May 25, 2017

Martyn Salusso
Centennial Concrete, Inc.
701 Centennial Ave.
Butte, Montana 59701

Dear Mr. Salusso:

Montana Air Quality Permit #2598-03 is deemed final as of 5/25/2017, by the Department of Environmental Quality (Department). This permit is for a portable crusher and screen operation. 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

Loni Patterson
Environmental Engineer
Air Quality Bureau
(406) 444-1452

JM:LP
Enclosure

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

Montana Air Quality Permit #2598-03

Centennial Concrete, Inc.
701 Centennial Ave.
Butte, Montana 59701

May 25, 2017

MONTANA AIR QUALITY PERMIT

Issued To: Centennial Concrete, Inc.
701 Centennial Ave
Butte, Montana 59701

MAQP: # 2598-03
Application Complete: 3/14/2017
Preliminary Determination Issued: 4/6/2017
Department's Decision Issued: 5/9/2017
Permit Final: 5/25/2017
AFS #:777-2598

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Centennial Concrete, Inc. (Centennial) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Centennial operates a portable crushing/screening operation originally located in the of Section 15, Township 6N, North, Range 14West , in Deer Lodge County, Montana. However, MAQP #2598-03 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program or areas considered tribal lands. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.*

B. Current Permit Action

On March 14, 2017, Centennial completed an application for a permit modification. The modification would remove two of the existing crushers permitted for 200 tons per hour (TPH) capacity; add a Pioneer crushing plant consisting of two crushers, one screen and two conveyors at 150 TPH max capacity; and increase the combined total maximum capacity of the three engines onsite to 1700 horsepower (hp). This action requires updating the permit for the operation of the facility at or within 10 kilometer (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas (NAA), as shown in Addendum #1. The opacity limitations for sources affected by Title 40 Code of Federal Regulations (CFR) 60, Subpart OOO have also been updated to reflect the changes made to that regulation since this permit was last issued.

SECTION II: Conditions and Limitations

A. Emission Limitations

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, 17.8.752, 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 six consecutive minutes (ARM 17.8.340, 17.8.752, 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 and 17.8.752).

4. 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.1, II.A.2, and II.A.3 (ARM 17.8.749 and 17.8.752).

5. Centennial shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

6. Centennial 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.5 (ARM 17.8.749 and 17.8.752).

7. Centennial shall not operate more than four crushers at any given time and the total combined maximum rated design capacity of the crushers shall not exceed 900 TPH (ARM 17.8.749).

9. Centennial shall not operate more than 4 screen(s) at any given time and the total combined maximum rated design capacity of the screen(s) shall not exceed 1050 TPH (ARM 17.8.749).

10. Centennial shall not operate or have on-site more than three diesel engine(s)/generator(s). The maximum combined capacity of the engine(s) shall not exceed 1700 hp. In instances where the engine does not have a nameplate displaying the hp rating of the engine, the Department will accept the equivalent electrical output of a combined total rating of 1268 kilowatts (ARM 17.8.749).

11. Operation of the diesel engine(s) shall not exceed 3000 hours each during any rolling 12-month time period (ARM 17.8.749 and 17.8.1204).

12. If the permitted equipment is used in conjunction with any other equipment owned or operated by Centennial, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

13. Centennial shall comply with all applicable standards and limitations, monitoring, 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).

14. Centennial 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. 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.1 and II.A.2. Additional testing may be required by 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

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

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

3. Centennial shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

4. Centennial shall maintain 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 Centennial 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. These records may be stored at a location other than the plant site upon approval by the Department (ARM 17.8.749).

5. Centennial shall document, by month, the hours of operation of the diesel engines/generators. By the 25th day of each month, Centennial shall total the hours of operation for the diesel engines/generators for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.11. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. Centennial shall annually certify that its 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 emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

Centennial shall provide the Department with written notification of the actual start-up date of the Centennial facility postmarked within 15 days after the actual start-up date (ARM 17.8.749).

SECTION III: General Conditions

A. Inspection –Centennial 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 Emissions Rate Monitoring System (CERMS), or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Centennial fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Centennial of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.* (ARM 17.8.756).

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action 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 therefor, 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 the Department at the location of the permitted source.

G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Centennial 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. Centennial 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
Centennial Concrete, Inc.
MAQP #2598-03

I. Introduction/Process Description

Centennial Concrete, Inc. (Centennial) owns and operates a portable crushing/screening facility initially located in the Section 1 South, Township 6 North, Range 14 West in Deer Lodge County, Montana (-112.86465° longitude, 46.09717° latitude). However, Montana Air Quality Permit (MAQP) #2598-03 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department)-approved permitting program or areas considered tribal lands. A Missoula County air quality permit will be required for locations within Missoula County, Montana.

A. Permitted Equipment

Centennial's portable crushing/screening facility consists of the following equipment:

- Pioneer crushing plant 50-VE, includes one jaw crusher, one roller crusher, one screen and two conveyors at a maximum capacity of 150 tons per hour (TPH).
- 1988 EL-Jay (5'x16') horizontal 3-deck screen- maximum capacity up to 300 TPH.
- 1997 JCI cone crusher, maximum capacity up to 300 TPH with an attached 6´x16´ 2-deck screen, maximum capacity up to 300 TPH.
- 1982 Eagle jaw crusher (maximum capacity up to 300 TPH).
- Screen maximum capacity up to 300 TPH.
- Caterpillar 85Z00896 175 kilowatt (kW) diesel generator.
- Cummins VT-12 550 kW diesel generator.
- Caterpillar 3408 460 horsepower (hp) power unit.

B. Source Description

Centennial's home pit is located at Section 1 South, Township 6 North, Range 14 West in Deer Lodge County, Montana (-112.86465° longitude, 46.09717° latitude). Centennial operates a crushing/screening plant to crush and sort sand and gravel material for use in various construction operations. For a typical operational setup, unprocessed material are loaded into the crushing/screening plant by a hopper and transferred by conveyor and passed through the crushers. Material are crushed and sent to the screens, where materials are screened, separated, and conveyed to stockpile.

C. Permit History

On August 10, 1989, Centennial was issued **Permit #2598-00** to operate a portable crushing/screening facility. The crushing/screening operation consisted of a 1952 Cedar Rapids Master Tandem (10"x36") Jaw and (40"x22") Rolls crusher, and associated equipment. The original location for the facility was identified as the NE ¼ of the SE ¼ of Section 26, Township 4 North, Range 10 West, in Deer Lodge County, Montana.

On May 21, 2003, Centennial submitted a complete MAQP application to remove a 1952 Cedar Rapids Master Tandem 10"x36" jaw and 40"x22" Rolls Crusher and add a 1988 EL-Jay (5'x16') horizontal 3-deck screen (maximum capacity up to 300 TPH), a 1997 JCI cone crusher (maximum capacity up to 300 TPH) with an attached (6'x16') 2-deck screen (maximum capacity up to 300 TPH), a 1982 Eagle jaw crusher (maximum capacity up to 300 TPH), two crushers (maximum capacity up to 300 TPH), a screen (maximum capacity up to 300 TPH), to MAQP #2598-01. The equipment will be powered by a diesel generator (up to 660 hp) and Centennial requested that the hours of operation be limited to 4,000 hours during any rolling 12-month time period. The permit was also requested to be generalized, by removing the references to specific pieces of equipment to allow additional operational flexibility for this facility. In addition, the permit was also updated to reflect the current language and rule references used by the Department. **MAQP #2598-01** replaced MAQP #2598-00.

On January 24, 2008, the Department received a request from Centennial to include an Addendum for operation of their facility while at locations in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas. The current permit action removed the 4000 hour operational restriction on the generator making giving the unit unrestricted hours for operation. The current action also updates the permit to reflect current permit language and rule references used by the Department and changes the permit to a de minimis-friendly format. **MAQP #2598-02** replaced MAQP #2598-01.

D. Current Permit Action

On March 14, 2017, Centennial completed an application for a permit modification. The modification would remove two of the existing crushers permitted for 200 tons per hour (TPH) capacity, add a Pioneer crushing plant which includes two crushers, one screen and two conveyors at 150 TPH max capacity, and increase the combined total maximum capacity of up to three diesel engines onsite to 1700 horsepower (hp). The opacity limitations for sources affected by Title 40 Code of Federal Regulations (CFR) 60, Subpart OOO have also been updated to reflect the changes made to that regulation since this permit was last issued. This action required updating the Addendum for the operation of the facility at or within 10 kilometer (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas (NAA). **MAQP #2598-03** replaces MAQP #2598-02.

E. Response to Public Comments

No comments received.

F. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations where appropriate.

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

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

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

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 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 PM_{10}
11. ARM 17.8.230 Fluoride in Forage

Centennial must maintain compliance with the applicable ambient air quality standards.

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

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Centennial 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 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Centennial 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 Centennial, the portable crushing equipment to be used under MAQP #2598-03 is subject to this subpart because it meets the definition of an affected facility for the screens, crusher and conveyors used onsite.

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. Since the RICE is intended to be portable, Centennial is not required to comply with the applicable emission limitations and operating limitations of 40 CFR 60, Subpart IIII. This subpart may become applicable if a RICE remains in a location for more than 12 months and if the engine onsite was manufactured after April 1, 2006.

7. ARM 17.8.341 Emission Standards for Hazardous Air Pollutants. This source shall comply with the standards and provisions of 40 CFR Part 61, as appropriate.

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. Centennial is considered a NESHAP-affected facility under 40 CFR Part 63 and is subject to the requirements of the following subparts.

a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.

b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source. Based on the information submitted by Centennial, the RICE equipment to be used under MAQP #2598-03 may be subject to this subpart if the engines onsite were manufactured or reconstructed after June 12, 2006 and remains at the permitted location for more 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 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. Centennial submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department.

   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. Centennial has a PTE greater than 15 tons per year of particulate matter (PM), PM_{10}, NO_x and CO; therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Centennial submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Centennial submitted an affidavit of publication of public notice for the

2/25/2017 issue of *The Montana Standard*, a newspaper of general circulation in the Town of Butte in Silver Bow County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that 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 Centennial of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in

ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

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

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

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major 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 a listed source and the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).

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

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

a. PTE > 100 tons per year of any pollutant;

b. PTE > 10 tons per year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons per year of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2598-03 for Centennial, the following conclusions were made:

a. The facility's PTE is less than 100 tons/year for any pollutant.

b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year of all HAPs.

c. This source is not located in a serious PM_{10} nonattainment area.

d. This facility is subject to a current NSPS (40 CFR 60, Subpart IIII and 40 CFR 60, Subpart OOO.

e. This facility is potentially subject to a current NESHAP (40 CFR 63, 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.

Centennial 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 required by ARM 17.8.1204(3)(a) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Determination

A BACT determination is required for any new or modified source. Centennial shall install on the new or modified source the maximum air pollution control capability that is technically practicable and economically feasible. A BACT analysis accompanied the permit application submitted by Centennial, MAQP #2598-03, addressing available methods of controlling emission from operation of crushing and screen operation. The Department has

reviewed these methods, as well as previous BACT determinations. The following control options have been reviewed by the Department in order to make the following BACT determinations. BACT analysis is conducted in accordance with the *New Source Review Workshop Manual, 1990*.

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

A. Process and Fugitive Particulate Emissions

Two types of emission controls are readily available and used for dust suppression of fugitive emissions that result from the operation of crushing/screening equipment and associated activities. These two control methods are water and chemical dust suppressant. Chemical dust suppressant could be used on the area surrounding the crushing/screening operation, and for emissions from the crushing/screening operation itself. However, in view of the fact that water is more readily available, more cost effective, is equally effective as chemical dust suppressant, while presenting less potential environmental quality degradation, water has been identified as the most appropriate method of pollution control of particulate emissions. In addition, water suppression has been required of recently permitted similar sources.

Centennial shall meet the NSPS opacity limits established for crushers and screen in II.A.1 and II.A.2; for any equipment not subject to an NSPS shall meet limits in II.A.3. Centennial is required to have water spray bars and water available on site at all times and to apply water, as necessary, to maintain compliance with the opacity restrictions and reasonable precaution limitations.

The control options selected contained control equipment and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards. The Department determined that using water spray bars and water dust suppressant to maintain compliance with the opacity requirements and reasonable precaution limitations constitutes BACT.

B. Diesel-Fired Engines

The Cummins VT-12 550 kW diesel generator permitted under MAQP 2598-01 is approximately 800 hp and has already gone through BACT analysis when originally permitted. The hp of the engine was incorrectly listed as 660 hp when MAQP 2598-02 was issued. This permitting action under MAQP 2598-03 is administrative to correct the oversight and does not require a BACT analysis.

The two other engines permitted are a combined capacity of 800 hp. Due to the limited amount of emissions produced by the diesel engines and the lack of readily available cost effective add-on controls, add-on controls would be cost prohibitive. Therefore, the Department determined that proper operation and maintenance with no-add on controls would constitute BACT for the diesel engines.

In addition, any new diesel-fired engines would be required to comply with the federal engine emission limitations including, for example, EPA Tier emission standards for

non-road engines (40 CFR Part 89 or 1039), New Source Performance Standard emission limitations for stationary compression ignition engines (40 CFR 60, Subpart IIII), or National Emission Standards for Hazardous Air Pollutant Sources for Reciprocation Internal Combustion Engines (40 CFR 63, Subpart ZZZZ).

IV. Emission Inventory**

CONTROLLED	**tons/year**							
Emission Source	**PM**	**PM_{10}**	**$PM_{2.5}$**	**NO_x**	**CO**	**VOC**	**SO_2**	**Total HAPs**
Cold Aggregate Storage Piles	38.56	18.24	2.76	--	--	--	--	--
Cold Aggregate Handling/Conveyors	4.60	1.51	0.43	--	--	--	--	--
Cold Aggregate Screens	10.12	3.40	0.20	--	--	--	--	--
450 TPH Jaw Crusher	2.37	1.06	0.39	--	--	--	--	--
150 TPH Roller Crusher	0.79	0.35	0.07	--	--	--	--	--
300 TPH Cone Crusher	1.58	0.71	0.13	--	--	--	--	--
Plant Load-Out	0.14	0.07	0.01	--	--	--	--	--
Haul Roads / Vehicle Traffic	6.39	1.82	0.36	--	--	--	--	--
1700 hp Diesel Engines/Generators	5.61	5.61	5.61	79.05	17.03	6.41	5.23	0.16
Total Emissions	**71.73**	**33.50**	**10.09**	**79.05**	**17.03**	**6.41**	**5.23**	**0.16**

****** CO = carbon monoxide
(fil) = filterable
HAPs = hazardous air pollutants
hp = horsepower
lb = pound
N/A = not applicable
ND = no data available
NO_X = oxides of nitrogen
PM = particulate matter
PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less
SO_2 = sulfur dioxide
TPH = tons per hour
TPY = tons per year
VOC = volatile organic compounds
yr = year

Footnotes:
a. Inventory reflects enforceable limits on 3000 hours of operation of the diesel engines to keep emissions below the Title V threshold of 100 tpy of any pollutant; the allowable emissions remain at or above the attainment area modeling threshold 80 tpy.

Cold Aggregate Storage Piles

Maximum Process Rate = 1050 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr
Number of Piles = 1 piles

PM Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00838 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 = 9.7 mph (Avg wind speed in Department approved guidance)
M = material moisture content = 1.5% (Avg moisture content provided in Department approved guidance)
Calculation: (1050 ton/hr) * (8760 hrs/yr) * (0.00838 lb/ton) * (ton/2000 lb) * (1 piles) = 38.56 ton/yr

PM10 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 = 0.00397 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 = 9.7 mph (Avg wind speed in Department approved guidance)
M = material moisture content = 1.5% (Avg moisture content provided in Department approved

guidance)
Calculation: (1050 ton/hr) * (8760 hrs/yr) * (0.00397 lb/ton) * (ton/2000 lb) * (1 piles) = 18.24 ton/yr

PM2.5 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 = 0.00060 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 = 9.7 mph (Avg wind speed in Department approved guidance)
M = material moisture content = 1.5% (Avg moisture content provided in Department approved guidance)
Calculation: (1050 ton/hr) * (8760 hrs/yr) * (0.00060 lb/ton) * (ton/2000 lb) * (1 piles) = 2.76 ton/yr

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

Maximum Process Rate = 300 ton/hr (Maximum conveyor process rate)
Maximum Hours of Operation = 8,760 hrs/yr
Number of Transfers = 25 transfer estimate based on application information provided by company

Total PM Emissions:
Emission Factor = 0.00014 lb/ton (0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (25 transfer) = 4.60 ton/yr

Total PM10 Emissions:
Emission Factor = 0.000046 lb/ton (Avg moisture content provided in Department approved guidance)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (25 transfer) = 1.51 ton/yr

Total PM2.5 Emissions
Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (25 transfer) = 0.43 ton/yr

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

Maximum Process Rate = 300 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr 7884000 tons/year
Number of Screens = 3 screen(s) (Company Information)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (3 screen(s)) = 8.67 ton/yr

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (3 screen(s)) = 2.92 ton/yr

Total PM2.5 Emissions
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (3 screen(s)) = 0.20 ton/yr

Screening (SCC 3-05-020-02, 03)-- screen associate with new crushing plant

Maximum Process Rate = 150 ton/hr
Maximum Hours of Operation = 8,760 hrs/yr
Number of Screens = 1 screen(s)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 1.45 ton/yr

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.49 ton/yr

Total PM2.5 Emissions
Emission Factor = 0.00005 lb/ton
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.03 ton/yr

Crushing [Jaw Crusher] (SCC 3-05-020-05) AS APPLIED TO ROLLER CRUSHER(S)

Maximum Process Rate = 150 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr

PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (150 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) = 0.79 ton/yr

PM_{10} Emissions:
Emission Factor = 0.00054 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (150 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) = 0.35 ton/yr

PM2.5 Emissions:
Emission Factor = 0.0001 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (150 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) = 0.07 ton/yr

Crushing [Jaw Crusher] (SCC 3-05-020-05) combined throughput of two jaw crushers

Maximum Process Rate = 450 ton/hr (Application information)
Maximum Hours of Operation = 8,760 hrs/yr

PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (450 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) = 2.37 ton/yr

PM_{10} Emissions:
Emission Factor = 0.00054 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (450 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) = 1.06 ton/yr

PM2.5 Emissions
Emission Factor = 0.0001 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (450 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) = 0.20 ton/yr

Crushing [Jaw Crusher] (SCC 3-05-020-05) as applied to Cone Crushers

Maximum Process Rate = 300 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr

PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) = 1.58 ton/yr

PM_{10} Emissions:
Emission Factor = 0.00054 lb/ton (crushing, controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) = 0.71 ton/yr

PM2.5 Emissions

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

Calculation: (300 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) = 0.13 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 = 14.02 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 = 8.4 % (Mean value, western surface coal mining, haul road to and from, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (Avg wind speed in Department approved guidance)
a = constant = 0.7 (Avg moisture content provided in Department approved guidance)
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) * (14.02 lb/VMT) * (ton/2000 lb) = 12.79 tons/yr (Uncontrolled Emissions)
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (14.02 lb/VMT) * (ton/2000 lb) * (1-50/100) = 6.39 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 = 4.00 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 = 8.4 % (Avg wind speed in Department approved guidance)
W = mean vehicle weight = 54 tons (Avg moisture content provided in Department approved guidance)
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) * (4.00 lb/VMT) * (ton/2000 lb) = 3.65 tons/yr (Uncontrolled Emissions)
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (4.00 lb/VMT) * (ton/2000 lb) * (1-50/100) = 1.82 tons/yr (Apply 50% control efficiency)

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 = 0.40 lb/VMT
Where: k = constant = 0.15 lbs/VMT (Avg wind speed in Department approved guidance)

s = surface silt content = 8.4 % (Avg moisture content provided in Department approved guidance)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.9 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM2.5, 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) * (0.40 lb/VMT) * (ton/2000 lb) = 0.36 tons/yr (Uncontrolled Emissions)
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (0.40 lb/VMT) * (ton/2000 lb) * (1-50/100) = 0.18 tons/yr (Apply 50% control efficiency)

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

Maximum Process Rate = 1050 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr

Total PM Emissions:
Emission Factor = 3.13725490196078E-05 lb/ton (PM=PM10/.51, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)
Calculation: (1050 ton/hr) * (8760 hrs/yr) * (3.13725490196078E-05 lb/ton) * (ton/2000 lb) * ( ) = 0.144 ton/yr

Total PM10 Emissions:
Emission Factor = 0.000016 lb/ton AP 42 11.19.2-2
Calculation: (1050 ton/hr) * (8760 hrs/yr) * (0.000016 lb/ton) * (ton/2000 lb) = 0.074 ton/yr

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)
Calculation: (1050 ton/hr) * (8760 hrs/yr) * (0.0000024 lb/ton) * (ton/2000 lb) = 0.011 ton/yr

Diesel Engines/Generators
Note: Emissions are based on the power output of the engine (1700 hp).
Operational Capacity of Engine = 1,700 hp
Hours of Operation = 3,000 hours

PM Emissions:

PM Emissions = 5.61 ton/yr (Assume all PM < 1.0 um)
PM Emissions = 11,220.00 lbs/yr (Assume all PM < 1.0 um)

PM-10 Emissions:
Emission Factor = 0.0022 lbs/hp-hr (AP-42 Chapter 3, Table 3.3-1)
Calculation: (3,000 hours) * (1,700 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 5.61 ton/yr
Calculation: (3,000 hours) * (1,700 hp) * (0.0022 lbs/hp-hr) = 11,220.00 lbs/yr

PM2.5 Emissions
Emission Factor = 0.0022 lbs/hp-hr (AP-42 Chapter 3, Table 3.3-1)
Calculation: (3,000 hours) * (1,700 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 5.61 ton/yr
Calculation: (3,000 hours) * (1,700 hp) * (0.0022 lbs/hp-hr) = 11,220.00 lbs/yr

NOx Emissions:
Emission Factor = 0.031 lbs/hp-hr (AP-42 Chapter 3, Table 3.3-1)
Calculation: (3,000 hours) * (1,700 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 79.05 ton/yr
Calculation: (3,000 hours) * (1,700 hp) * (0.031 lbs/hp-hr) = 158,100.00 lbs/yr

CO Emissions:
Emission Factor = 0.00668 lbs/hp-hr (AP-42 Chapter 3, Table 3.3-1)
Calculation: (3,000 hours) * (1,700 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 17.03 ton/yr
Calculation: (3,000 hours) * (1,700 hp) * (0.00668 lbs/hp-hr) = 34,068.00 lbs/yr

VOC Emissions:
Emission Factor = 0.0025141 lbs/hp-hr (AP-42 Chapter 3, Table 3.3-1)
Calculation: (3,000 hours) * (1,700 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 6.41 ton/yr
Calculation: (3,000 hours) * (1,700 hp) * (0.0025141 lbs/hp-hr) = 12,821.91 lbs/yr

SOx Emissions:
Emission Factor = 0.00205 lbs/hp-hr (AP-42 Chapter 3, Table 3.3-1)
Calculation: (3,000 hours) * (1,700 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 5.228 ton/yr
Calculation: (3,000 hours) * (1,700 hp) * (0.00205 lbs/hp-hr) = 10,455.00 lbs/yr

HAPS from Diesel Engine - 139000 btu/gallon x 39.9 gal/hr x 3000 hr/year per engine x 3 engines x lb/mmBTU x 1 ton/2000 lb = ton/yr	Emission Rate (lb/mmBTU)	Ton/yr
1,3-Butadiene	0.0000391	0.000976
Acetaldehyde	0.000767	0.019142
Acrolein	0.0000925	0.002309
Benzene	0.000933	0.023285
Formaldehyde	0.00118	0.029450
Polycylclic Aromatic Hudrocarbons	0.000168	0.004193
Propylene	0.00258	0.064390
Toluene	0.000409	0.010208
Xylene	0.000285	0.007113
	Combined Total HAP's	0.161065

V. Existing Air Quality

MAQP #2598-03 and Addendum #1 are for a facility that will locate at sites in or within 10 kilometers (km) of certain PM_{10} nonattainment areas. The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would be expected to operate on an intermittent and temporary basis and any effects on air quality would be expected to be minor and short-lived.

VI. Air Quality Impacts

This permit contains conditions and limitations that would protect air quality for the site and surrounding area. Furthermore, 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 of limited duration.

VII. Ambient Air Impact Analysis

Based on the information provided and the conditions established in MAQP #2598-03, the Department determined that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation of any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

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

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

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

IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Addendum #1
Centennial Concrete, Inc.
Montana Air Quality Permit (MAQP) #2598-03

An addendum to MAQP #2598-03 is hereby granted to Centennial Concrete, Inc. (Centennial) pursuant to Section 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.765, as amended, for the following:

I. Permitted Equipment:

Centennial owns and operates a portable non-metallic mineral processing facility consisting of the following equipment:

- Pioneer crushing plant 50-VE: one jaw crusher, one roller crusher, one screen and two conveyors at a maximum capacity of 150 tons per hour (TPH).
- 1988 EL-Jay (5'x16') horizontal 3-deck screen- maximum capacity up to 300 TPH.
- 1997 JCI cone crusher, maximum capacity up to 300 TPH with an attached 6´x16´ 2-deck screen, maximum capacity up to 300 TPH.
- 1982 Eagle jaw crusher (maximum capacity up to 300 TPH).
- Screen maximum capacity up to 300 TPH.
- Caterpillar 85Z00896 175 kilowatt (kW) diesel generator.
- Cummins VT-12 550 kW diesel generator.
- Caterpillar 3408 460 hp power unit.

II. Seasonal and Site Restrictions – Winter and Summer Seasons

Addendum 1 applies to the Centennial facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

A. During the winter season (October 1-March 31) - The only location in or within 10 km of a PM_{10} nonattainment area where Centennial may operate is:

- NE ¼ of Section 22, Township 3 North, Range 8 West, Silver Bow County (Manganese Ore Crushing Pit);
- N ½ of Section 23 and NW¼ of Section 24, Township 3 North, Range 8 West, Silver Bow County (Centennial Concrete Home Pit);
- Any other site that may be approved, in writing, by the Department of Environmental Quality (Department).

B. During the summer season (April 1-September 30) – Centennial may operate at any location in or within 10 km of the Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish PM_{10} nonattainment areas.

C. Centennial shall comply with the limitations and conditions contained in Addendum 1 to MAQP #2598-03 while operating in or within 10 km of any of the previously identified PM_{10} nonattainment areas. Addendum 1 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum 1 at any time based on local

conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

III. Limitations and Conditions

A. Operational Limitations and Conditions – Summer Season Conditions

1. Water spray bars must be available and operated, as necessary**,** on the crushers, screens, and all transfer points whenever the crushing/screening plant is in operation (ARM 17.8.749).

2. Centennial shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749). For NSPS-affected equipment constructed after April 22, 2008 for which an opacity limitation of 7% applies (such as screens and conveyors), that 7% limit shall apply to the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

3. Centennial shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).

4. Centennial shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).

5. Centennial shall not operate, or have on-site, more than four crushers at any one time Total combined production capacity shall not exceed 21,600 tons/day (ARM 17.8.749).

6. Centennial shall not operate, or have on-site, more than four screens at any one time. Total combined production capacity shall not exceed 25,200 ton/day (ARM 17.8.749).

7. Centennial shall not operate or have on-site more than three diesel engine(s)/generator(s). The maximum combined capacity of the engine(s) that drives the generator(s) shall not exceed 1700 hp (ARM 17.8.749).

B. Operation Limitations and Conditions – Winter Season Conditions

1. Water spray bars must be available and operated, as necessary**,** on the crushers, screens, and all transfer points whenever the crushing/screening plant is in operation (ARM 17.8.749).

2. Centennial shall not cause or authorize to be discharged into the atmosphere from any equipment, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749). For NSPS-affected equipment constructed after April 22, 2008 for which an opacity limitation of 7% applies (such as screens and conveyors), that 7% limit shall apply to the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart OOO).

3. Centennial shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant property any visible fugitive emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).

4. Centennial shall treat all unpaved portions of the access roads, parking lots, and general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the 10% opacity limitation (ARM 17.8.749).

5. Centennial shall not operate, or have onsite, more than four crushers at any one time. Total combined crushing production capacity shall not exceed 8,100 tons/day (ARM 17.8.749).

6. Centennial shall not operate, or have onsite, more than four screens at any one time. Total combined screen production shall not exceed 9,450 tons/day (ARM 17.8.749).

7. Centennial shall not operate or have on-site more than two diesel engine(s)/generator(s). The maximum combined capacity of the engine(s) that drives the generator(s) shall not exceed 900 hp (ARM 17.8.749).

8. Operation of the diesel engine(s) driving the generator(s) shall not exceed nine hours per day each (ARM 17.8.749).

C. Operational Reporting Requirements

1. If this crushing/screening plant is moved to another nonattainment 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. Production information for the sites covered by this addendum must be maintained for five years and submitted to the Department upon request. The information must include (ARM 17.8.749):

    a. Daily tons of material crushed by each crusher at each site (including amount of recirculated/rerun material). Centennial shall document, by day, the total crushing production. Centennial shall sum the total crushing production for the previous day to demonstrate compliance with the limitations in Sections III.A.5 and III.B.5.

    b. Daily tons of material screened by each screen at each site (including amount of recirculated/rerun material). Centennial shall document, by day, the total screening production. Centennial shall sum the total screening production for the previous day to demonstrate compliance with the limitations in Sections III.A.6 and III.B.6.

    c. Daily tons of bulk material loaded at each site, production.

    d. Daily hours of operation at each site.

    e. Daily hours of operation and the hp for each engine at each site.

    f. Fugitive dust information consisting of the daily total miles driven on unpaved roads within the operating site for all plant vehicles.

Addendum 1 Analysis
Centennial Concrete, Inc.
Montana Air Quality Permit (MAQP) #2598-03

I. Permitted Equipment

Centennial Concrete, Inc.'s (Centennial) portable crushing/screening facility consists of the following equipment:

- Pioneer crushing plant 50-VE, includes one jaw crusher, one roller crusher, one screen and two conveyors at a maximum capacity of 150 tons per hour (TPH).
- 1988 EL-Jay (5'x16') horizontal 3-deck screen- maximum capacity up to 300 TPH.
- 1997 JCI cone crusher, maximum capacity up to 300 TPH with an attached 6´x16´ 2-deck screen, maximum capacity up to 300 TPH.
- 1982 Eagle jaw crusher, maximum capacity up to 300 TPH.
- Screen maximum capacity up to 300 TPH.
- Caterpillar 85Z00896 175 kilowatt (kW) diesel generator.
- Cummins VT-12 550 kW diesel generator.
- Caterpillar 3408 460 hp power unit.

II. Source Description

Centennial uses this crushing/screening plant to crush, screen, and sort sand and gravel materials for use in various construction operations. For a typical operational setup, unprocessed materials are loaded into the crushing/screening plant via a hopper and transferred by conveyor to the crushers. From the crusher, materials are sent to the screen, where they are separated and conveyed to stockpiles.

III. Applicable Rules and Regulations

The following are partial quotations 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 of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

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

A. ARM 17.8.749 Conditions for Issuance 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.

B. 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. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.

C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:

1. Written notice of intent to transfer location and proof of public notice are sent to the Department;

2. The source will operate in the new location for a period of less than 1 year; and

3. The source will not have any significant impact on any nonattainment area or any Class I area.

IV. Emission Inventory

CONTROLLED (Summer)	**pounds/day**						
Emission Source	**PM**	**PM10**	**PM2.5**	**NOx**	**CO**	**VOC**	**SO2**
Cold Aggregate Storage Piles	211.27	99.93	15.13	--	--	--	--
Cold Aggregate Handling/Conveyors	25.20	8.28	2.34	--	--	--	--
Cold Aggregate Screens	47.52	15.98	1.08	--	--	--	--
Wash Plant	0.00	0.00	0.00	--	--	--	--
450 ton/hr Jaw Crusher	12.96	5.83	1.08	--	--	--	--
300 ton/hr Cone Crusher	8.64	3.89	0.72	--	--	--	--
Bulk Load-Out	0.79	0.40	0.06	--	--	--	--
Haul Roads / Vehicle Traffic	35.04	9.99	1.00	--	--	--	--
1700 hp Diesel Engine Generator	89.76	89.76	89.76	1264.80	272.54	102.58	83.64
Total Emissions	**431.18**	**234.06**	**111.17**	**1264.80**	**272.54**	**102.58**	**83.64**

CONTROLLED (Winter)	**pounds/day**						
Emission Source	**PM**	**PM10**	**PM2.5**	**NOx**	**CO**	**VOC**	**SO2**
Cold Aggregate Storage Piles	79.23	37.47	5.67	--	--	--	--
Cold Aggregate Handling/Conveyors	9.45	3.11	0.88	--	--	--	--
Cold Aggregate Screens	17.82	5.99	0.41	--	--	--	--
Wash Plant	0.00	0.00	0.00	--	--	--	--
450 ton/hr Jaw Crusher	4.86	2.19	0.41	--	--	--	--
300 ton/hr Cone Crusher	3.24	1.46	0.27	--	--	--	--
150 ton/hr Roller Crusher	1.62	0.73	0.14				
Bulk Load-Out	0.30	0.15	0.02	--	--	--	--
Haul Roads / Vehicle Traffic	11.68	3.33	0.33	--	--	--	--
900 hp Diesel Engine Generator	17.82	17.82	17.82	251.10	54.11	20.36	16.61
Total Emissions	**146.01**	**72.25**	**25.94**	**251.10**	**54.11**	**20.36**	**16.61**

Cold Aggregate Storage Piles

Maximum Process Rate = 1050 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (summer hours)
Maximum Hours of Operation = 9 hrs/day (winter hours)
Number of Piles = 1 piles

PM Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00838 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 = 9.7 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 1.5% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
Calculation: (1050 ton/hr) * (24 hrs/day) * (0.00838 lb/ton) * (1 piles) = 211.27 lb/day (Summer hours)
Calculation: (1050 ton/hr) * (9 hrs/day) * (0.00838 lb/ton) * (1 piles) = 79.23 lb/day (Winter hours)

PM10 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 = 0.00397 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 = 9.7 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 1.5% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
Calculation: (1050 ton/hr) * (24 hrs/day) * (0.00397 lb/ton) * (1 piles) = 99.93 lb/day (Summer hours)
Calculation: (1050 ton/hr) * (9 hrs/day) * (0.00397 lb/ton) * (1 piles) = 37.47 lb/day (Winter hours)

PM2.5 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 = 0.00060 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 = 9.7 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 1.5% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
Calculation: (1050 ton/hr) * (24 hrs/day) * (0.00060 lb/ton) * (1 piles) = 15.13 lb/day (Summer hours)
Calculation: (1050 ton/hr) * (9 hrs/day) * (0.00060 lb/ton) * (1 piles) = 5.67 lb/day (Winter hours)

Conveyor Transfer Point (SCC 3-05-02006)

Maximum Process Rate = 300 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day
Maximum Hours of Operation = 9 hrs/day
Number of Transfers = 25 transfer (Company Information)

Total PM Emissions:
Emission Factor = 0.00014 lb/ton (0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.00014 lb/ton) * (25 transfer) = 25.20 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.00014 lb/ton) * (25 transfer) = 9.45 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.000046 lb/ton (0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.000046 lb/ton) * (25 transfer) = 8.28 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.000046 lb/ton) * (25 transfer) = 3.11 lb/day (Winter Hours)

PM2.5 Emissions:
Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.000013 lb/ton) * (25 transfer) = 2.34 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.000013 lb/ton) * (25 transfer) = 0.88 lb/day (Winter Hours)

Fines Screening (SCC 3-05-020-21)

Maximum Process Rate = 300 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 9 hrs/day (Winter Hours)
Number of Screens = 3 screen(s) (Company Information)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.0022 lb/ton) * (3 screen(s)) = 47.52 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.0022 lb/ton) * (3 screen(s)) = 17.82 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.00074 lb/ton) * (3 screen(s)) = 15.98 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.00074 lb/ton) * (3 screen(s)) = 5.99 lb/day (Winter Hours)

PM2.5 Emissions:
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.00005 lb/ton) * (3 screen(s)) = 1.08 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.00005 lb/ton) * (3 screen(s)) = 0.41 lb/day (Winter Hours)

Fines Screening (SCC 3-05-020-21)

Maximum Process Rate = 150 ton/hr
Maximum Hours of Operation = 24 3.888
Maximum Hours of Operation = 9 1.458
Number of Screens = 1 screen(s)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton
Calculation: (300 ton/hr) * (24 hrs/day) * (0.0022 lb/ton) * (3 screen(s)) = 7.92 lb/day
Calculation: (300 ton/hr) * (9 hrs/day) * (0.0022 lb/ton) * (3 screen(s)) = 2.97 lb/day

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton
Calculation: (300 ton/hr) * (24 hrs/day) * (0.00074 lb/ton) * (3 screen(s)) = 2.66 lb/day
Calculation: (300 ton/hr) * (9 hrs/day) * (0.00074 lb/ton) * (3 screen(s)) = 1.00 lb/day

PM2.5 Emissions:
Emission Factor = 0.00005 lb/ton
Calculation: (300 ton/hr) * (24 hrs/day) * (0.00005 lb/ton) * (3 screen(s)) = 0.18 lb/day
Calculation: (300 ton/hr) * (9 hrs/day) * (0.00005 lb/ton) * (3 screen(s)) = 0.07 lb/day

Crushing [Jaw Crusher] (SCC 3-05-020-05) as applied to Roller Crushers

Maximum Process Rate = 150 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 9 hrs/day (Winter Hours)

Total PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (150 ton/hr) * (24 hrs/day) * (0.0012 lb/ton) = 4.32 lb/day (Summer Hours)
Calculation: (150 ton/hr) * (9 hrs/day) * (0.0012 lb/ton) = 1.62 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (150 ton/hr) * (24 hrs/day) * (0.00054 lb/ton) = 1.94 lb/day (Summer Hours)
Calculation: (150 ton/hr) * (9 hrs/day) * (0.00054 lb/ton) = 0.73 lb/day (Winter Hours)

PM2.5 Emissions
Emission Factor = 0.0001 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (150 ton/hr) * (24 hrs/day) * (0.0001 lb/ton) = 0.36 lb/day (Summer Hours)
Calculation: (150 ton/hr) * (9 hrs/day) * (0.0001 lb/ton) = 0.14 lb/day (Winter Hours)

Crushing [Jaw Crusher] (SCC 3-05-020-05)

Maximum Process Rate = 450 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 9 hrs/day (Winter Hours)

Total PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (450 ton/hr) * (24 hrs/day) * (0.0012 lb/ton) = 12.96 lb/day (Summer Hours)
Calculation: (450 ton/hr) * (9 hrs/day) * (0.0012 lb/ton) = 4.86 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (450 ton/hr) * (24 hrs/day) * (0.00054 lb/ton) = 5.83 lb/day (Summer Hours)
Calculation: (450 ton/hr) * (9 hrs/day) * (0.00054 lb/ton) = 2.19 lb/day (Winter Hours)

PM2.5 Emissions
Emission Factor = 0.0001 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (450 ton/hr) * (24 hrs/day) * (0.0001 lb/ton) = 1.08 lb/day (Summer Hours)
Calculation: (450 ton/hr) * (9 hrs/day) * (0.0001 lb/ton) = 0.41 lb/day (Winter Hours)

Crushing [Jaw Crusher] (SCC 3-05-020-05) AS APPLIED TO CONE CRUSHER(S)

Maximum Process Rate = 300 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 9 hrs/day (Winter Hours)

Total PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.0012 lb/ton) = 8.64 lb/day (Summer Hours)

Calculation: (300 ton/hr) * (9 hrs/day) * (0.0012 lb/ton) = 3.24 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.00054 lb/ton) = 3.89 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.00054 lb/ton) = 1.46 lb/day (Winter Hours)

Total PM2.5 Emissions:
Emission Factor = 0.0001 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (300 ton/hr) * (24 hrs/day) * (0.0001 lb/ton) = 0.72 lb/day (Summer Hours)
Calculation: (300 ton/hr) * (9 hrs/day) * (0.0001 lb/ton) = 0.27 lb/day (Winter Hours)

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

Maximum Process Rate = 1050 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 9 hrs/day (Winter Hours)
Number of loads = 1 loads (Estimate)

Total PM Emissions:
Emission Factor = 0.0000314 lb/ton (PM=PM10 / 51%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)
Calculation: (1050 ton/hr) * (24 hrs/day) * (0.00003 lb/ton) * (1 loads) = 0.79 lb/day (Summer Hours)
Calculation: (1050 ton/hr) * (9 hrs/day) * (0.00003 lb/ton) * (1 loads) = 0.30 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.000016 lb/ton (PM10=1.6E-05, AP 42, Table 11.19.2-2, 8/04)
Calculation: (1050 ton/hr) * (24 hrs/day) * (0.00002 lb/ton) * (1 loads) = 0.40 lb/day (Summer Hours)
Calculation: (1050 ton/hr) * (9 hrs/day) * (0.00002 lb/ton) * (1 loads) = 0.15 lb/day (Winter Hours)

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)
Calculation: (1050 ton/hr) * (24 hrs/day) * (0.00000 lb/ton) * ( ) = 0.06 lb/day (Summer Hours)
Calculation: (1050 ton/hr) * (24 hrs/day) * (0.04320 lb/day) * ( ) = 0.02 lb/day (Winter Hours)

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 = 24 hrs/day (Summer Hours)
Hours of Operation = 8 hrs/day (Winter Hours)

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 = 14.02 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 = 8.4 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
Calculation: (24 hrs/day) * (0.21 VMT/hr) * (14.02 lb/VMT) = 35.04 lb/day (controlled Emissions, Summer Hours)
Calculation: (8 hrs/day) * (0.21 VMT/hr) * (14.02 lb/VMT) = 11.68 lb/day (controlled Emissions, Winter Hours)

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 = 4.00 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 = 8.4 % (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)
Calculation: (24 hrs/day) * (0.21 VMT/hr) * (4.00 lb/VMT) = 9.99 lb/day (controlled Emissions, Summer Hours)
Calculation: (8 hrs/day) * (0.21 VMT/hr) * (4.00 lb/VMT) = 3.33 lb/day (controlled Emissions, Winter Hours)

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 = 0.40 lb/VMT
Where: k = constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 8.4 % (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 PM2.5, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
Calculation: (24 hrs/day) * (0.21 VMT/hr) * (0.40 lb/VMT) = 1.00 lb/day (controlled Emissions, Summer Hours)
Calculation: (8 hrs/day) * (0.21 VMT/hr) * (0.40 lb/VMT) = 0.33 lb/day (controlled Emissions, Winter Hours)

Diesel Engine Generator—Summer

Note: Emissions are based on the power output of the engine (1700 hp).
Operational Capacity of Engine = 1,700 hp
Hours of Operation = 24.00 hrs/day (Summer Hours)

PM Emissions:

PM Emissions = 89.76 lbs/day (Assume PM = PM10, Summer Hours)

PM-10 Emissions:

Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (24 hrs/day) * (1,700 hp) * (0.0022 lbs/hp-hr) = 89.76 lb/day (Summer Hours)

PM2.5 Emissions:

Emission Factor = 0.0022 lbs/hp-hr (Assume all PM < 1.0 um)
Calculation: (24 hrs/day) * (1,700 hp) * (0.0022 lbs/hp-hr) = 89.76 lb/day (Summer Hours)

NOx Emissions:

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (24 hrs/day) * (1,700 hp) * (0.031 lbs/hp-hr) = 1,264.80 lb/day (Summer Hours)

CO Emissions:

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (24 hrs/day) * (1,700 hp) * (0.00668 lbs/hp-hr) = 272.54 lb/day (Summer Hours)

VOC Emissions:

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)
Calculation: (24 hrs/day) * (1,700 hp) * (0.0025141 lbs/hp-hr) = 102.58 lb/day (Summer Hours)

SOx Emissions:

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (24 hrs/day) * (1,700 hp) * (0.00205 lbs/hp-hr) = 83.64 lb/day (Summer Hours)

Diesel Engine Generator—Winter

Note: Emissions are based on the power output of the engine (900 hp).
Operational Capacity of Engine = 900 hp
Hours of Operation = 9.00 hrs/day (Winter Hours)

PM Emissions:
PM Emissions = 17.82 lbs/day (Assume PM = PM10, Winter Hours)

PM-10 Emissions:
Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (9 hrs/day) * (900 hp) * (0.0022 lbs/hp-hr) = 17.82 lb/day (Winter Hours)

PM2.5 Emissions:
Emission Factor = 0.0022 lbs/hp-hr (Assume all PM < 1.0 um)
Calculation: (9 hrs/day) * (900 hp) * (0.0022 lbs/hp-hr) = 17.82 lb/day (Winter Hours)

NOx Emissions:
Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (9 hrs/day) * (900 hp) * (0.031 lbs/hp-hr) = 251.10 lb/day (Winter Hours)

CO Emissions:
Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (9 hrs/day) * (900 hp) * (0.00668 lbs/hp-hr) = 54.11 lb/day (Winter Hours)

VOC Emissions:
Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)
Calculation: (9 hrs/day) * (900 hp) * (0.0025141 lbs/hp-hr) = 20.36 lb/day (Winter Hours)

SOx Emissions:
Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (9 hrs/day) * (900 hp) * (0.00205 lbs/hp-hr) = 16.61 lb/day (Winter Hours)

Screen View Model Output File

```
 SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

 C:\Lakes\Screen View\Examples\2598.scr

 SIMPLE TERRAIN INPUTS:
   SOURCE TYPE          =        POINT
   EMISSION RATE (G/S)    =     0.935534E-01
   STACK HEIGHT (M)       =       4.2672
   STK INSIDE DIAM (M)    =       0.2164
   STK EXIT VELOCITY (M/S)=      60.9724
   STK GAS EXIT TEMP (K)  =     783.1500
   AMBIENT AIR TEMP (K)   =     293.0000
   RECEPTOR HEIGHT (M)    =       0.0000
   URBAN/RURAL OPTION     =        RURAL
   BUILDING HEIGHT (M)    =       0.0000
   MIN HORIZ BLDG DIM (M) =       0.0000
```

MAX HORIZ BLDG DIM (M) = 0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 2.2426920 (M**3/S)

BUOY. FLUX = 4.381 M**4/S**3; MOM. FLUX = 16.285 M**4/S**2.

*** FULL METEOROLOGY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	0.000	1	1.0	1.0	320.0	69.15	2.14	2.11	NO
100.	11.48	3	10.0	10.0	3200.0	10.76	12.57	7.61	NO
200.	10.17	4	10.0	10.0	3200.0	10.76	15.67	8.70	NO
300.	8.114	4	5.0	5.0	1600.0	17.24	22.91	12.65	NO
400.	7.001	4	4.5	4.5	1440.0	18.69	29.74	15.82	NO
500.	6.005	4	4.0	4.0	1280.0	20.49	36.44	18.87	NO
600.	5.248	4	3.5	3.5	1120.0	22.80	43.04	21.86	NO
700.	4.681	4	3.0	3.0	960.0	25.89	49.57	24.82	NO
800.	4.233	4	2.5	2.5	800.0	30.22	56.07	27.79	NO
900.	3.836	4	2.5	2.5	800.0	30.22	62.33	30.38	NO
1000.	3.544	4	2.0	2.0	640.0	36.71	68.75	33.40	NO
1100.	3.281	4	2.0	2.0	640.0	36.71	74.89	35.36	NO
1200.	3.038	4	2.0	2.0	640.0	36.71	80.97	37.26	NO
1300.	2.953	5	1.0	1.0	10000.0	52.90	66.17	29.06	NO
1400.	2.998	5	1.0	1.0	10000.0	52.90	70.59	30.14	NO
1500.	3.142	6	1.0	1.0	10000.0	44.63	50.37	21.40	NO
1600.	3.266	6	1.0	1.0	10000.0	44.63	53.26	22.04	NO
1700.	3.370	6	1.0	1.0	10000.0	44.63	56.14	22.67	NO
1800.	3.456	6	1.0	1.0	10000.0	44.63	59.01	23.29	NO
1900.	3.525	6	1.0	1.0	10000.0	44.63	61.86	23.90	NO
2000.	3.578	6	1.0	1.0	10000.0	44.63	64.71	24.51	NO
2100.	3.593	6	1.0	1.0	10000.0	44.63	67.55	25.03	NO
2200.	3.598	6	1.0	1.0	10000.0	44.63	70.38	25.53	NO
2300.	3.596	6	1.0	1.0	10000.0	44.63	73.19	26.03	NO
2400.	3.588	6	1.0	1.0	10000.0	44.63	76.00	26.52	NO
2500.	3.574	6	1.0	1.0	10000.0	44.63	78.80	27.01	NO
2600.	3.555	6	1.0	1.0	10000.0	44.63	81.58	27.49	NO
2700.	3.532	6	1.0	1.0	10000.0	44.63	84.36	27.96	NO
2800.	3.506	6	1.0	1.0	10000.0	44.63	87.13	28.42	NO
2900.	3.477	6	1.0	1.0	10000.0	44.63	89.89	28.88	NO
3000.	3.445	6	1.0	1.0	10000.0	44.63	92.64	29.34	NO
3500.	3.228	6	1.0	1.0	10000.0	44.63	106.28	31.19	NO
4000.	3.015	6	1.0	1.0	10000.0	44.63	119.73	32.92	NO
4500.	2.814	6	1.0	1.0	10000.0	44.63	133.00	34.55	NO
5000.	2.629	6	1.0	1.0	10000.0	44.63	146.13	36.10	NO
5500.	2.460	6	1.0	1.0	10000.0	44.63	159.11	37.57	NO

```
 6000.   2.307       6    1.0    1.0 10000.0   44.63  171.97   38.98    NO
 6500.   2.167       6    1.0    1.0 10000.0   44.63  184.70   40.33    NO
 7000.   2.041       6    1.0    1.0 10000.0   44.63  197.33   41.63    NO
 7500.   1.925       6    1.0    1.0 10000.0   44.63  209.85   42.75    NO
 8000.   1.820       6    1.0    1.0 10000.0   44.63  222.28   43.83    NO
 8500.   1.725       6    1.0    1.0 10000.0   44.63  234.62   44.87    NO
 9000.   1.638       6    1.0    1.0 10000.0   44.63  246.88   45.87    NO
 9500.   1.559       6    1.0    1.0 10000.0   44.63  259.05   46.85    NO
10000.   1.486       6    1.0    1.0 10000.0   44.63  271.15   47.80    NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND     1. M:
   99.   11.48       3    10.0   10.0  3200.0   10.76   12.57    7.61    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

    **************************************
    *** SUMMARY OF SCREEN MODEL RESULTS ***
    **************************************

 CALCULATION        MAX CONC    DIST TO   TERRAIN
  PROCEDURE       (UG/M**3)      MAX (M)       HT (M)
--------------    -----------   -------   -------
SIMPLE TERRAIN      11.48           99.        0.
```

The emission rate and stack parameters input for the ScreenView model was based on the limit for combined total horsepower of the engines operating at one time is 900 hp. The maximum hourly concentration of 11.48 micrograms per cubic meter ($\mu g/m^3$) is multiplied by 0.4 to convert the concentration into a daily maximum concentration of 4.52 $\mu g/m^3$. The Department guidance is that if the point source peak modeled 24-hour impact is less than 5 $\mu g/m^3$, the source would not cause or contribute to a violation of the NAAQS in a non-attainment area as stated in 40 CFR 51.165(b)(2).

V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}). Due to exceedances of the national standards for PM_{10}, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for PM_{10}. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit PM_{10} State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies identified these sources to be the major contributors to PM_{10} emissions.

MAQP #2598-03 and Addendum 1 are for a portable crushing/screening plant that will locate at sites in or within 10 kilometers (km) of certain PM_{10} nonattainment areas. The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would be expected to operate on an intermittent and temporary basis and any effects on air quality would be expected to be minor and short-lived.

VI. Air Quality Impacts

MAQP #2598-03 and Addendum 1 will cover the operations of this portable crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department approved permitting program and those areas that are tribal lands.

Addendum 1 will cover the operations of this portable crushing/screening plant, while operating in or within 10 km of the Butte PM_{10} nonattainment area (specific site during the winter months (October 1 through March 31). Additionally, the facility will also be allowed to operate in or within 10 km of PM_{10} nonattainment areas during the summer months (April 1 through September 30).

VII. Taking or Damaging Implication Analysis

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

YES	NO	
x		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	x	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	x	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	x	4. Does the action deprive the owner of all economically viable uses of the property?
	x	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
x		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
x		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 completed for this project. A copy is attached.

Addendum Analysis Prepared by: Loni Patterson
Date: 3/24/2017

DEPARTMENT OF ENVIRONMENTAL QUALITY
Air, Energy & Mining Division
Air Quality Bureau
P.O. Box 200901, Helena, MT 59620
(406) 444-3490

ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Centennial Concrete, Inc.
701 Centennial Ave
Butte, Montana 59701

Montana Air Quality Permit number (MAQP)*:* 2598-03

EA Draft: 4/6/2017
EA Final: 5/9/2017
Permit Final: 5/25/2017

1. Legal Description of Site: Centennial Concrete, Inc (Centennial) operates a crusher and screen operation with the home pit located in Section 15, Township 6 North, Range 14 West, Deer Lodge County, Montana. However, MAQP#2598-03 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department) approved permitting program or areas considered tribal lands. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.*

2. Description of Project: On March 14, 2017, Centennial completed an application for a permit modification. The modification would remove to of the existing crushers permitted for 200 tons per hour (TPH) capacity, add a Pioneer crushing plant (including two crushers, one screen and two conveyors, at 150 TPH max capacity), and increase the combined total maximum capacity of the up to three engines onsite to 1700 horsepower (hp). This action requires updating the Addendum for the operation of the facility at or within 10 kilometer (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas (NAA).

3. Objectives of Project: The objective is to increase the production of the business and to generate more revenue through the sale and use of aggregate. The issuance of MAQP 2598-03 would allow Centennial to operate permitted equipment in various locations throughout Montana, including the home pit site location.

4. Alternatives Considered: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny modification of the MAQP of the existing operation. This would keep the operation from increasing their capacity to fulfill contracts they are bidding for which would have an adverse effect to the business. The increase in potential air emissions would affect the environment. The operation is required to use best available control technologies and will have to comply with Addendum #1 to mitigate air emissions.

5. A Listing of Mitigation, Stipulations, and Other Controls: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #2598-03 and Addendum #1.

6. Regulatory Effects on Private Property: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights. Centennial is operating in a permitted opencut pit and the operations is already permitted, there are no foreseen regulatory effects on the private property.

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

   A. Terrestrial and Aquatic Life and Habitats

      Terrestrial and aquatic life and habitats may be affected by this modification as this action allows for an increase in air emissions. It should be noted that the MAQP action is to increase the capacity of the permitted engines and crushing production.

   B. Water Quality, Quantity and Distribution

      Water would continue to be required for dust suppression on the mineral processing equipment and surrounding facility area, including haul roads. The water demand from the operation may increase.

   C. Geology and Soil Quality, Stability and Moisture

      The Department is not aware of any fragile, erosive, susceptible to compaction, or unstable geology or soil near the project site. The operation would continue to use sand and gravel from the pit and there are no special reclamation considerations known.

   D. Vegetation Cover, Quantity, and Quality

      As this is an existing site, not new vegetation cover, quantity or quality is expected to be altered. The surface area disturbance is not expected to increase.

   E. Aesthetics

      The existing site is a zoned Deer Lodge County approved gravel pit area; aesthetics would remain the same in regards to this permitting action.

   F. Air Quality

      Air quality impacts are expected as the operation is increasing the capacity of the diesel engines onsite and the crushing capacity. The MAQP and Addendum issued would contain conditions limiting the allowable emissions from the operation depending on the airsheds and seasons that it is operating in. The operation would be in both unclassified/attainment and nonattainment areas for regulated pollutants. When the operation is in PM_{10} nonattainment areas, the conditions are more stringent.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department ran a species of concern report with the Montana Natural Heritage Program (MNHP) in an effort to identify any species of concern that may be found in the area where the crushing and screening operation would occur. Search results have concluded that there are eight species of concern in the area. Area, in this case is defined by the township, range and section of the site of the activity with an additional one mile buffer. The known species of concern include the Fisher, Little Brown Myotis, Wolverine, Great Blue Heron, Great Gray Owl, Bull Trout, Westslope Cutthroat Trout, and A Millipede. Effects to species of concern from the project would not be changed as this is an already existing operation. Therefore, the Department determined that any effects upon the species from this permit action would remain the same.

H. Sage Grouse Executive Order

The Department recognizes that the site location is not within the designated Greater Sage Grouse General Habitat Area as defined by Executive Order No. 12-2015.

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

The amount of water used from the site would increase to continue to suppress dust from entering the atmosphere. Air quality would still be protected through the MAQP and Addendum conditions. The source will continue to generate its own power, independent of the grid.

J. Historical and Archaeological Sites

The Department contacted the Montana Historical Society-State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological site that may be present in the location of the facility. SHPO concluded that there are no previously recorded sites within the designated search locales. As long as there would be no disturbance or alteration to structures over fifty years of age, SHPO indicates "there is a low likelihood cultural properties will be impacted". Therefore, it is unlikely that the crushing/screening operation would have an effect on any known historic or archaeological sites.

K. Cumulative and Secondary Impacts

The operation of the proposed project would not likely contribute to the cumulative and secondary impacts as it is an existing portable crushing and screening operation. Theoretically, the resources used and disturbed would remain the same.

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

A. Social Structures and Mores

The operation of the proposed project would not be expected to cause any disruption to the social structures and mores in the area because the source is already in operation. The permitting action would not affect the social structures and mores.

B. Cultural Uniqueness and Diversity

The impact to cultural uniqueness and diversity of these areas would likely not occur from the operation as it is an existing portable crushing and screening facility. There is no effect on the cultural uniqueness and diversity.

C. Local and State Tax Base and Tax Revenue

The continued operation of the facility would not be expected to impact the local and state tax base and tax revenue.

D. Agricultural or Industrial Production

The proposed project is an existing operation that is modifying to increase throughput and the size of the engines used on site. There would be no effect on agriculture or industrial production.

E. Human Health

MAQP #2598-03 and Addendum #1 incorporate conditions and emission limits to ensure compliance with all applicable air quality rules and regulations. The rule and regulations are designed to protect human health. The modification is to an existing portable crusher and screen operation. The potential increase in air emissions may affect human health.

F. Access to and Quality of Recreational and Wilderness Activities

Based on the information provided by Centennial, there are no recreational activities or wilderness areas near the existing site. Therefore, no impacts to the access to and quality of recreational and wilderness areas would be expected.

G. Quantity and Distribution of Employment

The proposed modification would not alter the quantity and distribution of employment.

H. Distribution of Population

The project is not expected to have an impact on the normal population distribution in the area of operation.

I. Demands for Government Services

No increase in traffic on existing roadways in the area while the facility is expected from the modification. Government services would be required for acquiring the appropriate permit applications for the proposed modification and to verify compliance with the permits the facility would be issued. The operation already exists; there is no increase in demand for government services outside this permitting process.

J. Industrial and Commercial Activity

The operation of the added equipment from the modification would represent an increase in the industrial activity in the operation area. The industrial activity associated with this plant would occur within an existing gravel pit. No additional industrial or commercial activity would be expected as a result of the permit action.

K. Locally Adopted Environmental Plans and Goals

Centennial would be allowed by 2598-03 and Addendum #1 to operate in areas designated by the United States Environmental Protection Agency as attainment or unclassified for ambient air quality and within 10 km of PM_{10} nonattainment areas in the state of Montana. MAQP 2598-03 and Addendum #1 contain operational restrictions for protecting air quality and to keep the facility emissions in compliance with any applicable ambient air quality standards. The operation is portable and the modification is increasing emissions from an existing source. Any locally adopted environmental plans from the project would not be expected to be affected. The Department requires the source to comply with all state and local regulations in regards to environmental plans and goals.

L. Cumulative and Secondary Impacts

The modification is not expected to impact the economy of the surrounding area. Socially this project would not have cumulative or secondary impacts to the nearby communities.

Recommendation: No Environmental Impact Statement (EIS) is required.

The current permitting action is for the modification of the operation of a portable crushing and screening facility. MAQP #2598-03 and Addendum #1 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program – Montana Sage Grouse Conservation Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Quality Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Loni Patterson
Date: 3.28.17