

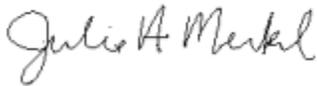
May 15, 2017

Andrew Mathison  
Casino Creek Concrete, Inc.  
P.O. Box 3501  
Lewistown, MT 59457

Dear Mr. Mathison:

Montana Air Quality Permit #2696-06 is deemed final as of May 13, 2017, by the Department of Environmental Quality (Department). This permit is for a Portable Crushing/Screening/Concrete 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,



Julie A. Merkel  
Permitting Services Section Supervisor  
Air Quality Bureau  
(406) 444-3626



John P. Proulx  
Environmental Science Specialist  
Air Quality Bureau  
(406) 444-5391

JM:JP  
Enclosure

Montana Department of Environmental Quality  
Air, Energy, & Mining Division

Montana Air Quality Permit #2696-06

Casino Creek Concrete, Inc.  
P.O. Box 3501  
Lewiston, MT 59457

May 13, 2017



## MONTANA AIR QUALITY PERMIT

Issued To: Casino Creek Concrete, Inc.  
P.O. Box 3501  
Lewistown, MT 59457

MAQP: #2696-06  
AA Request Received: 3/22/2017  
Department Decision on AA: 4/27/2017  
Permit Final: 5/13/2017  
AFS #: 777-2696

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Casino Creek Concrete, Inc. (Casino Creek), 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:

Casino Creek operates a portable crushing/screening facility with concrete batch plants with an initial location in Section 13 and 14, Township 16 North, Range 16 East, in Fergus County, Montana. MAQP #2696-06 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 (PM<sub>10</sub>) 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 PM<sub>10</sub> nonattainment areas.*

#### B. Current Permit Action:

Casino Creek proposes to add a 275 ton per hour cone crusher and a 250 ton per hour wash plant. The current permit action updates the equipment list in the permit analysis, updates the emissions inventory, as well as updates the general format of the permit to the format currently utilized by the Department. Further, conditions relating to equipment allowed on-site and allowable maximum throughputs were updated as necessary, in accordance with ARM 17.8.745(2) and ARM 17.8.764.

### SECTION II: Conditions and Limitations

#### A. Emission Limitations

1. Casino Creek shall install, operate, and maintain the fabric filter dust collector, a rubber boot load-out spout as specified in their MAQP and all supporting documentation (ARM 17.8.752):
  - a. Casino Creek shall install, operate, and maintain the fabric filter dust collector on every cement and cement supplement silo ventilation opening; and

- b. Casino Creek shall install, operate, and maintain the rubber boot load-out spout on every product load-out opening on the concrete plant, where cementations and aggregate materials are transferred for mixing.
2. 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, ARM 17.8.752, and 40 Code of Federal Regulations (CFR) 60, Subpart OOO):
  - a. For crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity
  - b. For crushers that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 15% opacity
3. All visible emissions from any NSPS-affected equipment other than a crusher (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340, ARM 17.8.752, and 40 CFR 60, Subpart OOO):
  - a. For equipment that commences construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
  - b. For equipment that commences construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 10% opacity
4. 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 and ARM 17.8.752).
5. Casino Creek shall not cause or authorize to be discharged into the atmosphere from a concrete batch plant:
  - a. Any vent emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304 and ARM 17.8.752).
  - b. Any fugitive emissions from the source, or from any material transfer operations, including, but not limited to, truck loading or unloading, which exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.308 and ARM 17.8.752).
6. Casino Creek 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).

7. Casino Creek 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.6 (ARM 17.8.752).
8. Water and spray bars shall be available on site at all times and operated as necessary to maintain compliance with the opacity limitations in Sections II.A.2, II.A.3, and II.A.4 (ARM 17.8.752).
9. Casino Creek shall not operate more than five crushers at any given time and the maximum combined rated capacity of the crushers shall not exceed 825 TPH (ARM 17.8.749).
10. Total crushing production shall be limited to 3,150,000 tons during any rolling 12-month time period (ARM 17.8.749).
11. Casino Creek shall not operate more than three screens at any given time and the maximum combined rated capacity of the screens shall not exceed 550 TPH (ARM 17.8.749).
12. Total screening production shall be limited to 2,750,500 tons during any rolling 12-month time period (ARM 17.8.749).
13. Total batch plant production shall be limited to 900,000 cubic yards during any rolling 12-month time period (ARM 17.8.749).
14. Casino Creek shall not operate or have on site more than four diesel generator engines at any given time and the combined maximum rated design capacity of the engines shall not exceed 1024-hp. Each individual generator engine shall not exceed 5,000 hours of operation during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
15. If the permitted equipment is used in conjunction with any other equipment owned or operated by Casino Creek, 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).
16. Casino Creek shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart OOO).
17. Casino Creek 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 III; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Method 9 opacity test and/or other methods and procedures as specified in 40 CFR 60.675 must be performed on all NSPS affected equipment to demonstrate compliance with the emission limitations contained in Section II.A.2 and II.A.3 (ARM 17.8.340 and 40 CFR 60, General Provisions and Subpart OOO).
2. All compliance source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
3. The Department may require testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another location, an Intent to Transfer form must be sent to the Department. In addition, a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, 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. Casino Creek 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 is not 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, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Casino Creek 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*, a 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, or the addition of a new emission unit.

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).

4. Casino Creek 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 Casino Creek as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
5. Casino Creek shall document, by month, the crushing production from the facility. By the 25th day of each month, Casino Creek shall calculate the crushing production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.10. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
6. Casino Creek shall document, by month, the screening production from the facility. By the 25th day of each month, Casino Creek shall calculate the crushing production from the facility for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.12. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. Casino Creek shall document, by month, the amount of concrete produced. By the 25th day of each month, Casino Creek shall total the amount of concrete produced during the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.13. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
8. Casino Creek shall document, by month, the hours of operation of the diesel generator engines. By the 25th day of each month, Casino Creek shall calculate the hours of operation for the diesel generator engines for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.14. The information for each of the previous months shall be submitted along with the annual emissions inventory (ARM 17.8.749).
9. Casino Creek shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207.

The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.749 and ARM 17.8.1204).

### SECTION III: General Conditions

- A. Inspection - Casino Creek shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if the Casino Creek fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving the Casino Creek 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. Permit Fee - Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Casino Creek 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. Casino Creek 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  
Casino Creek Concrete, Inc.  
MAQP #2696-06

I. Introduction/Process Description

Casino Creek Concrete, Inc. (Casino Creek) operates a portable crushing/screening facility and associated wash plant and three concrete batch plants. The homepit location of the facility is in Section 13 and Section 14, Township 16 North, Range 16 East, in Fergus County, Montana.

A. Permitted Equipment

The Casino Creek portable crushing/screening facility consists of the following equipment:

- 1970 Pioneer (30"x40") Rolls Crusher (maximum capacity 150 tons per hour (TPH));
- 2009 Model #54 Cemco Impact Crusher (maximum capacity of 125 TPH);
- 2005 Trio Jaw Crusher (maximum capacity 150 TPH);
- 1992 Nordberg HP200 Closed Circuit Cone Crusher (maximum capacity 125 TPH);
- Pre-1983 (5'x14') Cedar Rapids 2-deck Screen (maximum capacity 250 TPH);
- Pre-1983 (4'x14') Cedar Rapids 3-deck Screen (maximum capacity 150 TPH);
- A 676-horsepower (hp) diesel-fired generator engine;
- A 96-hp diesel-fired generator engine;
- A 102-hp diesel-fired generator engine;
- An Eagle Ironworks Pugmill;
- 2004 Metso HP200 Cone Crusher (maximum capacity 275 TPH);
- A Masaba 6' x 20' Washplant (maximum capacity 250 TPH);
- Associated equipment

The batch plants consist of a Coneco concrete batch plant (maximum capacity of 100 cubic yards per hour ( $y^3/hr$ )), two Fastway batch plants (each with a maximum capacity of 40  $y^3/hr$ ), and associated equipment.

The wash plant consists of a Pre-1983 EL-Jay 5'x16' 3-deck screen (maximum capacity 150 TPH), a Masaba 6' x 20' washplant, a 150-hp diesel-fired generator engine, 4 conveyors, and associated equipment.

## B. Process Description

Casino Creek proposes to use this crushing/screening plant and associated equipment 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. Materials are sorted and sent to a second screen. After the second screen, materials are separated, with the smaller materials conveyed to a jaw and rolls crusher and the larger materials sent to an impact and cone crusher and recycled back to the primary screen. Once the materials are properly sized, the aggregate is sent to a wash plant, where the materials are washed, screened, and stockpiled for sale and use.

Casino Creek also proposes to use the batch plants to produce concrete. For a typical operational setup, stockpiles of sand and gravel for concrete production are stored on site. A loader transfers the sand and gravel from the stockpiles to a weight hopper and the sand and gravel is then conveyed into the batch plant. The cement silo transfers the cement into the batch plant where water is added. The sand, gravel, cement, and water are then loaded into mixing trucks where the materials are mixed together to form concrete. The concrete is then transferred to various construction operations.

## C. Permit History

On May 9, 1991, Casino Creek was issued a permit to operate a portable pre-1983 Diamond Jaw Crusher (maximum capacity 80 TPH) and associated equipment. Casino Creek was originally located the East ½ of Section 20, Township 16 North, Range 17 East, in Fergus County, Montana. Casino Creek's permit was assigned **MAQP #2696-00**.

On January 23, 2002, Casino Creek submitted a complete permit application for the operation of a portable crushing/screening facility and associated wash plant. Casino Creek added a 1970 Pioneer (30"x40") Rolls Crusher, a Pre-1983 (10"x36") Diamond Jaw Crusher, Pre-1983 (36") Telesmith Cone Crusher, Pre-1983 Cemco USI Impact Crusher, Pre-1983 (5'x14') Cedar Rapids 2-deck Screen, Pre-1983 (4'x14') Cedar Rapids 3-deck Screen, a 1965 400 kW Detroit Diesel generator, 9 conveyors, and associated equipment to MAQP #2696-00. Also, a wash plant consisting of a Pre-1983 EL-Jay 5'x16' 3-deck screen, a 100 kilowatt (kW) diesel generator, 4 conveyors, and associated equipment were added. **MAQP #2696-01** replaced MAQP #2696-00.

On January 27, 2006, Casino Creek submitted a complete permit application for the operation of a portable crushing/screening facility and associated batch plants. Casino Creek requested to add a 2005 Trio Jaw Crusher, a Coneco concrete batch plant, a Fastway batch plant, and associated equipment to MAQP #2696-01. The permit action added the new equipment to the list of permitted equipment and updated the permit to reflect current permit language and rule references used by the

Department of Environmental Quality (Department). **MAQP #2696-02** replaced MAQP #2696-01.

On April 10, 2006, Casino Creek submitted a request to amend MAQP #2696-02. Casino Creek requested the addition of a Nordberg HP200 Closed Circuit Cone Crusher and associated equipment to MAQP #2696-02. The additional equipment resulted in the generation of particulate emissions of less than the de minimis threshold. Therefore, the crushing facility was added in accordance with the Administrative Rules of Montana (ARM) 17.8.745. The permit action added the new equipment to the list of permitted equipment and updated the permit to reflect current permit language. **MAQP #2696-03** replaced MAQP #2696-02.

On February 4, 2010, Casino Creek submitted a request to amend MAQP #2696-03. Casino Creek requested the removal of a pre-1983 Cemco impact crusher and the addition of a 2009 Model #54 Cemco Impactor crusher and associated equipment. The additional equipment results in the generation of particulate emissions of less than the de minimis threshold. Therefore, the crushing facility was added as a de minimis change in accordance with ARM 17.8.745. In addition to accounting for these changes, the permit action updated the permit to reflect current permit language and rule references used by the Department. **MAQP #2696-04** replaced MAQP #2696-03.

On February 23, 2011, the Department received a complete application for a modification to MAQP #2696-04. The modification request included the addition of a Crusher Feed Hopper, a 676-hp diesel-fired generator engine, a 96-hp diesel-fired generator engine, a 102-hp diesel-fired generator engine, a Fastway Batch Plant, and an Eagle Ironworks Pugmill. Casino Creek also requested that a 580-hp diesel generator engine and a pre-1983 Telesmith Cone Crusher be removed from the permit. Casino Creek also established a new homepit location. The permit action updated the list of permitted equipment and emission inventory as well as updated the synthetic minor permit conditions. **MAQP #2696-05** replaced MAQP #2696-04.

#### D. Current Permit Action

On March 22, 2017, the Department received from Casino Creek an application for modification of the permit. Casino Creek proposed to add a 275 ton per hour cone crusher and a 250 ton per hour wash plant. Upon review, the Department determined that the potential to emit of the proposed new equipment was less than 5 tons per year of particulate matter. As such, the equipment to be added qualifies for the permitting exclusion provided by ARM 17.8.745. The Department issued a refund of the application fee, and opened the permit under the administrative amendment provisions of ARM 17.8.764 to update the equipment list in the permit to reflect the new equipment. The current permit action updates the equipment list in the permit analysis, updates the emissions inventory, as well as updates the general format of the permit to the format currently utilized by the Department. Further, conditions relating to equipment allowed on-site and allowable maximum throughputs were updated as necessary, in accordance with ARM 17.8.745(2) and ARM 17.8.764. **MAQP #2696-06** replaces MAQP #2696-05.

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 ARM and are available, upon request, from the Department. Upon request, the Department will provide references for the locations of complete copies of all applicable rules and regulations or copies where appropriate.

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

1. ARM 17.8.101 Definitions. This rule is a list of applicable definitions used in this sub-chapter, unless indicated otherwise in a specific sub-chapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary, using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Casino Creek shall comply with all requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. No person shall cause or permit the installation or use of any device or any means 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. 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 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for Particulate Matter with an Aerodynamic Diameter of 10 Microns or Less (PM<sub>10</sub>)
11. ARM 17.8.230 Fluoride in Forage

Casino Creek 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 six 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 section, Casino Creek 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 rule.
4. ARM 17.8.310 Particulate Matter, Industrial Processes. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. ARM 17.8.340 Standards of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Casino Creek is considered an NSPS

affected facility under 40 CFR Part 60 and is subject to the requirements of the following subparts.

- a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
- b. 40 CFR 60, Subpart 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. Based on the information submitted by Casino Creek, the portable crushing/screening equipment to be used under MAQP #2696-06 is subject to this subpart.
- c. 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. 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 Casino Creek, the CI ICE is not subject to this subpart because it will be used as a portable source.

However, a non-road engine would become regulated as a stationary engine if it remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. Therefore, this subpart would become applicable if Casino Creek operated the CI ICE at a single location for more than 12 months or a shorter period of time for an engine located at a seasonal source.

7. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
  - a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to an NESHAP Subpart as listed below:
  - b. 40 CFR 63, Subpart ZZZZ – NESHAPs for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary 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 Casino Creek, the RICE equipment to be used under MAQP #2696-06 is not subject to this subpart because the facility is a portable source.

However, a non-road engine would become regulated as a stationary engine if it remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. Therefore, this subpart would become applicable if Casino Creek operated the RICE at a single location for more than 12 months or a shorter period of time for an engine located at a seasonal source.

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. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. This operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year. An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis.

The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any asphalt plant, crusher or screen that has the Potential to Emit (PTE) greater than 15 tons per year of any pollutant. Casino Creek has a PTE greater than 15 tons per year of total particulate matter (PM), carbon monoxide (CO), and oxides of nitrogen (NO<sub>x</sub>); therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for 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 III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Casino Creek of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.
12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or 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 one year after the permit is issued.

13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
15. ARM 17.8.765 Transfer of Permit. (1) This rule states that an air quality permit may be transferred from one location to another if the Department receives a complete notice of Intent to Transfer location, the facility will operate in the new location for less than one year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules.  
  
(2) This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

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

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Federal Clean Air Act (FCAA) that it would emit, except as this sub-chapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and does not have the PTE more than 250 tons per year (excluding fugitive emissions) of any air pollutant. Therefore, the New Source Review (NSR) program does not apply.

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 Title V pollutant.
  - b. PTE > 10 tons/year of any one 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 PM<sub>10</sub> in a serious PM<sub>10</sub> 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 #2696-06 for Casino Creek, the following conclusions were made:
  - a. The facility's PTE is less than 100 tons/year for all Title V criteria pollutants. PM is not a Title V 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 PM<sub>10</sub> non-attainment area.
  - d. This facility is subject to current NSPS (40 CFR 60, Subpart A, Subpart OOO and potentially Subpart IIII).
  - e. This facility is potentially subject to area source provisions of a current NESHAP (40 CFR 63, Subpart A and Subpart ZZZZ).
  - f. This source is not a Title IV affected source.
  - g. This source is not a solid waste combustion unit.
  - h. This source is not an EPA designated Title V source.

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

- i. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.

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

### III. BACT Analysis

A BACT determination is required for any new or modified source. Casino Creek shall install on the new or modified source the maximum air pollution control capability that is technologically practicable and economically feasible, except that BACT shall be used. A BACT determination was not required for the current permit action because the permit change is considered an administrative permit change, incorporating equipment meeting the permitting exclusion provided by ARM 17.8.745, the de minimis rule.

### IV. Emission Inventory

#### Combined Concrete Batch Plant Emissions:

CONTROLLED Emission Source	tons/year						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>
Crushing Screening Facility	30.99	15.32	7.14	79.36	17.10	6.44	5.25
Portable Cement Facility	40.01	14.18	2.13	--	--	--	--
<b>Total Emissions</b>	<b>71.00</b>	<b>29.50</b>	<b>9.26</b>	<b>79.36</b>	<b>17.10</b>	<b>6.44</b>	<b>5.25</b>

#### Crushing/Screening Emissions:

CONTROLLED Emission Source	tons/year						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>
Cold Aggregate Storage Piles	8.01	3.79	0.57	--	--	--	--
Cold Aggregate Handling/Conveyors	4.33	1.42	0.40	--	--	--	--
Cold Aggregate Screens	4.54	1.53	0.10	--	--	--	--
825 TPH Crushing Circuit	2.48	1.11	0.21	--	--	--	--
Plant Load-Out	1.62	0.83	0.12	--	--	--	--
Haul Roads / Vehicle Traffic	6.49	1.79	0.18	--	--	--	--
Diesel Generator Set	5.63	5.63	5.63	79.36	17.10	6.44	5.25
<b>Total Emissions</b>	<b>30.99</b>	<b>15.32</b>	<b>7.14</b>	<b>79.36</b>	<b>17.10</b>	<b>6.44</b>	<b>5.25</b>

## Crushing/Screening Emissions Calculation:

### Cold Aggregate Storage Piles

Maximum Process Rate = 825 ton/hr (Maximum plant process rate)	825	<b>ton/hr</b>
Maximum Hours of Operation = 5,000 hrs/yr	5000	<b>hrs/yr</b>
Number of Piles = 1 piles	1	<b>piles</b>

#### PM Emissions:

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

$$\text{Emission Factor} = k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00388 \text{ lb/ton} \quad 0.0039 \quad \text{lb/ton}$$

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

$U$  = mean wind speed = 9.3 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 9.3 **mph**

$M$  = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 2.5 **%**

$$\text{Calculation: } (825 \text{ ton/hr}) * (5000 \text{ hrs/yr}) * (1 \text{ piles}) * (\text{ton}/2000 \text{ lb}) * (0.00388216962566822 \text{ lb/ton}) = 8.01 \text{ ton/yr} \quad 8.01 \quad \text{ton/yr}$$

#### PM10 Emissions:

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

$$\text{Emission Factor} = k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00184 \text{ lb/ton} \quad 0.00184 \quad \text{lb/ton}$$

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

$U$  = mean wind speed = 9.3 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 9.3 **mph**

$M$  = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 2.5 **%**

$$\text{Calculation: } (825 \text{ ton/hr}) * (5000 \text{ hrs/yr}) * (1 \text{ piles}) * (\text{ton}/2000 \text{ lb}) * (0.00183616130943767 \text{ lb/ton}) = 3.79 \text{ ton/yr} \quad 3.79 \quad \text{ton/yr}$$

#### PM2.5 Emissions:

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

$$\text{Emission Factor} = k (0.0032) * (U/5)^{1.3} * (M / 2)^{-1.4} = 0.00028 \text{ lb/ton} \quad 0.00027 \quad \text{lb/ton}$$

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

$U$  = mean wind speed = 9.3 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 9.3 **mph**

$M$  = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06) 2.5 **%**

$$\text{Calculation: } (825 \text{ ton/hr}) * (5000 \text{ hrs/yr}) * (1 \text{ piles}) * (\text{ton}/2000 \text{ lb}) * (0.000278047284000562 \text{ lb/ton}) = 0.57 \text{ ton/yr} \quad 0.57 \quad \text{ton/yr}$$

### Conveyor Transfer Point (SCC 3-05-020-06)

Maximum Process Rate = 825 ton/hr (Maximum plant process rate)	825	<b>ton/hr</b>
Maximum Hours of Operation = 5,000 hrs/yr	5000	<b>hrs/yr</b>
Number of Transfers = 15 transfer (Company Information)	15	<b>transfer</b>

#### Total PM Emissions:

$$\text{Emission Factor} = 0.00014 \text{ lb/ton (0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)} \quad 0.00014 \quad \text{lb/ton}$$

$$\text{Calculation: } (825 \text{ ton/hr}) * (5000 \text{ hrs/yr}) * (15 \text{ transfer}) * (\text{ton}/2000 \text{ lb}) * (0.00014 \text{ lb/ton}) = 4.33 \text{ ton/yr} \quad 4.33 \quad \text{ton/yr}$$

#### Total PM10 Emissions:

$$\text{Emission Factor} = 0.000046 \text{ lb/ton (0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)} \quad 0.00004 \quad \text{lb/ton}$$

$$\text{Calculation: } (825 \text{ ton/hr}) * (5000 \text{ hrs/yr}) * (15 \text{ transfer}) * (\text{ton}/2000 \text{ lb}) * (0.00014 \text{ lb/ton}) = 1.42 \text{ ton/yr} \quad 1.42 \quad \text{ton/yr}$$

#### Total PM2.5 Emissions

$$\text{Emission Factor} = 0.000013 \text{ lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)} \quad 0.00001 \quad \text{lb/ton}$$

$$\text{Calculation: } (825 \text{ ton/hr}) * (5000 \text{ hrs/yr}) * (15 \text{ transfer}) * (\text{ton}/2000 \text{ lb}) * (0.00014 \text{ lb/ton}) = 0.40 \text{ ton/yr} \quad 0.40 \quad \text{ton/yr}$$

**Screening (SCC 3-05-020-02, 03)**

Maximum Process Rate = 2,750,500 ton/yr Permit Limit	2750500	0	<b>ton/yr</b>
Number of Screens = 1 screen(s) (Company Information)	1		<b>screen(s)</b>
<b>Total PM Emissions:</b>			
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)	0.0022		<b>lb/ton</b>
Calculation: (2,750,500 ton/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 3.03 ton/yr	3.02555		<b>ton/yr</b>
<b>Total PM10 Emissions:</b>			
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00074		<b>lb/ton</b>
Calculation: (2,750,500 ton/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 1.02 ton/yr	1.01768	5	<b>ton/yr</b>
<b>Total PM2.5 Emissions</b>			
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)	0.00005		<b>lb/ton</b>
Calculation: (2,750,500 ton/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.07 ton/yr	0.06876	3	<b>ton/yr</b>

**Crushing Circuit (SCC 3-05-020-05)**

Maximum Process Rate = 3,150,000 ton/yr Permit Limit	3150000	0	<b>ton/yr</b>
<b>PM Emissions:</b>			
Based on AP-42			
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)	0.0012		<b>lb/ton</b>
Calculation: (3,150,000 ton/yr) * (0.0012 lb/ton) * (ton/2000 lb) = 1.89 ton/yr	1.89		<b>ton/yr</b>
<b>PM10 Emissions:</b>			
Based on AP-42			
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)	0.00054		<b>lb/hr</b>
Calculation: (3,150,000 ton/yr) * (0.00054 lb/ton) * (ton/2000 lb) = 0.85 ton/yr	0.85		<b>ton/yr</b>
<b>PM10 Emissions:</b>			
Based on AP-42			
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)	0.00054		<b>lb/ton</b>
Calculation: (3,150,000 ton/yr) * (0.00054 lb/ton) * (ton/2000 lb) = 0.85 ton/yr	0.16		<b>ton/yr</b>

**Truck Unloading (SCC 3-05-020-31)**

Maximum Process Rate = 825 ton/hr (Maximum plant process rate)	825		<b>ton/hr</b>
Maximum Hours of Operation = 5,000 hrs/yr	5000		<b>hrs/yr</b>
Number of loads = 25 loads (Estimate)	25		<b>loads</b>
<b>Total PM Emissions:</b>			
Emission Factor = 0.0000314 lb/ton (PM=PM10 / 51%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)	3.14E-05		<b>lb/ton</b>
Calculation: (825 ton/hr) * (5000 hrs/yr) * (0.0000314 lb/ton) * (ton/2000 lb) * (25 loads) = 1.62 ton/yr	1.62		<b>ton/yr</b>
<b>Total PM10 Emissions:</b>			
Emission Factor = 0.000016 lb/ton (PM10=1.6E-05, AP 42, Table 11.19.2-2, 8/04)	0.000016		<b>lb/ton</b>
Calculation: (825 ton/hr) * (5000 hrs/yr) * (0.000016 lb/ton) * (ton/2000 lb) * (25 loads) = 0.83 ton/yr	0.83		<b>ton/yr</b>

Total PM2.5 Emissions:

Emission Factor = 0.0000024 lb/ton (PM2.5=1.6E-05 \* 15%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90) 2.4E-06 **lb/ton**  
 Calculation: (825 ton/hr) \* (5000 hrs/yr) \* (0.0000024 lb/ton) \* (ton/2000 lb) \* (25 loads) = 0.12 ton/yr 0.12 **ton/yr**

**Haul Roads**

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate) 5 **VMT/day**  
 VMT per hour = (5 VMT/day) \* (day/24 hrs) = 0.21 VMT/hr 0.20833 **VMT/hr**  
 Hours of Operation = 5,000 hrs/yr 5000 **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 =  $k * (s / 12)^a * (W / 3)^b = 12.46$  lb/VMT 12.46 **lb/VMT**

Where:  $k =$  constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06) 4.9 **T**  
 $s =$  surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06) 7.1 **%**  
 $W =$  mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck) 54 **tons**  
 $a =$  constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06) 0.7  
 $b =$  constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06) 0.45

Calculation: (5000 hrs/yr) \* (0.21 VMT/hr) \* (12.46 lb/VMT) \* (ton/2000 lb) = 6.49 tons/yr (Uncontrolled Emissions) 6.49 **tons/yr**

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 =  $k * (s / 12)^a * (W / 3)^b = 3.43$  lb/VMT 3.43 **lb/VMT**

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

Calculation: (5000 hrs/yr) \* (0.21 VMT/hr) \* (3.43 lb/VMT) \* (ton/2000 lb) = 1.79 tons/yr (Uncontrolled Emissions) 1.79 **tons/yr**

PM2.5 Emissions

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

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

Where:  $k =$  constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06) 0.15 **T**  
 $s =$  surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06) 7.1 **%**  
 $W =$  mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck) 54 **tons**  
 $a =$  constant = 0.9 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06) 0.9  
 $b =$  constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06) 0.45

Calculation: (5000 hrs/yr) \* (0.21 VMT/hr) \* (0.34 lb/VMT) \* (ton/2000 lb) = 0.18 tons/yr (Uncontrolled Emissions) 0.18 **tons/yr**

**Diesel Generator**

Note: Emissions are based on the power output of the engine (1024 hp).

Operational Capacity of Engine = 1,024 hp 1024 **hp**

Hours of Operation = 5,000.00 hours 5000 **hours**

PM Emissions:

PM Emissions = 5.63 ton/yr (Assume all PM < 1.0 um) 5.63 **ton/yr**

PM-10 Emissions:

Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 0.0022 **lbs/hp-hr**  
 Calculation: (1,024 hp) \* (5,000 ton/yr) \* (0.0022 lbs/hp-hr) \* (ton/2000 lb) = 5.63 ton/yr 5.63 **ton/yr**

PM2.5 Emissions

Emission Factor = 0.0022 lbs/hp-hr (Assume all PM < 1.0 um) 0.0022 **lbs/hp-hr**  
 Calculation: (1,024 hp) \* (5,000 hours) \* (0.0022 lbs/hp-hr) \* (ton/2000 lb) = 5.63 ton/yr (Assume all PM < 1.0 um) 5.63 **ton/yr**

NOx Emissions:

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 0.031 **lbs/hp-hr**  
 Calculation: (1,024 hp) \* (5,000 hours) \* (0.031 lbs/hp-hr) \* (ton/2000 lb) = 79.36 ton/yr 79.36 **ton/yr**

CO Emissions:

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 0.00668 **lbs/hp-hr**  
 Calculation: (1,024 hp) \* (5,000 hours) \* (0.00668 lbs/hp-hr) \* (ton/2000 lb) = 17.10 ton/yr 17.10 **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) 0.00251 **lbs/hp-hr**  
 Calculation: (1,024 hp) \* (5,000 hours) \* (0.0025141 lbs/hp-hr) \* (ton/2000 lb) = 6.44 ton/yr 6.44 **ton/yr**

SOx Emissions:

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) 0.00205 **lbs/hp-hr**  
 Calculation: (1,024 hp) \* (5,000 hours) \* (0.00205 lbs/hp-hr) \* (ton/2000 lb) = 5.25 ton/yr 5.25 **ton/yr**

**Concrete batch plant calculations based on a combined 180 cubic yards per hour capacity:**

Emission Source	Tons per 5000 hours						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	VOC	CO	SO <sub>x</sub>
1. Aggregate Delivery to Ground Storage	2.88	1.40	0.21	--	--	--	--
2. Sand Delivery to Ground Storage	0.68	0.32	0.05	--	--	--	--
3. Aggregate Transfer to Conveyor	2.88	1.40	0.21	--	--	--	--
4. Sand Transfer to Conveyor	0.68	0.32	0.05	--	--	--	--
5. Aggregate Transfer to Elevated Storage	2.88	1.40	0.21	--	--	--	--
6. Sand Transfer to Elevated Storage	0.68	0.32	0.05	--	--	--	--
7. Cement Delivery to Storage Silo	0.09	0.05	0.01	--	--	--	--
8. Cement supplement delivery to Silo	0.14	0.09	0.01				
9. Weigh Hopper Loading of Sand/Aggregate	3.56	1.71	0.26	--	--	--	--
10. Truck Mix Loading	25.56	7.20	1.08	--	--	--	--
<b>Total</b>	<b>40.01</b>	<b>14.18</b>	<b>2.13</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

NOTE:

All emissions for concrete batch emissions are based on AP-42, Central Mix Concrete Batching, Table 11.12-6, 6/06 with the exception of Concrete Mix Loading which is based on Table 11.12-2. The rates of raw material throughput for each process step are derived from the component breakdown of a cubic yard of concrete provided in footnote "a" of AP-42 Table 11.12-2. PM<sub>2.5</sub> emissions are assumed to be 15% of PM emissions, AP-42, Appendix B.2, Category 3, 9/90.

<b>1. Aggregate Delivery to Ground Storage</b>	
Maximum Process Rate = 180.00 yds/hr Maximum Process Rate	180.00 yds/hr
Hours of Operation = 5,000 hours	5,000 hours
<b>PM Emissions:</b>	

Emission Factor = 0.0064 lbs/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0064	lbs/ton
Calculation: (5,000 hours) * (180.00 yds/hr) * (0.0064 lbs/ton) * (ton/2000 lb) = 2.88 tons	<b>2.88</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.0031 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0031	lb/ton
Calculation: (5,000 hours) * (180.00 yds/hr) * (0.0031 lb/ton) * (ton/2000 lb) = 1.40 tons	<b>1.40</b>	tons

## **2. Sand Delivery to Ground Storage**

Maximum Process Rate = 180.00 yds/hr Maximum Process Rate	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0015 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0015	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0015 lb/ton) * (ton/2000 lb) = 0.68 tons	<b>0.68</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.0007 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0007	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0007 lb/ton) * (ton/2000 lb) = 0.32 tons	<b>0.32</b>	tons

## **3. Aggregate Transfer to Conveyor**

Maximum Process Rate = 180.00 yds/hr Maximum Process Rate	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0064 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0064	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0064 lb/ton) * (ton/2000 lb) = 2.88 tons	<b>2.88</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.0031 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0031	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0031 lb/ton) * (ton/2000 lb) = 1.40 tons	<b>1.40</b>	tons

## **4. Sand Transfer to Conveyor**

Maximum Process Rate = 180.00 yds/hr Maximum Process Rate	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0015 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0015	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0015 lb/ton) * (ton/2000 lb) = 0.68 tons	<b>0.68</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.0007 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0007	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0007 lb/ton) * (ton/2000 lb) = 0.32 tons	<b>0.32</b>	tons

## **5. Aggregate Transfer to Storage Bins**

Maximum Process Rate = 180.00 yds/hr Maximum Process Rate	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0064 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0064	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0064 lb/ton) * (ton/2000 lb) = 2.88 tons	<b>2.88</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.0031 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0031	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0031 lb/ton) * (ton/2000 lb) = 1.40 tons	<b>1.40</b>	tons

## **6. Sand Transfer to Storage Bins**

Maximum Process Rate = 180.00 yds/hr Maximum Process Rate	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0015 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0015	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0015 lb/ton) * (ton/2000 lb) = 0.68 tons	<b>0.68</b>	tons
<b>PM-10 Emissions:</b>		

Emission Factor = 0.0007 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0007	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0007 lb/ton) * (ton/2000 lb) = 0.32 tons	<b>0.32</b>	tons

#### **7. Cement Delivery to Silo**

Maximum Process Rate = 180.00 yds/hr Maximum Process Rate	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0002 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0002	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0002 lb/ton) * (ton/2000 lb) = 0.09 tons	<b>0.09</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.0001 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0001	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0001 lb/ton) * (ton/2000 lb) = 0.05 tons	<b>0.05</b>	tons

#### **8. Cement Supplement Delivery to Silo**

Maximum Process Rate = 44.19 ton/hr (12% of total concrete)	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.00099 lb/ton (controlled, AP-42, Table 11.12-2, 6/06)	0.0003	lb/ton
Calculation: (180.00 yds/hr) * (5,000 hr/yr) * (0.0003 lb/ton) * (ton/2000 lb) = 0.135 tons	<b>0.135</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.00034 lb/ton (controlled, AP-42, Table 11.12-2, 6/06)	0.0002	lb/ton
Calculation: (180.00 yds/hr) * (5,000 hr/yr) * (0.0002 lb/ton) * (ton/2000 lb) = 0.090 tons	<b>0.090</b>	tons

#### **9. Weigh Hopper Loading of Sand/Aggregate**

Maximum Process Rate = 180.00 yds/hr	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0079 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0079	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0079 lb/ton) * (ton/2000 lb) = 3.56 tons	<b>3.56</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.0038 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0038	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0038 lb/ton) * (ton/2000 lb) = 1.71 tons	<b>1.71</b>	tons

#### **10. Truck Mix Loading of Cement/Supplement/Sand/Aggregate**

Maximum Process Rate = 180.00 yds/hr	180.00	yds/hr
Hours of Operation = 5,000 hr/yr	5,000	hr/yr
<b>PM Emissions:</b>		
Emission Factor = 0.0568 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.0568	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.0568 lb/ton) * (ton/2000 lb) = 25.56 tons	<b>25.56</b>	tons
<b>PM-10 Emissions:</b>		
Emission Factor = 0.016 lb/ton (uncontrolled, AP-42, Table 11.12-5, 6/06)	0.016	lb/ton
Calculation: (5,000 hr/yr) * (180.00 yds/hr) * (0.016 lb/ton) * (ton/2000 lb) = 7.20 tons	<b>7.20</b>	tons

## V. Existing Air Quality

MAQP #2696-06 is for the operation of a portable crushing/screening plant and concrete batch plants to be located in the Section 13 and 14, Township 16 North, Range 16 East, in Fergus County, Montana. MAQP #2696-06 will also cover the operation while operating at any location within the State of Montana, excluding those counties that have a Department approved permitting program or PM<sub>10</sub> nonattainment areas.

VI. Ambient Air Quality Impact Analysis

In the view of the Department, the amount of controlled emissions generated by this facility will not exceed any set ambient standard. In addition, this source is portable and any air quality impacts will be minimal.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

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

An environmental assessment, required by the Montana Environmental Policy Act, was not completed for this project as the current permit action is an administrative amendment.

Analysis Prepared by: John P. Proulx

Date: April 10, 2017