



Montana Department of
ENVIRONMENTAL **Q**UALITY

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March 26, 2012

John Roberts
Titan, Inc. (Materials Division)
#6 Depot Road
Ennis, Montana 59729

Dear Mr. Roberts:

Montana Air Quality Permit #2939-04 is deemed final as of March 24, 2012, by the Department of Environmental Quality (Department). This permit is for a portable aggregate crushing and screening facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Ed Warner
Environmental Engineer
Air Resources Management Bureau
(406) 444-2467

VW:EW
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2939-04

Titan, Inc.
#6 Depot Road
Ennis, Montana 59729

March 24, 2012



MONTANA AIR QUALITY PERMIT

Issued To: Titan, Inc. (Materials Division)
#6 Depot Road
Ennis, MT 59729

MAQP: #2939-04
Administrative Amendment (AA) Request
Received: 09/26/2011
Department Decision on AA: 3/8/2012
Permit Final: 3/24/2012
AFS #: 777-2939

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Titan, Inc. - Materials Division (Titan), pursuant to Sections 75-2-204 and 211, 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

Titan operates a portable aggregate crushing, screening, and wash plant operation at various locations throughout Montana. MAQP #2939-04 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County Air Quality Permit will be required for locations within Missoula County.* An addendum to this Air Quality Permit will be required if Titan intends to locate in or within 10 km of certain PM₁₀ nonattainment areas. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Current Permit Action

On September 26, 2011, the Department of Environmental Quality (Department) received an address notification change. On October 19, 2011, the Department received an additional request to replace the 250 kilowatt (kW) generator with a 275 kW generator. A follow-up phone conversation with Titan also disclosed that the concrete batch plant was sold and could be removed from the permit. During the review of this amendment request the Department determined that the air emissions from the engine driving the 250 kW generator were not properly accounted for during the issuance of MAQP #2939-01. The emission inventory has been updated to reflect the appropriate engine size and a permit condition has been added that limits the total combined generator engine sizes. Permit conditions for the different crushers and screens have been consolidated and the annual production limitations have been removed because they were a redundant limit of maximum facility capacity. This permit action also reflects the address change, removal of the concrete batch plant, and updates the permit language and rule references to current Department practices.

Section II: Limitations and Conditions

A. Operational Limitations and Conditions

1. All visible emissions from any Standards of Performance for New Stationary Source (NSPS) – affected crusher shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):

- For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity
 - For crushers that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 15% opacity
2. All visible emissions from any other NSPS-affected equipment (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):
 - For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
 - For equipment that commence construction, modification, or reconstruction after August 31, 1983, but before April 22, 2008: 10% opacity
 3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
 4. Titan 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 and ARM 17.8.752).
 5. Titan 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. Water and water spray bars shall be available on site and used, as necessary, to maintain compliance with the opacity limitations in Section II.A.1, II.A.2, and II.A.3 (ARM 17.8.752).
 7. Titan shall not operate more than two crushers at any given time and the combined maximum design capacity shall not exceed 500 tons per hour (TPH) (ARM 17.8.749).
 8. Titan shall not operate more than three screens at any given time and the combined maximum design capacity shall not exceed 575 TPH (ARM 17.8.749).
 9. Titan shall not operate or have on-site more than two diesel generator engines. The maximum combined capacity of the engines that drive the generators shall not exceed 718 horsepower (hp) (ARM 17.8.749).
 10. If the permitted equipment is used in conjunction with any other equipment owned or operated by Titan, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons of particulate during any rolling 12-month time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).
 11. Titan shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

12. Titan shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

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

C. Operational Reporting Requirements

1. If this portable aggregate crushing, screening, and wash plant operation is moved to another location, an Intent to Transfer Form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).
2. Titan shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. All records compiled in accordance with this permit shall be maintained by Titan as a permanent business record for at least 5 years following the date of the measurement, shall be available at the plant site for inspection by the Department, and shall be submitted to the Department upon request (ARM 17.8.749).
3. Titan 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 units required by the Department. This information may be used for calculating operating fees, and/or to verify compliance with permit limitations (ARM 17.8.505).

4. Titan 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 start-up 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).

Section III: General Conditions

- A. Inspection - Titan shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment such as Continuous Emission Monitoring Systems (CEMS) or Continuous Emission Rate Monitoring Systems (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Titan fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Titan of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401 *et seq.*, MCA.
- E. Appeals - Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Air Quality Operation Fees - Pursuant to Section 75-2-220, MCA, failure to pay of an annual operation fee by Titan 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. Titan shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas having a Department-approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Titan, Inc. (Materials Division)
MAQP #2939-04

I. Introduction/Process Description

A. Permitted Equipment

Titan, Inc. - Materials Division (Titan) owns and operates a portable gravel crushing and screening facility and associated aggregate wash plant. Currently, the crushing/screening facility consists of a 1980 Nordberg Symons (48") cone crusher (up to 350 Tons Per Hour (TPH)), a 1974 (6'x20') Telesmith 2-deck screen (up to 350 TPH), and associated equipment. The wash plant consists of a 2003 Delta (5'x16') 3-deck screen (maximum capacity up to 100 TPH), a Pre-1983 Pioneer jaw crusher (maximum capacity up to 150 TPH), a Pre-1983 Kolman (4'X8') screen (maximum capacity up to 125 TPH), and associated equipment. The equipment is powered by two diesel generators with a combined maximum engine size not to exceed 718 horsepower (hp). Currently, the two generator engines are a Caterpillar 3406 limited to 449 hp at 1800 revolutions per minute (rpm) in the current arrangement driving a 275 kilowatt (kW) generator for powering the crushing/screening plant and a Detroit engine of unknown size driving a Kamag 125 kW generator for powering the wash plant. Because the actual rated hp of the Detroit engine is unknown, the Department of Environmental Quality (Department) may continue to rely on the 125 kW rating for demonstrating compliance. If the 125 kW genset or its engine alone is replaced, then the combined hp of the generator engines must not exceed 718 hp. If the 275 kW generator engine is replaced and Titan continues to use the same 125 kW generator engine, then the maximum rated capacity of the replacement generator engine must not exceed 550 hp.

B. Source Description

Titan proposes to operate this portable crushing/aggregate screening/aggregate washing plant and associated equipment. The aggregate crushing/aggregate screening plant would be used to crush and sort sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into a hopper that feeds a screen. From the screen, oversized material is sent to a crusher, crushed, and sent back to the screen. Undersized material is sent to stockpile. The aggregate wash plant has a hopper and a screw auger that supply materials to a 3-deck screen. Oversized materials are conveyed onto a screen and crusher, and recycled back to the original screen. Undersized materials are sorted and sent to stockpile.

C. Permit History

On July 17, 1996, Titan was issued a MAQP to operate a portable 1965 Kolberg screen plant (maximum capacity 101 TPH), four 1971 shop made conveyors, and associated equipment. The facility initially operated in the SW¹/₄ of the SW¹/₄ of Section 8, Township 6 South, Range 1 West, in Madison County, Montana. Titan's permit was assigned **MAQP #2939-00**.

On May 30, 2002, Titan was issued **MAQP #2939-01** for the operation of a portable aggregate crushing/aggregate screening facility and associated aggregate wash plant. Titan requested to remove the 1965 Kolberg screen plant from the facility's MAQP and add crushing and screening equipment, which included a 1980 Nordberg Symons (48") cone crusher (350 TPH), a 1974 (6'x20") Telesmith 2-deck screen (350 TPH), a CAT

diesel generator (250 kW), and associated equipment. Also, Titan requested to add an aggregate wash plant consisting of a pre-1983 Cedar Rapids 3-deck screen (150 TPH), a pre-1983 Pioneer jaw crusher (150 TPH), a pre-1983 (4' x 8') Kolman screen (125 TPH), a Kamag diesel generator (125 kW), and associated equipment. MAQP #2939-01 replaced MAQP #2939-00.

On October 22, 2003, Titan was issued **MAQP #2939-02** for the replacement of a pre-1983 Cedar Rapids (42"x12") 3-deck screen (maximum capacity 150 TPH) with a 2003 (5'x16') Delta 3-deck screen (maximum capacity 100 TPH) and to generalize the permit to allow for additional operational flexibility. The equipment changes resulted in the generation of particulate emissions of less than 15 tons per year which was the de minimis threshold at that time; therefore, the change reflected a de minimis addition of equipment as allowed by ARM 17.8.745(1)(a). MAQP #2939-02 replaced MAQP #2939-01.

On January 16, 2004, Titan submitted a complete permit application for the addition of a portable 1998 Preem truck mix concrete batch plant (75 cubic yards per hour) with an attached Portice Stone Company baghouse and associated equipment. The permit was updated to reflect the current permit language and rule references used by the Department. **MAQP #2939-03** replaced MAQP #2939-02.

D. Current Permit Action

On September 26, 2011, the Department received an address notification change. On October 19, 2011, Titan submitted a request to replace a 250 kW diesel generator with a 275 kW diesel generator. Titan also requested to remove the concrete batch plant and associated equipment from the permit as the equipment has been sold. During the review of this amendment request the Department determined that the air emissions from the engines driving the 250 kW and 125 kW generators that were incorporated into the permit during the issuance of MAQP #2939-01 were not accounted for correctly. The engine sizes used for emission calculations were based on a direct unit conversion of rated generator kW rather than the actual maximum design capacity of the engines. The application for MAQP #2939-01 supplied an engine model number for the 250 kW generator which the Department researched and determined to be 550 hp. The current permit action updates the emission inventory for this unit based on the 550 hp engine. The application for MAQP #2939-01 also included some engine model information for the 125 kW generator; however, the Department was unable to determine a maximum hp rating. Therefore, the permit analysis will continue to reflect an engine size for this unit based on a direct conversion of 125 kW to hp. The current permit action includes a new condition limiting the total maximum combined hp of the diesel generator engines to 718 hp which is the sum of 550 hp and the direct conversion of 125 kW to hp (168 hp). Because the actual rated hp of the 125 kW generator engine is unknown, the Department will continue to rely on the 125 kW rating for demonstrating compliance. If the 125 kW genset or its engine alone is replaced, then the combined hp of the generator engines must not exceed 718 hp. If the 275 kW generator engine is replaced and Titan continues to use the same 125 kW generator engine, then the maximum rated capacity of the replacement generator engine must not exceed 550 hp. Permit conditions for the different crushers and screens have been consolidated and the annual crushing and screening production limitations have been removed because they were a redundant limit of maximum facility capacity.

The current permit action updates the emission inventory with the updated combined generator engine size, updates the facility address, removes the concrete batch plant, consolidates the permit conditions limiting the size of the crushers and screens, removes

the annual production limitations on crushing and screening, and updates the permit language and rule references to current Department practices. **MAQP #2939-04** replaces MAQP #2939-03.

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, is included in the permit 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 subchapter, 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).

Titan 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. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner 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

Titan must comply with the applicable ambient air quality standards.

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

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged 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, Titan 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 Processes. 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 Standards of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, New Source Performance Standards (NSPS). Titan is currently not considered an NSPS affected facility under 40 CFR Part 60 because it does not meet the definition of an affected facility as described below. The following subparts are described because this permit is written in a de minimis friendly manner and the subparts may become applicable with future equipment.

- a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
 - b. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. The provisions of this subpart do not apply to wet screening operations. Based on the information submitted by Titan, the portable crushing/screening equipment to be used under MAQP #2939-04 is not subject to this subpart based on the age of the equipment. However, because the permit is written in a de minimis-friendly manner it may become applicable with future equipment.
 - c. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by Titan, the CI ICE equipment to be used under MAQP #2939-04 is not subject to this subpart based on the age of the equipment. However, because the permit is written in a de minimis-friendly manner it may become applicable with future equipment.
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 (NESHAPs) for Source Categories. Titan may be considered a NESHAP-affected facility under 40 CFR Part 63 and subject to the requirements of the following subparts.
- a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below:
 - b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. Based on the information submitted by Titan, the RICE equipment to be used under MAQP #2939-04 is potentially subject to this subpart because the RICE would meet the definition of a stationary RICE at an area source of HAP emissions if they operated at the same location for longer than 12 months.

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 Titan 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. Titan was not required to submit a permit application fee as this was an administrative 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.

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 facility to obtain an air quality permit or permit modification 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. Titan has a PTE of greater than 15 tons per year of total particulate matter (PM), particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀), oxides of nitrogen (NO_x), 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 are not subject to the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Titan submitted the required permit application for the current permit action. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.

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 IV 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 Titan of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or 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 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of Titan, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond those found in its permit, unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

14. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8, Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major 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 FCAA that it would emit, except as this subchapter would otherwise allow.

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

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 criteria 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. PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment 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 #2939-04 for the Titan facility, the following conclusions were made:
 - a. The facility's PTE is less than 100 tons/year for any criteria 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 potentially subject to current NESHAP standards (40 CFR 63, Subpart A – General Provisions and 40 CFR 63, Subpart ZZZZ – Stationary RICE).

- e. The facility is potentially subject to current NSPS standards (40 CFR Part 60 – General Provisions; Subpart OOO – Nonmetallic Mineral Processing Plants; and Subpart IIII – Stationary CI ICE).
- f. This source is not a Title V affected source, nor a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that this facility would be a minor source of emissions, as defined under the Title V Operating Permit Program.

III. BACT Determination

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

A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change.

IV. Emission Inventory

Emission Source	TPY						
	PM	PM ₁₀	PM _{2.5}	NO _x	CO	VOC	SO ₂
Aggregate Storage Piles	4.16	1.97	0.30	--	--	--	--
Aggregate Handling/Conveyors	22.01	8.07	0.19	--	--	--	--
Screens	31.48	10.96	0.13	--	--	--	--
Crushers	5.91	2.63	0.22	--	--	--	--
Haul Roads / Vehicle Traffic	5.68	1.57	0.16	--	--	--	--
Diesel Engine(s): 718 hp @ 8760 hrs	6.92	6.92	6.92	97.44	21.00	7.90	6.44
Total Emissions	76.17	32.10	7.91	97.44	21.00	7.90	6.44

CO = carbon monoxide
 hp = horsepower
 lb = pound
 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 = sulfur dioxide
 TPH = tons per hour
 TPY = tons per year
 VOC = volatile organic compounds
 yr = year

Calculations

Crushing/Screening Storage Piles

Maximum Process Rate = 350 ton/hr (Maximum plant process rate)
 Maximum Hours of Operation = 8,760 hrs/yr
 Number of Piles = 1 piles

Filterable PM Emissions:

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

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

Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)
 U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

$$\text{Calculation: } (350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00331 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 2.53 \text{ ton/yr}$$

Filterable PM₁₀ Emissions:

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

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

Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)
 U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

$$\text{Calculation: } (350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00156 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 1.20 \text{ ton/yr}$$

Filterable PM_{2.5} Emissions:

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

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

Where: k = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)
 U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

$$\text{Calculation: } (350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 0.18 \text{ ton/yr}$$

Wash Plant Storage Piles

Maximum Process Rate = 225 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Piles = 1 piles

Filterable PM Emissions:

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

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

Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)
 U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

$$\text{Calculation: } (225 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00331 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 1.63 \text{ ton/yr}$$

Filterable PM₁₀ Emissions:

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

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

Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)
 U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
 M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3,

11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation: $(225 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00156 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 0.77 \text{ ton/yr}$

Filterable PM_{2.5} Emissions:

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

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

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

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

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

11/06)

Control Efficiency = 50% (Water or chemical spray)

Calculation: $(225 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 0.12 \text{ ton/yr}$

Conveyor Transfer Point Crushing/Screening

Maximum Process Rate = 350 ton/hr (Maximum single screen process rate estimate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Transfers = 7 transfer

Filterable PM Emissions:

Emission Factor = 0.003 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.003 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (7 \text{ transfer}) * (1 - 50/100) = 16.10 \text{ ton/yr}$

Filterable PM₁₀ Emissions:

Emission Factor = 0.0011 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0011 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (7 \text{ transfer}) * (1 - 50/100) = 5.90 \text{ ton/yr}$

Filterable PM_{2.5} Emissions:

Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation: $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000013 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (7 \text{ transfer}) = 0.14 \text{ ton/yr}$

Conveyor Transfer Point Wash Plant

Maximum Process Rate = 225 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Transfers = 4 transfer (Company Information, Excludes RAP transfers)

Filterable PM Emissions:

Emission Factor = 0.003 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(225 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.003 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (4 \text{ transfer}) * (1 - 50/100) = 5.91 \text{ ton/yr}$

Filterable PM₁₀ Emissions:

Emission Factor = 0.0011 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(225 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0011 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (4 \text{ transfer}) * (1 - 50/100) = 2.17 \text{ ton/yr}$

Filterable PM_{2.5} Emissions:

Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0%

Calculation: (225 ton/hr) * (8760 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (4 transfer) = 0.05 ton/yr

Screening Telesmith

Maximum Process Rate = 350 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Screens = 1 screen(s)

Total PM Emissions:

Emission Factor = 0.025 lb/ton (0.025 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: (350 ton/hr) * (8760 hrs/yr) * (0.025 lb/ton) * (ton/2000 lb) * (1 screen(s)) * (1 - 50/100) = 19.16 ton/yr

Total PM₁₀ Emissions:

Emission Factor = 0.0087 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: (350 ton/hr) * (8760 hrs/yr) * (0.0087 lb/ton) * (ton/2000 lb) * (1 screen(s)) * (1 - 50/100) = 6.67 ton/yr

Total PM_{2.5} Emissions:

Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation: (350 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.08 ton/yr

Screening Wash Plant

Maximum Process Rate = 225 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Screens = 1 screen(s)

Total PM Emissions:

Emission Factor = 0.025 lb/ton (0.025 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: (225 ton/hr) * (8760 hrs/yr) * (0.025 lb/ton) * (ton/2000 lb) * (1 screen(s)) * (1 - 50/100) = 12.32 ton/yr

Total PM₁₀ Emissions:

Emission Factor = 0.0087 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: (225 ton/hr) * (8760 hrs/yr) * (0.0087 lb/ton) * (ton/2000 lb) * (1 screen(s)) * (1 - 50/100) = 4.29 ton/yr

Total PM_{2.5} Emissions:

Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation: (225 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.05 ton/yr

Crushing Nordberg Symons

Maximum Process Rate = 350 ton/hr (Application information, max plant rate with 1 crusher)

Maximum Hours of Operation = 8,760 hrs/yr

PM Emissions:

Emission Factor = 0.0054 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0054 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = 4.14 \text{ ton/yr}$

PM₁₀ Emissions:

Based on AP-42

Emission Factor = 0.0024 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = 1.84 \text{ ton/yr}$

PM_{2.5} Emissions:

Emission Factor = 0.0001 lb/ton (tertiary crushing (controlled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0% (built into emission factor)

Calculation: $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0001 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.15 \text{ ton/yr}$

Crushing Wash Plant

Maximum Process Rate = 150 ton/hr (Application information)

Maximum Hours of Operation = 8,760 hrs/yr

PM Emissions:

Based on AP-42

Emission Factor = 0.0054 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(150 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0054 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = 1.77 \text{ ton/yr}$

PM₁₀ Emissions:

Based on AP-42

Emission Factor = 0.0024 lb/ton (tertiary crushing (uncontrolled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 50%

Calculation: $(150 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = 0.79 \text{ ton/yr}$

PM_{2.5} Emissions:

Emission Factor = 0.0001 lb/ton (tertiary crushing (controlled), AP 42, Table 11.19.2-2, 8/04)

Control Efficiency = 0%

Calculation: $(150 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0001 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.07 \text{ ton/yr}$

Diesel Engine(s): 718 hp

Operational Capacity of Engine(s) = 718 hp (550 hp and 125 kW @ 1.341 hp/kW (168 hp))

Hours of Operation = 8,760 hours

Total PM/PM₁₀/PM_{2.5} Emissions:

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

Calculation: $(8,760 \text{ hours}) * (718 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 6.92 \text{ ton/yr}$

NO_x Emissions:

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

Calculation: (8,760 hours) * (718 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 97.44 ton/yr

CO Emissions:

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

Calculation: (8,760 hours) * (718 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 21.00 ton/yr

VOC Emissions:

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

Calculation: (8,760 hours) * (718 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 7.90 ton/yr

SO₂ Emissions:

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

Calculation: (8,760 hours) * (718 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 6.444 ton/yr

Haul Roads

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

VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr

Hours of Operation = 8,760 hrs/yr

PM Emissions:

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

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

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

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

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

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

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

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) * (1-50/100) = 5.68 tons/yr (Apply 50% control efficiency)

PM₁₀ Emissions:

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

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

Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

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

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

a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) * (1-50/100) = 1.57 tons/yr (Apply 50% control efficiency)

PM_{2.5} Emissions:

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

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

Where: k = constant = 0.15 lbs/VMT (Value for PM_{2.5}, AP 42, Table 13.2.2-2, 11/06)

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

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

a = constant = 0.9 (Value for PM_{2.5}, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM_{2.5}, AP 42, Table 13.2.2-2, 11/06)

Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (0.34 lb/VMT) * (ton/2000 lb) * (1-50/100) = 0.16 tons/yr (Apply 50% control efficiency)

V. Existing Air Quality

MAQP #2939-04 is issued for a portable facility to originally be located in the SW¼ of Section 8, Township 6 South, Range 1 West, in Madison County, Montana. This facility would be allowed to operate at this proposed site and any other areas designated as attainment or unclassified for all National Ambient Air Quality Standards (NAAQS); excluding those counties that have a Department approved permitting program, those areas considered tribal lands, or those areas in or within 10 km of certain PM₁₀ nonattainment areas without an additional permitting action required. Also, this facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and short-lived. The current permitting action is considered to be an administrative permit action with no effects on existing air quality.

VI. Air Quality Impacts

The current permitting action is considered to be an administrative permit action with no effects on existing air quality.

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 Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment.

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

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

VIII. Environmental Assessment

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

Analysis Prepared By: Ed Warner
Date: February 23, 2012