine/generator shall not operate more than 5,800 hours during any rolling 12 month period (ARM 17.8.749 and ARM 17.8.1204).
12. The total maximum capacity of the engine(s) used to drive the generator(s) to supply power during production (periods in which asphalt production is occurring or commencing to occur) shall not exceed 1,760 hp. The engine(s) shall not operate more than a combined 2,000 hours during any rolling 12 month period (ARM 17.8.749 and ARM 17.8.1204).
13. Gilman shall limit the number of generator engines on-site at any one time to four engines or less including those engines described in Sections II.A.10, II.A.11, and II.A.12 (ARM 17.8.749).

14. Gilman shall comply with any applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart I, Standards of Performance for Hot Mix Asphalt Facilities, for any applicable equipment (ARM 17.8.340 and 40 CFR 60, Subpart I).
15. Gilman shall comply with any applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart III, 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 III; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).
16. 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 of emissions 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. Testing Requirements

1. An EPA Methods 1-5, and 9 source test must be performed on the asphalt plant every four years after the initial source test to demonstrate compliance with the conditions specified in Sections II.A.1, II.A.3, and II.A.4 (ARM 17.8.105 and ARM 17.8.749).
2. Pressure drop on the control device and temperatures must be recorded during the test and reported as part of the test results (ARM 17.8.749).
3. Since asphalt production will be limited to the average production rate during the test, it is suggested the test be performed at the highest production rate practical (ARM 17.8.749).
4. Gilman may retest at any time in order to test at a higher production rate (ARM 17.8.749).
5. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
6. The Department may require further testing (ARM 17.8.105).

C. Reporting Requirements

1. If this 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. The facility shall not operate in the new location for more than one year (ARM 17.8.749 and ARM 17.8.765).
2. Gilman 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 Gilman as a permanent business record for at least

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

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

4. 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(l)(d) (ARM 17.8.745).
5. Gilman 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 Gilman 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).
6. Gilman shall document, by month, total asphalt production from the plant. By the 25th day of each month, Gilman shall total the asphalt production for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. Gilman shall document, by month, the hours of operation of each diesel generator engine. By the 25th day of each month, Gilman shall total the hours of operation for the diesel generator engines for the previous month. Gilman shall separate the hours of operation of the generator engines to clearly show the permit condition for which the hours apply. The monthly information will be used to verify compliance with the rolling 12-month limitations in Sections II.A.10, II.A.11, and II.A.12. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
8. Gilman 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).

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. Permit Fee – 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 #2542-04

I. Introduction/Process Description

Jim Gilman Excavating, Inc. (Gilman) owns and operates a portable asphalt plant operated at various locations throughout Montana.

A. Permitted Equipment

Gilman operates a portable asphalt plant with a maximum production rate of approximately 500 tons per hour (TPH). The plant includes the following equipment:

- 1996 GenCor Drum drier heated by a diesel-fired burner (maximum capacity 500 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 portable baghouse;
- 2000 CEI Diesel-fired asphalt heater, rated at 20 gallons per hour (GPH);
- Aggregate handling equipment;
- Asphalt storage silo;
- Diesel generator engines – up to 4 generator engines for a total of up to 2,060 horsepower (hp); and
- Associated equipment

B. Source Description

A typical operation begins by loading the aggregate into hoppers and then conveying it to the rotary dryer. The material is completely dried and mixed with hot asphalt oil. A baghouse is used to control particulate emissions. The asphalt mixture is loaded into a silo, then loaded into haul trucks and taken to the project site.

C. Permit History

On April 10, 1989, Gilman was issued **MAQP #2542-00** to operate a 1979 Barber Green DM-65 (8'X30') Portable Drum-Mix Asphalt Plant #DM65X247 and associated equipment.

On November 11, 1996, Gilman was issued **MAQP #2542-01** which reflected the fact that Gilman replaced their previously permitted drum dryer with a 1996 GenCor Drum Dryer (maximum production rate 500 TPH) and replaced the existing control equipment with a 1996 GenCor baghouse. MAQP #2542-01 replaced MAQP #2542-00.

On April 30, 1998, Gilman requested to be allowed to operate the facility in or within 10 kilometers of any particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment area through September 30, 1998. The Department of Environmental Quality (Department) issued the permit on June 1, 1998. **MAQP #2542-02** replaced MAQP #2542-01.

On March 9, 2007, the Department received a request from Gilman to administratively amend their permit to specifically identify the existing asphalt heater and various generators currently permitted as “associated equipment,” and to replace the current permit condition expressed in hours per year to an equivalent production limit. Gilman later requested to limit operations to maintain their synthetic minor status. **MAQP #2542-03** replaced MAQP #2542-02.

D. Current Permit Action

On June 11, 2010, the Department received an application from Gilman. On June 18, 2010, the Department received further information requesting to modify the MAQP to allow for up to four generator engines, and to divide the hour limitations on those engines to provide for more operational flexibility due to the manner in which they operate. The current permit action modifies the permit accordingly. This action revises hours of operation limitations on the generator engines, updates the emissions inventory to reflect the change in generator engine operations allowed, updates the emissions inventory to include particulate matter with an aerodynamic diameter of 2.5 microns or less (PM_{2.5}), removes the Addendum permitting operations within nonattainment areas, and updates the permit to the current format used by the Department. **MAQP #2542-04** replaces MAQP #2542-03.

E. Additional Information

Additional information, such as applicable rules and regulations, Best Available Control Technology (BACT)/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, are included in the 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).

Gilman 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 17.8.213 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 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, 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 rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS).
 - a. 40 CFR 60, Subpart A – General Provisions. This subpart applies to all equipment or facilities subject to an NSPS subpart as listed below:
 - b. 40 CFR 60, Subpart I – Standards of Performance of Hot Mix Asphalt Facilities. This subpart applies to any hot mix asphalt facility. Therefore, this facility is subject to this subpart.
 - 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 owners and operators who modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this part. Therefore, Gilman is subject to this subpart.
 8. 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 (NESHAP) for Source Categories.
 - a. 40 CFR 63, Subpart A – General Provisions. This subpart applies to all equipment or facilities subject to a NESHAP subpart as listed below:
 - b. 40 CFR 63, Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of hazardous air pollutant (HAP) emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. Therefore, as an area source of HAP emissions, Gilman is subject to this subpart.
- 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. Gilman submitted the appropriate application fee for the current permit action.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department; the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

- E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an MAQP or permit modification to construct, modify, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. Gilman has a PTE greater than 15 tons per year of oxides of nitrogen (NO_x); particulate matter (PM), particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀), carbon monoxide (CO), and volatile organic compounds (VOC); therefore, an MAQP is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the MAQP 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 MAQP 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. Gilman submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Gilman submitted an affidavit of publication of public notice for the March 3, 2010, issue of the *Montana Standard*, a newspaper of general circulation in the town of Butte in Silver Bow County, as proof of compliance with the public notice requirements.
 6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
 7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
 8. ARM 17.8.755 Inspection of Permit. This rule requires that MAQPs 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 Gilman 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 MAQP 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 MAQP 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 MAQP 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 MAQP 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 potential to emit (PTE) is less than 250 tons per year of any pollutant (excluding fugitive emissions).

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

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:
 - a. PTE > 100 tons/year of any pollutant;

- b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2542-04 for Gilman, the following conclusions were made:
- a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is subject to current New Source Performance Standards (NSPS) (40 CFR 60, Subpart I and Subpart III).
 - e. This facility is potentially subject to area source provisions of a current National Emissions Standards for Hazardous Air Pollutants (NESHAP) standard (40 CFR 63, Subpart ZZZZ).
 - f. This source is not a Title IV affected source and is not a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.
 - 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.

Gilman has taken federally enforceable permit conditions and limitations to limit the PTE of any criteria pollutant to less than 100 tons per year. Based on these facts, the Department has determined that Gilman will be a minor source of emissions as defined under Title V.

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. Gilman 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.

Any new diesel engine would likely be required to comply with the federal engine emission limitations including, for example, EPA Tier 2 emission standards for non-road engines (40 CFR Part 1039), New Source Performance Standard emission limitations for stationary compression ignition engines (40 CFR 60, Subpart III), or National Emissions Standards for Hazardous Air Pollutant Sources for Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ). Therefore, the Department has determined that compliance with applicable federal standards constitutes BACT for these engines.

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

IV. Emission Inventory*

Gilman Excavating, Inc. MAQP 2542-04 Restricted Potential to Emit in Tons Per Year							
Source	PM	PM ₁₀	PM _{2.5}	NO _x	CO	SO _x	VOC
Diesel Generator Engine – Testing Trailers (up to 150 hp)	0.96	0.96	0.96	13.49	2.91	0.89	1.09
Diesel Generator Engine – Non-operation time power (up to 150 hp)	0.96	0.96	0.96	13.49	2.91	0.89	1.09
Diesel Generator Engine(s) – operational power (up to 1760 hp combined)	3.87	3.87	3.87	54.56	11.76	3.61	4.42
1996 Gencor Ultradrum Asphalt Drum Mix Plant	7.60	6.92	5.81	15.13	35.75	3.03	8.8
Asphalt Heater	0.42	0.42	0.42	1.75	0.44	0.61	0.04
Aggregate Piles	1.77	0.84	0.06	N/A	N/A	N/A	N/A
Cold Aggregate Handling (Pile to Bin)	0.03	0.03	0.00	N/A	N/A	N/A	N/A
Aggregate Bins, Screening, Conveying	2.57	0.86	0.07	N/A	N/A	N/A	N/A
Asphalt Storage (Silo Filling)	0.16	0.16	0.16	N/A	0.32	N/A	3.36
Asphalt Loadout Into Trucks	0.14	0.14	0.14	N/A	0.37	N/A	1.14
Haul Roads	12.68	3.6	0.31	N/A	N/A	N/A	N/A
TOTAL:	31.15	18.75	12.76	98.41	54.45	9.03	19.95

Note: The emissions inventory of MAQP 2542-03 did not include condensable PM emissions, therefore, the condensable PM calculation for PM_{2.5}, as calculated to include PM_{2.5} in this emissions inventory, was added to the PM and PM₁₀ emissions originally calculated as shown in MAQP 2542-03.

CO = carbon monoxide
 Deg F = degrees Fahrenheit
 DSCF = dry standard cubic feet
 GPH = gallons per hour
 gal = gallon

gr = grains
 hp = horsepower
 hr = hour
 kW = kilowatt
 lb = pound

NO_x = oxides of nitrogen
 PM = particulate matter
 PM₁₀ or PM-10 = 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
 SO_x = oxides of sulfur

SO₂ = sulfur dioxide
 TPH = tons per hour
 TPY = tons per year
 TSP = total suspended particulate
 VMT = vehicle miles traveled
 VOC = volatile organic compounds
 yr = year

UPDATED EMISSIONS

Rotary Drum Mix Asphalt Plant with Baghouse

PM_{2.5} Emissions (controlled-filterable)

Assume 21% of TSP is PM2.5. AP 42, Table 11.1-4, 3/2004

TSP: 2.26 TPY (MAQP 2542-03)
 PM_{2.5} 2.26TPY*0.21= **0.47 TPY**

PM_{2.5} Emissions (controlled - condensable)

Maximum allowable production: 550000 tons/yr (Permit Limit)
 Emissions Factor: 0.0194 lb/ton product (AP-42 Table 11.1-3, 03/2004)
 Calculations: 0.0194lb/ton product*550000tons/yr = 10670 lb/yr
 10670lb/yr* 0.0005 ton/lb = **5.34 TPY**

Asphalt Heater

PM_{2.5} Emissions
 assume PM₁₀ = PM_{2.5}

Condensable PM_{2.5} Emissions

Firing Rate: 20 GPH (MAQP 2542-03)
 Hours of operation: 8760 hr/yr
 Emissions Factor: 1.3 lb/Mgal
 Calculations: 20GPH*8760hr/yr*1.3lb/Mgal*1/1000 Mgal/gal = 227.76 lb/yr
 227.76lb/yr*0.0005 ton/lb = **0.11 TPY**

Aggregate Piles

PM_{2.5} Emissions

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

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

The particle size multiplier in the equation, k, varies with aerodynamic particle size range, as follows:

Aerodynamic Particle Size Multiplier (k) For Equation 1				
< 30 μm	< 15 μm	< 10 μm	< 5 μm	< 2.5 μm
0.74	0.48	0.35	0.20	0.053*

k = 0.053
 U = 9.1 <http://met-www.cit.cornell.edu/ccd/wndspd98.html>
 M = 3 % -AP-42 Section 11.1.1.1 (03/2004)
 E = 0.000209 lb/ton

Calculations: 0.000209406852724039lb/ton*550000tons/yr = 115.1738 lb/yr
 115.173768998221lb/yr*0.0005 ton/lb = **0.06 ton/yr**

Cold Aggregate Handling (pile to bin)

PM_{2.5}

no data - <0.03 ton/yr

Aggregate Bins, Screening, Conveying

Emissions Factor: 0.000063 lb/Ton AP-42 Table 11.19.2-2, screening +conveying
 Calculations: 0.000063lb/Ton*550000 ton/yr * 4 = 138.6 lb/yr
 138.6lb/yr*0.0005ton/lb = **0.07 ton/yr**

Silo Filling

AP-42 Table 11.1-14 (03/2004), note b - Total PM is assumed to be PM_{2.5} since emissions consist of condensed vapors.

Asphalt Loadout into Trucks

AP-42 Table 11.1-14 (03/2004), note b - Total PM is assumed to be PM_{2.5} since emissions consist of condensed vapors.

Haul Roads

Vehicle miles traveled (estimate): 5 VMT/day (MAQP 2543-03)

PM_{2.5} Emissions:

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

AP-42 13.2.2-4, 11/2006

s = 7.1 AP-42 Table 13.2.2-1, 11/2006
 W = 54 tons, estimated avg for 40 ton truck
 k = 0.15 AP-42 Table 13.2.2-2, 11/2006
 a = 0.9 AP-42 Table 13.2.2-2, 11/2006
 b = 0.45 AP-42 Table 13.2.2-2, 11/2006

E = 0.343426 lb/VMT

Calculations:
 0.343426084802851lb/VMT*5VMT/day= 1.71713 lb/day
 1.71713042401426lb/day*365 day/yr * 0.0005 ton/lb = **0.31 ton/yr**

Diesel Generator Engines

Maximum rated horsepower: 150 hp (MAQP 2543-04 Application)
Hours of Operation per Year: **5800 hr/yr** operation of 100 kW generator for test trailers

PM_{2.5} Emissions

Emissions Factor: 0.0022 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.0022lb/hp-hr*150hp= 0.33 lb/hr
0.33lb/hr*5800hr/yr= 1914 lb/yr
1914lb/yr*0.0005 lb/ton = **0.96 ton/yr**

NO_x Emissions

Emissions Factor: 0.031 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.031lb/hp-hr*150hp= 4.65 lb/hr
4.65lb/hr*5800hr/yr= 26970 lb/yr
26970lb/yr*0.0005 lb/ton = **13.49 ton/yr**

CO Emissions

Emissions Factor: 0.00668 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.00668lb/hp-hr*150hp= 1.002 lb/hr
1.002lb/hr*5800hr/yr= 5811.6 lb/yr
5811.6lb/yr*0.0005 lb/ton = **2.91 ton/yr**

SO_x Emissions

Emissions Factor: 0.00205 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.00205lb/hp-hr*150hp= 0.3075 lb/hr
0.3075lb/hr*5800hr/yr= 1783.5 lb/yr
1783.5lb/yr*0.0005 lb/ton = **0.89 ton/yr**

VOC Emissions

Emissions Factor: 0.002514 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.002514lb/hp-hr*150hp= 0.377115 lb/hr
0.377115lb/hr*5800hr/yr= 2187.267 lb/yr
2187.267lb/yr*0.0005 lb/ton = **1.09 ton/yr**

Maximum rated horsepower: 150 hp (MAQP 2543-04 Application)
Hours of Operation per Year: **5800 hr/yr** operation of 100 kW generator during downtimes

PM_{2.5} Emissions

Emissions Factor: 0.0022 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.0022lb/hp-hr*150hp= 0.33 lb/hr
0.33lb/hr*5800= 1914 lb/yr
1914lb/yr*0.0005 lb/ton = **0.96 ton/yr**

NO_x Emissions

Emissions Factor: 0.031 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.031lb/hp-hr*150hp= 4.65 lb/hr
4.65lb/hr*5800= 26970 lb/yr
26970lb/yr*0.0005 lb/ton = **13.49 ton/yr**

CO Emissions

Emissions Factor: 0.00668 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.00668lb/hp-hr*150hp= 1.002 lb/hr
1.002lb/hr*5800= 5811.6 lb/yr
5811.6lb/yr*0.0005 lb/ton = **2.91 ton/yr**

SO_x Emissions

Emissions Factor: 0.00205 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.00205lb/hp-hr*150hp= 0.3075 lb/hr
0.3075lb/hr*5800= 1783.5 lb/yr
1783.5lb/yr*0.0005 lb/ton = **0.89 ton/yr**

VOC Emissions

Emissions Factor: 0.002514 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.002514lb/hp-hr*150hp= 0.377115 lb/hr
0.377115lb/hr*5800= 2187.267 lb/yr
2187.267lb/yr*0.0005 lb/ton = **1.09 ton/yr**

Maximum rated horsepower: 1760 hp (applicant requested maximum)
Hours of Operation per Year: **2000 hr/yr** <---- hours of operation

PM_{2.5} Emissions

Emissions Factor: 0.0022 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.0022lb/hp-hr*1760hp= 3.872 lb/hr
3.872lb/hr*2000hr/yr= 7744 lb/yr
7744lb/yr*0.0005 lb/ton = **3.87 ton/yr**

NO_x Emissions

Emissions Factor: 0.031 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.031lb/hp-hr*1760hp= 54.56 lb/hr
54.56lb/hr*2000hr/yr= 109120 lb/yr
109120lb/yr*0.0005 lb/ton = **54.56 ton/yr**

CO Emissions

Emissions Factor: 0.00668 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.00668lb/hp-hr*1760hp= 11.7568 lb/hr
11.7568lb/hr*2000hr/yr= 23513.6 lb/yr
23513.6lb/yr*0.0005 lb/ton = **11.76 ton/yr**

SO_x Emissions

Emissions Factor: 0.00205 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.00205lb/hp-hr*1760hp= 3.608 lb/hr
3.608lb/hr*2000hr/yr= 7216 lb/yr
7216lb/yr*0.0005 lb/ton = **3.61 ton/yr**

VOC Emissions

Emissions Factor: 0.002514 lb/hp-hr (AP-42 Table 3.3-1, 10/1996)
Calculations: 0.002514lb/hp-hr*1760hp= 4.424816 lb/hr
4.424816lb/hr*2000hr/yr= 8849.632 lb/yr
8849.632lb/yr*0.0005 lb/ton = **4.42 ton/yr**

PRIOR EMISSIONS CALCULATIONS

Rotary Drum-Mix Asphalt Plant with Baghouse

1996 Gencor Asphalt Drum-Mix Plant with Baghouse

Gencor Diesel Dryer Burner (44.1 MCF/hr)

Process Rate 355 ton/hr* 500 tons/hr unrestricted
 Air Flow: 30,060 dscfm*
 Hours of operations: 1100 hr/yr**
 Restricted Annual Throughput: 550,000 ton/yr*

**restriction, either based on permit or based on June 17, 2004 source test info; process rate not allowed to exceed this hourly rate*
***previous permit restriction was in hours; revised to reflect 550,000 tons production per year.*

PM Emissions (controlled)

Emission Factor	0.04 gr/DSCF	(#2542-02 Permit Limit)	
Calculations	0.04 gr/DSCF * 30,060 dscfm * 60 min/hr/7000 gr/lb =		10.31 lb/hr
	10.31 lb/hr / 500 ton/hr unrestricted =		0.0206 lb/ton
	0.0206 lb/ton * 550,000 ton/yr * 0.0005 ton/lb =		5.67 ton/yr

OR

Emission Factor	0.0113 gr/DSCF	(Stack Test June 17, 2004)	
Calculations	0.0113 gr/DSCF * 30,060 dscfm * 60 min/hr/7000 gr/lb =		2.91 lb/hr
	2.91 lb/hr / 355 ton/hr unrestricted =		0.0082 lb/ton
	0.0082 lb/ton * 550,000 ton/yr * 0.0005 ton/lb =		2.26 tons/yr

PM-10 Emissions (controlled)

Emission Factor	70% PM	(AP-42 Table 11.1-7 3/2004)	
Calculations	70% PM * 10.31 lb/hr =		7.22 lb/hr
	70% PM * 2.26 ton/yr =		1.58 ton/yr

NO_x Emissions

Emission Factor	0.055 lb/ton	(AP-42 Table 11.1-7 3/2004)	
Calculations	0.055 lb/ton * 500 lb/hr unrestricted =		27.50 lb/hr

VOC Emissions $0.055 \text{ lb/ton} * 550,000 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 15.13 \text{ ton/yr}$

Emission Factor 0.032 lb/ton (AP-42 Table 11.1-6 3/2004)
 Calculations $0.032 \text{ lb/ton} * 500 \text{ lb/hr unrestricted} = 16.00 \text{ lb/hr}$
 $0.032 \text{ lb/ton} * 550,000 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 8.80 \text{ ton/yr}$

CO Emissions

Emission Factor 0.130 lb/ton (AP-42 Table 11.1-7 3/2004)
 Calculations $0.13 \text{ lb/ton} * 500 \text{ lb/hr unrestricted} = 65.00 \text{ lb/hr}$
 $0.13 \text{ lb/ton} * 550,000 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 35.75 \text{ ton/yr}$

SO₂ Emissions

Emission Factor 0.011 lb/ton (AP-42 Table 11.1-7 3/2004)
 Calculations $0.011 \text{ lb/ton} * 500 \text{ lb/hr unrestricted} = 5.50 \text{ lb/hr}$
 $0.011 \text{ lb/ton} * 550,000 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 3.03 \text{ ton/yr}$

Asphalt Heater (20 GPH #2 diesel)

Firing Rate: 20 GPH
 Hours of operations: 8760 hr/yr

PM Emissions (controlled)

Emission Factor $3.3 \text{ lb}/10^3 \text{ gal}$ (AP-42 Table 1.3-1 9/1998)
 Calculations $3.3 \text{ lb}/10^3 \text{ gal} * 20 \text{ GPH} / 1000 \text{ gal} = 0.07 \text{ lb/hr}$
 $0.07 \text{ lb/hr} * 8760 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 0.31 \text{ ton/yr}$

PM-10 Emissions (controlled)

Emission Factor $3.3 \text{ lb}/10^3 \text{ gal}$ (AP-42 Table 1.3-1 9/1998)
 Calculations $3.3 \text{ lb}/10^3 \text{ gal} * 20 \text{ GPH} / 1000 \text{ gal} = 0.07 \text{ lb/hr}$
 $0.07 \text{ lb/hr} * 8760 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 0.31 \text{ ton/yr}$

NO_x Emissions

Emission Factor $20 \text{ lb}/10^3 \text{ gal}$ (AP-42 Table 1.3-1 9/1998)
 Calculations $20 \text{ lb}/10^3 \text{ gal} * 20 \text{ GPH} / 1000 \text{ gal} = 0.40 \text{ lb/hr}$
 $0.4 \text{ lb/hr} * 8760 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 1.75 \text{ ton/yr}$

VOC Emissions

Emission Factor $0.34 \text{ lb}/10^3 \text{ gal}$ (AP-42 Table 1.3-1 9/1998)
 Calculations $0.34 \text{ lb}/10^3 \text{ gal} * 20 \text{ GPH} / 1000 \text{ gal} = 0.01 \text{ lb/hr}$
 $0.01 \text{ lb/hr} * 8760 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 0.04 \text{ ton/yr}$

CO Emissions

Emission Factor $5 \text{ lb}/10^3 \text{ gal}$ (AP-42 Table 1.3-1 9/1998)
 Calculations $5 \text{ lb}/10^3 \text{ gal} * 20 \text{ GPH} / 1000 \text{ gal} = 0.10 \text{ lb/hr}$
 $0.1 \text{ lb/hr} * 8760 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 0.44 \text{ ton/yr}$

SO₂ Emissions Assumes Diesel @ 0.05% sulfur

Emission Factor $7.1 \text{ lb}/10^3 \text{ gal}$ (AP-42 Table 1.3-1 9/1998)
 Calculations $7.1 \text{ lb}/10^3 \text{ gal} * 20 \text{ GPH} / 1000 \text{ gal} = 0.14 \text{ lb/hr}$
 $0.14 \text{ lb/hr} * 8760 \text{ ton/yr} * 0.0005 \text{ ton/lb} = 0.61 \text{ ton/yr}$

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

Aggregate Piles

Process Rate: 500 ton/hr
 Number of Piles: 2 piles

Restricted Annual Throughput: 550,000 tons/yr (restricted)
 PM Emissions (controlled)

Emission Factor	0.00322 lbs/ton	(AP-42 Section 13.2.4, 1/95)
Calculations	0.00322 lbs/ton * 500 tons/hr * 2 piles =	3.22 lb/hr
	0.00322 lbs/ton * 550,000 tons/yr * 2 Piles * 0.0005 tons =	1.77 ton/yr

PM-10 Emissions (controlled)

Emission Factor	0.00153 lbs/ton	(AP-42 Section 13.2.4, 1/95)
Calculations	0.00153 lbs/ton * 500 tons/hr * 2 piles =	1.53 lb/hr
	0.00153 lbs/ton * 550,000 tons/yr * 2 Piles * 0.0005 tons =	0.84 ton/yr

Cold Aggregate Handling (Pile to Bin)

Process Rate: 500 ton/hr
 Number of Transfers: 1 Transfer
 Restricted Annual Throughput: 550,000 tons/yr (restricted)

PM Emissions (truck unloading)

Emission Factors	0.0001 lbs/ton	(AP-42 Section 11.19.2-2, 8/2004)
Calculations	0.0001 lbs/ton * 500 tons/hr * 1 Transfer =	0.05 lb/hr
	0.0001 lbs/ton * 550,000 tons/yr * 1 Transfer * 0.0005 tons =	0.03 ton/yr

PM-10 Emissions (controlled)

Emission Factors	0.0001 lbs/ton	(AP-42 Section 11.19.2-2, 8/2004)
Calculations	0.0001 lbs/ton * 500 tons/hr * 1 Transfer =	0.05 lb/hr
	0.0001 lbs/ton * 550,000 tons/yr * 1 Transfer * 0.0005 tons =	0.03 ton/yr

Aggregate Bins, Screening, Conveying

Process Rate: 500 ton/hr
 Number of Transfers: 4 Transfers
 Restricted Annual Throughput: 550,000 tons/yr (restricted)

PM Emissions (screening & conveyor, controlled)

Emission Factor	2.34E-3 lbs/ton	(AP-42 Section 11.19.2-2, 8/2004)
Calculations	0.00234 lbs/ton * 500 tons/hr * 4 Transfers =	4.68 lb/hr
	0.00234 lbs/ton * 550,000 tons/yr * 4 Transfers * 0.0005 tons =	2.57 ton/yr

PM-10 Emissions (screening & conveyor, controlled)

Emission Factor	7.86E-04 lbs/ton	(AP-42 Section 11.19.2-2, 8/2004)
Calculations	0.000786 lbs/ton * 500 tons/hr * 4 Transfers =	1.57 lb/hr
	0.000786 lbs/ton * 550,000 tons/yr * 4 Transfers * 0.0005 tons =	0.86 ton/yr

Asphalt Storage (Silo Filling)

Process Rate: 500 ton/hr
 Temperature (T, default): 325 deg F
 Asphalt volatility (V, default): -0.5
 Restricted Annual Throughput: 550,000 tons/yr (restricted)

PM Emissions

Emission Factor	5.86E-04 lbs/ton	(AP-42 Section 11.1-14, 3/2004)
Calculations	0.00586 lbs/ton * 500 tons/hr =	0.29 lb/hr
	0.00586 lbs/ton * 550,000 tons/yr * 0.0005 tons =	0.16 ton/yr

PM-10 Emissions (screening & conveyor, controlled)

Emission Factor	5.86E-04 lbs/ton	(AP-42 Section 11.1-14, 3/2004)
Calculations	0.000586 lbs/ton * 500 tons/hr =	0.29 lb/hr
	0.000586 lbs/ton * 550,000 tons/yr * 0.0005 tons =	0.16 ton/yr

VOC Emissions

Emission Factor	1.22E-02 lbs/ton	(AP-42 Section 11.1-14, 3/2004)	
Calculations	0.0122 lbs/ton * 500 tons/hr =		6.10 lb/hr
	0.0122 lbs/ton * 550,000 tons/yr * 0.0005 tons =		3.36 ton/yr

CO Emissions

Emission Factor	1.18E-03 lbs/ton	(AP-42 Section 11.1-14, 3/2004)	
Calculations	0.000118 lbs/ton * 500 tons/hr =		0.59 lb/hr
	0.000118 lbs/ton * 550,000 tons/yr * 0.0005 tons =		0.32 ton/yr

Asphalt Loadout Into Trucks

Process Rate:	500 ton/hr
Temperature (T, default):	325 deg F
Asphalt volatility (V, default)	-0.5
Restricted Annual Throughput:	550,000 tons/yr (restricted)

PM Emissions

Emission Factor	5.22E-04 lbs/ton	(AP-42 Section 11.1-14 3/2004)	
Calculations	0.00522 lbs/ton * 500 tons/hr =		0.26 lb/hr
	0.00522 lbs/ton * 550,000 tons/yr * 0.0005 tons =		0.14 ton/yr

PM-10 Emissions

Emission Factor	5.22E-04 lbs/ton	(AP-42 Section 11.1-14 3/2004)	
Calculations	0.000522 lbs/ton * 500 tons/hr =		0.26 lb/hr
	0.000522 lbs/ton * 550,000 tons/yr * 0.0005 tons =		0.14 ton/yr

VOC Emissions

Emission Factor	4.16E-02 lbs/ton	(AP-42 Section 11.1-14 3/2004)	
Calculations	0.00416 lbs/ton * 500 tons/hr =		2.08 lb/hr
	0.00416 lbs/ton * 550,000 tons/yr * 0.0005 tons =		1.14 ton/yr

CO Emissions

Emission Factor	1.35E-03 lbs/ton	(AP-42 Section 11.1-14 3/2004)	
Calculations	0.00135 lbs/ton * 500 tons/hr =		0.68 lb/hr
	0.00135 lbs/ton * 550,000 tons/yr * 0.0005 tons =		0.37 ton/yr

Haul Roads

Vehicle miles traveled (estimate):	5 VMT/day
Control Efficiency is included in Emission Factor	

PM Emissions (controlled)

Emission Factor (Rated Load Capacity <50 tons):	13.90 lbs/VMT	(AP-42 Section 13.2.2, 12/03)	
Calculations	5 VMT/day * 13.90 lbs/VMT =		69.5 lb/day
			12.68 ton/yr

PM-10 Emissions (controlled)

Emission Factor (Rated Load Capacity <50 tons):	3.95 lbs/VMT	(AP-42 Section 13.2., 12/03)	
Calculations	5 VMT/day * 3.95 lbs/VMT =		19.75 lb/day
			3.60 ton/yr

V. Existing Air Quality

The location in which this operation is initially permitted is designated as attainment/unclassifiable for all criteria pollutants. MAQP #2542-04 excludes operations in areas which are determined to be in non-attainment of the National Ambient Air Quality Standards (NAAQS) or Montana Ambient Air Quality Standards (MAAQS).

VI. Air Quality Impacts

MAQP #2542-04 covers operation of this asphalt plant while operating in areas within Montana that are classified as attainment or unclassifiable with federal ambient air quality standards, 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, and would limit the facility's emissions below the major source threshold.

VII. Ambient Air Impact Analysis

The Department determined that the impact from this permitting action will be minor. There is a net decrease in the allowable emissions of all criteria pollutants, with the exception of particulate matter, as a result of this permitting action. The change in allowable emissions is illustrated below:

MAQP Number	NO _x	CO	SO _x	VOC	PM
MAQP #2542-03	98.89	54.54	9.04	20.04	25.68
MAQP #2542-04	98.41	54.45	9.03	19.95	31.15
Difference:	-0.48	-0.09	-0.01	-0.09	5.47

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

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

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

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.
3099 Grand Ave
Butte, MT 59701

Montana Air Quality Permit number: 2542-04

Preliminary Determination Issued: 7/28/2010

Department Decision Issued: 8/30/2010

Permit Final: 9/15/2010

1. *Legal Description of Site:* Gilman owns a portable asphalt plant that may operate at various locations throughout Montana.
2. *Description of Project:* The plant operates to produce asphalt at various locations throughout Montana.
3. *Objectives of Project:* Issuance of MAQP #2542-04 would allow for increased flexibility in the operations of generator engines, increase the number of engines allowed from 3 engines to 4 engines, and allow for a net increase in horsepower. However, due to the conditions and limitations that would be placed in MAQP #2542-04, only a small increase in allowable emissions would be associated with this action.
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 MAQP 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 #2542-04.
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			XX			Yes
B	Water Quality, Quantity, and Distribution			XX			Yes
C	Geology and Soil Quality, Stability and Moisture			XX			Yes
D	Vegetation Cover, Quantity, and Quality			XX			Yes
E	Aesthetics			XX			Yes
F	Air Quality			XX			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			XX			Yes
H	Demands on Environmental Resource of Water, Air and Energy			XX			Yes
I	Historical and Archaeological Sites			XX			Yes
J	Cumulative and Secondary Impacts			XX			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

Issuance of MAQP #2542-04 would allow for increased flexibility in the operations of generator engines, increase the number of engines allowed from 3 engines to 4 engines, and allow for a net increase in allowable horsepower. However, due to the conditions and limitations that would be place in MAQP #2542-04, only a small increase in allowable emissions would be associated with this action. Any effects to terrestrial and aquatic life and habitats would be expected to be minor.

B. Water Quality, Quantity and Distribution

No new sources requiring use of water would be expected to result from this permitting action. Water may continue to be required at the site for control of fugitive dust emissions. Therefore, minor, if any, effect to water quality, quantity, and distribution would be expected.

C. Geology and Soil Quality, Stability and Moisture

No new sources requiring use of water would be expected to result from this permitting action. Water may continue to be required at the site for control of fugitive dust emissions. No other factors affecting geology, soil quality, and soil stability are apparent as a result of this permitting action. Effects would be expected to be minor.

D. Vegetation Cover, Quantity, and Quality

Issuance of MAQP #2542-04 would allow for increased flexibility in the operations of generator engines, increase the number of engines allowed from 3 engines to 4 engines, and allow for a net increase in horsepower. However, due to the conditions and limitations that would be place in MAQP #2542-04, only a small increase in allowable emissions would be associated with this action. Effects, if any, to vegetation cover, quantity, and quality would be expected to be minor.

E. Aesthetics

Issuance of MAQP #2542-04 would allow for increased flexibility in the operations of generator engines, increase the number of engines allowed from 3 engines to 4 engines, and allow for a net increase in horsepower. Effects to aesthetics from any increase in noise level would be expected to be minor. No change in the portable manner in which this facility would be permitted to operate would occur in the issuance of MAQP #2542-04. Any effects to aesthetics would be expected to be minor.

F. Air Quality

Issuance of MAQP #2542-04 would allow for increased flexibility in the operations of generator engines, and allow for a net increase in horsepower. However, due to the conditions and limitations that would be place in MAQP #2542-04, only a small increase in allowable emissions would be associated with this action. Therefore, only a small effect to air quality would be expected as a result of issuance of MAQP #2542-04.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The current permitting action would allow for more flexibility in operations, however, the allowable emissions increase is relatively small. The allowable emissions increase is presented below:

MAQP Number	NO _x	CO	SO _x	VOC	PM
MAQP #2542-03	98.89	54.54	9.04	20.04	25.68
MAQP #2542-04	98.41	54.45	9.03	19.95	31.15
Difference:	-0.48	-0.09	-0.01	-0.09	5.47

As described in Section 7.D of this environmental assessment, impacts to Vegetation Cover, Quantity, and Quality from pollutant deposition would be expected to be minor. Because the plant would be permitted for operations in an area in which operations have previously been permitted, the project would not be expected to significantly increase disturbance within the area. As described in Section 7.F, the Department determined that impacts to air quality would be minor. As described in Section 7.B, minor, if any impacts at all, on water quality or quantity would be expected as a result of this permitting action. As described in Section 7.J below, cumulative and secondary impacts to potential physical and biological effects would be expected to be minor. With these considerations, in combination of the net allowable emissions change described above, the portable and temporary nature of the operation to be permitted, and the knowledge that these operations typically operate within an area previously permitted for such activities, the Department has determined that any impacts to unique endangered, fragile, or limited environmental resources would be expected to be minor.

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

The portable asphalt plant would provide its own energy for operation from the portable diesel engine generators. Water would continue to be potentially required for control of fugitive particulate matter emissions in the plant area and surrounding roads. Impacts to air resources

would be minimal because the source would be considered a minor industrial source of emissions. Because air pollutants would be controlled, energy requirements would be provided by portable generators, and water use would be expected to be minimal, any impacts to water, air, and energy resources would be expected to be minor.

I. Historical and Archaeological Sites

No change in the portable manner in which this facility would be permitted to operate would occur in the issuance of MAQP #2542-04. Furthermore, the proposed location has previously been permitted for this asphalt operation. Therefore, the permitting action would not be expected to have any effects to historical and archaeological sites.

J. Cumulative and Secondary Impacts

Potential physical and biological effects of any individual considerations above would be expected to be minor. Collectively, the potential cumulative and secondary impacts would be expected to be minor.

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

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

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

- A. Social Structures and Mores
- B. Cultural Uniqueness and Diversity

No change in the portable manner in which this facility would be permitted to operate would occur in the issuance of MAQP #2542-04. Emissions would be expected to be intermittent and temporary. Furthermore, portable asphalt plants typically locate within an existing industrial site. Therefore, minor, if any, effects to social structures and mores or cultural uniqueness and diversity would be expected as a result of issuance of MAQP #2542-04.

C. Local and State Tax Base and Tax Revenue

Issuance of MAQP #2542-04 would allow for more operational flexibility. However, limits on the total allowable production of asphalt would remain unchanged. Minor impacts, if any, would be expected as a result of the issuance of MAQP #2542-04.

D. Agricultural or Industrial Production

Issuance of MAQP #2542-04 would allow for increased flexibility in the operations of generator engines, increase the number of engines allowed from 3 engines to 4 engines, and allow for a net increase in horsepower. However, due to the conditions and limitations that would be placed in MAQP #2542-04, only a small increase in allowable particulate matter emissions would be associated with this action. Any effects to agricultural or industrial production would be expected to be minor.

E. Human Health

Limitations and conditions of MAQP #2542-04 would be derived from rules designed to protect human health. Due to the conditions and limitations that would be placed in MAQP #2542-04, only a small increase in allowable emissions would be associated with this action. Therefore, only minor impacts would be expected to human health.

F. Access to and Quality of Recreational and Wilderness Activities

No change in the portable manner in which this facility would be permitted to operate would occur in the issuance of MAQP #2542-04. Emissions would be expected to be intermittent and temporary, with only a small increase in allowable emissions permitted. Furthermore, portable asphalt plants typically locate within an existing industrial site. As discussed in 7.E. above, only a minor change in aesthetics would be expected. Therefore, only minor impacts to the access of, or to the quality of, recreational and wilderness activities would be expected as a result of issuance of MAQP #2542-04.

G. Quantity and Distribution of Employment

No change in the quantity and distribution of employment would be expected as a result of permit issuance.

H. Distribution of Population

No change in the portable manner in which this facility would be permitted to operate would occur in the issuance of MAQP #2542-04. Furthermore, no change in the quantity and distribution of employment would be expected. Therefore, no change in the distribution of population would be expected as a result of issuance of MAQP #2542-04.

I. Demands for Government Services

A very slight increase in demand for government services would be expected. The facility would be permitted as a synthetic minor (a facility with the potential to emit below the Title V permitting threshold of 100 tons per year of any pollutant, less than 25 tons per year of all hazardous air pollutants combined, and less than 10 tons per year of any single hazardous air pollutant), and allowable emissions would remain at or above 80% of the Title V limit. To allow for increased operational flexibility, separate limits would be placed in MAQP #2542-04 for each generator engine purpose. Therefore, a slight increase in time for the review of information to determine compliance with permit conditions would be expected. No other changes to demands for government services would be expected.

J. Industrial and Commercial Activity

The proposed modification of permit limits would allow for more operational flexibility. No change to the total amount of allowed asphalt production would occur. Any effects to industrial and commercial activity would be expected to be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is unaware of any locally adopted environmental plans and goals in the proposed initial project location. MAQP #2542-04 would contain conditions and limitations for protecting air quality and to keep facility emissions in compliance with state and federal ambient air quality standards. Furthermore, because the facility would be expected to have intermittent and seasonal operations, any impacts from the facility would be expected to be minor and short-lived.

L. Cumulative and Secondary Impacts

Potential economic and social effects of any individual considerations above would be expected to be minor. The Department has determined that collectively, the potential cumulative and secondary impacts would be expected to be minor.

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 generator engines associated with a portable asphalt plant. MAQP #2542-04 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, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Shawn Juers

Date: 7/7/2010