



Montana Department of  
**E**NVIRONMENTAL **Q**UALITY

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August 15, 2011

Mr. Matt Peak  
Peak Sand & Gravel, Inc.  
P.O. Box 405  
Sandpoint, ID, 83864

Dear Mr. Peak:

Montana Air Quality Permit #4602-01 is deemed final as of August 13, 2011, by the Department of Environmental Quality (Department). This permit is for Non-metallic mineral crushing and screening facility and associated equipment. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

Doug Kuenzli  
Environmental Science Specialist  
Air Resources Management Bureau  
(406) 444-4267

VW:DCK  
Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #4602-01

Peak Sand & Gravel, Inc.  
P.O. Box 405  
Sandpoint, ID, 83864

August 13, 2011



## MONTANA AIR QUALITY PERMIT

Issued To: Peak Sand & Gravel, Inc.  
P.O. Box 405  
Sandpoint, ID, 83864

MAQP: #4602-01  
Administrative Amendment (AA) Request  
Received: 06/14/2011  
Department's Decision on AA: 07/28/2011  
Permit Final: 08/13/2011  
AFS #: 777-4602

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Peak Sand & Gravel, Inc. (Peak) 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

Peak operates a portable crushing and screening operation that was initially located in Northeast (NE)  $\frac{1}{4}$  of the NE  $\frac{1}{4}$ , Section 21, Township 19 North, Range 30 West, in Mineral County, Montana. However, MAQP #4602-01 applies while operating at any location in Montana, except those areas having a Montana Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.*

Addendum #1 will apply to the facility while operating at locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas during the summer months (April 1 – September 30). A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

#### B. Current Permit Action

On June 14, 2011, the Department received a request from Peak to amend MAQP #4602-00 to allow the crushing and screening facility to operate in or within 10 km of the Libby and Thompson Falls PM<sub>10</sub> nonattainment areas during the summer months. The permit was updated to incorporate Addendum #1 and Addendum analysis.

### 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 and 40 CFR 60, Subpart OOO):
  - For Crushers that commence construction, modification, or reconstruction on or after April 22, 2008: 12% opacity
  - For Crushers that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 15% opacity

2. All visible emissions from any other NSPS-affected equipment (such as screens and conveyors) shall not exhibit an opacity in excess of the following averaged over 6 consecutive minutes (ARM 17.8.340 and 40 CFR 60, Subpart OOO):
  - For equipment that commence construction, modification, or reconstruction on or after April 22, 2008: 7% opacity
  - For equipment that commence construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008: 10% opacity
3. All visible emissions from any non-NSPS affected equipment shall not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
4. 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 ARM 17.8.752).
5. Peak 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. Peak 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).
7. Peak shall not operate more than 4 crushers at any given time and the total combined maximum rated design capacity of the crushers shall not exceed 2,900 TPH (ARM 17.8.749).
8. Crushing production is limited to 25,404,000 tons during any rolling 12-month time period (ARM 17.8.749).
9. Peak shall not operate more than 3 screens at any given time and the total combined maximum rated design capacity of the screens shall not exceed 2,175 TPH (ARM 17.8.749).
10. Screening production is limited to 19,053,000 tons during any rolling 12-month time period (ARM 17.8.749).
11. Peak shall not operate or have on-site more than two diesel engines/generators (ARM 17.8.749):
  - a. The maximum rated 475-horsepower (hp) diesel engine shall be EPA certified Tier I or higher under 40 CFR Part 89.
  - b. The maximum rated 90-hp diesel engine shall be EPA certified Tier II or higher under 40 CFR Part 89.
12. The diesel generator engine(s) exhaust stack heights shall have a minimum height above ground level of the following (ARM 17.8.749):
  - a. No less than 15 feet above ground level for the maximum rated 475-hp diesel engine.
  - b. No less than 10 feet above ground level for the maximum rated 90-hp diesel engine.

13. If the permitted equipment is used in conjunction with any other equipment owned or operated by Peak, 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).
14. Peak 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).
15. Peak 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 (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart OOO). 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. Peak 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. Peak shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include *the addition of a new emissions unit*, change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
4. Peak shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. The records compiled in accordance with this permit shall be maintained by Peak as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).
5. Peak shall document, by month, the crushing production from the facility. By the 25<sup>th</sup> day of each month, Peak shall calculate the crushing production from the facility for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
6. Peak shall document, by month, the screening production from the facility. By the 25<sup>th</sup> day of each month, Peak shall calculate the screening production from the facility for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.10. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
7. Peak shall document, by month, the hours of operation of the diesel engines/generators. By the 25<sup>th</sup> day of each month, Peak shall calculate the hours of operation for the diesel engines/generators for the previous month. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

D. Notification

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

SECTION III: General Conditions

- A. Inspection – Peak shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (Continuous Emissions Monitoring System (CEMS), Continuous Emissions Rate Monitoring System (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Peak fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Peak of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq.* (ARM 17.8.756).

- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department’s decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department’s decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department’s decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department’s decision on the application is final 16 days after the Department’s decision is made.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Peak 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. Peak 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  
Peak Sand & Gravel, Inc.  
MAQP #4602-01

I. Introduction/Process Description

Peak Sand & Gravel, Inc. (Peak) owns and operates a portable crushing and screening plant.

A. Permitted Equipment

The facility is permitted to operate four crushers with a combined maximum material throughput capacity not to exceed 2,900 tons per hour (TPH), three screens with a combined maximum material throughput capacity not to exceed 2,175 TPH, two diesel engines/generators with a combined maximum rated capacity not to exceed 565 horsepower (hp), three aggregate storage bunkers and multiple conveyors.

B. Source Description

Peak proposes to operate this equipment to crush and sort sand and gravel like materials. Peak would use this crushing/screening plant to crush, screen, and sort sand and gravel like 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 a series of crushers and screens where it is sorted and separated. The final product is then stockpiled for eventual use.

C. Permit History

On September 17, 2010, Peak submitted the initial application to install and operate up to four (4) portable non-metallic mineral crushing plants, three (3) portable screen plants, and associated equipment, including two (2) diesel engine generator sets, conveyors and aggregate storage bunkers. **MAQP #4602-00** was issued final on December 2, 2010.

D. Current Permit Action

On June 14, 2011, the Montana Department of Environmental Quality (Department) received a request from Peak to amend MAQP #4602-00 to allow for operation of the crushing and screening facility in or within 10 km of the Libby and Thompson Falls PM<sub>10</sub> nonattainment areas during the summer months. **MAQP #4602-01** will replace MAQP #4602-00.

E. Additional Information

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

II. Applicable Rules and Regulations

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

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

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

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

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

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

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide (SO<sub>2</sub>)
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
4. ARM 17.8.211 Ambient Air Quality Standards for Ozone
5. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
6. ARM 17.8.221 Ambient Air Quality Standard for Visibility
7. ARM 17.8.223 Ambient Air Quality Standard for Particulate Matter with an Aerodynamic Diameter of 10 Microns or Less (PM<sub>10</sub>)

Peak 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, Peak shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS). Based on the information submitted by Peak the portable crushing/screening operation and associated equipment are applicable to NSPS (40 CFR 60), as follows:
  - a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:
  - b. 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants. In order for a crushing/screening plant to be subject to NSPS requirements, two specific criteria must be met. First, the crushing/screening plant must meet the definition of an affected facility and, second, the equipment in question must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Peak the crushing/screening equipment are subject to NSPS, Subpart OOO requirements as the equipment met the affected facility definition and date of manufacture of was after August 31, 1983.
  - c. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Based on the information submitted by Peak, the diesel engine generators to be used under MAQP #4602-01 are not subject to this subpart because both engines

were manufactured before April 1, 2006. As this permit is written in a de minimis friendly manner, future diesel engine generators utilized may be subject to this subpart.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Peak may be considered an NESHAP-affected facility under 40 CFR Part 63 and is potentially 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 RICE at a major or area source of Hazardous Air Pollutant (HAP) emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a source that is not a major source.

Based on the information submitted by Peak, the RICE equipment to be used under MAQP #4602-01 may be subject to this subpart as the facility is an area source of HAP emissions and the engines have the potential to meet the definition of a stationary RICE.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department; the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

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

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an 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 (tpy) of any pollutant. Peak has a PTE greater than 15 tpy of PM, PM<sub>10</sub>, CO and oxides of nitrogen (NO<sub>x</sub>); therefore, an air quality permit is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. A permit application was not required for the current permit action because the permit change is considered an administrative permit change. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. An affidavit of publication of public notice was not required for the current permit action because the permit change is considered an administrative permit change.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Peak 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 Modification--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source because it is not a listed source and the facility's PTE is less than 250 tpy 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 tpy of any pollutant;
  - b. PTE > 10 tpy of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
  - c. PTE > 70 tpy of PM<sub>10</sub> in a serious PM<sub>10</sub> nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (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 #4602-01 for Peak, the following conclusions were made:
- a. The facility's PTE is less than 100 tpy for any pollutant.
  - b. The facility's PTE is less than 10 tpy for any one HAP and less than 25 tons/year of all HAPs.
  - c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
  - d. This facility is potentially subject to a current NSPS (40 CFR 60, Subpart OOO and Subpart IIII).
  - e. This facility is potentially subject to a current NESHAP standards (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.

Based on these facts, the Department has determined that Peak will be a minor source of emissions as defined under Title V. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Peak will be required to obtain a Title V Operating Permit.

### III. BACT Determination

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

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

### IV. Emission Inventory

Emission Source	Tons/Year						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>
Crushers (2,900 TPY)	15.24	6.86	1.27	--	--	--	--
Screens (2,175 TPY)	20.96	7.05	0.48	--	--	--	--
Truck Unloading	0.46	0.15	0.04	--	--	--	--
Material Transfer	4.89	1.61	0.52	--	--	--	--
Pile Forming	30.81	14.57	2.21	--	--	--	--
Diesel Engine(s) (Up to 565 hp)	5.46	5.46	5.46	35.87	16.59	6.24	5.09
Haul Roads	11.37	3.13	0.31	--	--	--	--
<b>Total Emissions</b>	<b>89.64</b>	<b>38.98</b>	<b>10.34</b>	<b>35.87</b>	<b>16.59</b>	<b>6.24</b>	<b>5.09</b>

Notes:

1 - The diesel generator engine(s) is limited to 656 hp.

- PM<sub>2.5</sub> Particulate matter with an aerodynamic diameter of 2.5 microns or less
- VOC Volatile Organic Compounds

- SO<sub>2</sub> Sulfur Dioxide
- VMT Vehicle Miles Traveled
- hr Hour
- yr Year
- lb Pound
- mph Miles per Hour

**Material Crushing (up to 2,900 TPH)**

Process Rate: 2,900 tons/hr  
 Hours of Operation: 8,760 hr/yr

PM Emissions:

Emission Factor: 0.0012 lbs/ton (AP-42, Table 11.19.2-2, 8/04)  
 Calculations: 0.0012 lbs/ton \* 2,900 tons/hr = 3.48 lbs/hr  
 3.48 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 15.24 tons/yr

PM<sub>10</sub> Emissions:

Emission Factor: 0.00054 lbs/ton (AP-42, Table 11.19.2-2, 8/04)  
 Calculations: 0.00054 lbs/ton \* 2,900 tons/hr = 1.57 lbs/hr  
 1.57 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 6.86 tons/yr

PM<sub>2.5</sub> Emissions:

Emission Factor: 0.0001 lbs/ton (AP-42, Table 11.19.2-2, 8/04)  
 Calculations: 0.0001 lbs/ton \* 2,900 tons/hr = 0.29 lbs/hr  
 0.29 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 1.27 tons/yr

**Material Screening (up to 2,175 TPH)**

Process Rate: 2,175 tons/hr  
 Hours of Operation: 8,760 hr/yr

PM Emissions:

Emission Factor: 0.0022 lbs/ton (AP-42, Table 11.19.2-2, 8/04)  
 Calculations: 0.0022 lbs/ton \* 2,175 tons/hr = 4.79 lbs/hr  
 4.79 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 20.96 tons/yr

PM<sub>10</sub> Emissions:

Emission Factor: 0.00074 lbs/ton (AP-42, Table 11.19.2-2, 8/04)  
 Calculations: 0.00074 lbs/ton \* 2,175 tons/hr = 1.61 lbs/hr  
 1.61 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 7.05 tons/yr

PM<sub>2.5</sub> Emissions:

Emission Factor: 0.00005 lbs/ton (AP-42, Table 11.19.2-2, 8/04)  
 Calculations: 0.00005 lbs/ton \* 2,175 tons/hr = 0.11 lbs/hr  
 0.11 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 0.48 tons/yr

**Truck Unloading**

Process Rate: 750 tons/hr  
 Number of Loads: 1 Load  
 Hours of Operation: 8,760 hr/yr

TSP Emissions:

Emission Factor: 0.00014 lbs/ton (AP-42, Section 11.19.2-2, 8/04)  
 Calculations: 0.00014 lbs/ton \* 750 tons/hr \* 1 Load = 0.11 lbs/hr  
 0.11 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 0.46 tons/yr

PM<sub>10</sub> Emissions:

Emission Factor: 0.000046 lbs/ton (AP-42, Section 11.19.2-2, 8/04)  
 Calculations: 0.000046 lbs/ton \* 750 tons/hr \* 1 Load = 0.0345 lbs/hr  
 0.0345 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 0.15 tons/yr

PM<sub>2.5</sub> Emissions:

Emission Factor: 0.000013 lbs/ton (AP-42, Section 11.19.2-2, 8/04)  
Calculations: 0.000013 lbs/ton \* 750 tons/hr \* 1 Load = 0.0098 lbs/hr  
0.0098 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 0.04 tons/yr

**Material Transfer**

Process Rate: 725 tons/hr  
Number of Transfers: 11 Transfers  
Hours of Operation: 8,760 hr/yr

PM Emissions:

Emission Factor: 0.00014 lbs/ton (AP-42, Table 11.19.2-2, 7/94)  
Calculations: 0.00014 lbs/ton \* 725 tons/hr \* 11 Transfers = 1.12 lbs/hr  
1.12 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 4.89 tons/yr

PM<sub>10</sub> Emissions:

Emission Factor: 4.6E-5 lbs/ton (AP-42, Table 11.19.2-2, 7/94)  
Calculations: 4.6E-5 lbs/ton \* 725 tons/hr \* 11 Transfers = 0.367 lbs/hr  
0.367 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 1.61 tons/yr

PM<sub>2.5</sub> Emissions:

Emission Factor: 1.5E-5 lbs/ton (AP-42, Table 11.19.2-2, 7/94)  
Calculations: 1.5E-5 lbs/ton \* 725 tons/hr \* 11 Transfers = 0.120 lbs/hr  
0.120 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 0.52 tons/yr

**Pile Forming**

Process Rate: 725 tons/hr  
Number of Piles: 3 Piles  
Hours of Operation: 8,760 hr/yr

PM Emissions:

Emission Factor: 0.00323 lbs/ton (Equation 1 from AP-42, Sec. 13.2.4.3, 11/06)  
Where: k = 0.74 (Value for PM < 30 microns)  
U = 8.15 mph (Average from values provided)  
M = 2.52 % (Average from values provided)  
Calculations: 0.00323 lbs/ton \* 725 tons/hr \* 3 Piles = 7.03 lbs/hr  
7.03 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 30.81 tons/yr

PM<sub>10</sub> Emissions:

Emission Factor: 0.00153 lbs/ton (Equation 1 from AP-42, Sec. 13.2.4.3, 11/06)  
Where: k = 0.35 (Value for PM < 10 microns)  
U = 8.15 mph (Average from values provided)  
M = 2.52 % (Average from values provided)  
Calculations: 0.00153 lbs/ton \* 725 tons/hr \* 3 Piles = 3.33 lbs/hr  
3.33 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 14.5 tons/yr

PM<sub>2.5</sub> Emissions:

Emission Factor: 0.00023 lbs/ton (Equation 1 from AP-42, Sec. 13.2.4.3, 11/06)  
Where: k = 0.053 (Value for PM < 10 microns)  
U = 8.15 mph (Average from values provided)  
M = 2.52 % (Average from values provided)  
Calculations: 0.00023 lbs/ton \* 725 tons/hr \* 3 Piles = 0.500 lbs/hr  
0.500 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 2.21 tons/yr

**Diesel Engine (up to 565 hp)**

Generator Size: 565 hp  
Hours of Operation: 8,760 hr/yr

PM Emissions:

Emission Factor: 0.0022 lbs/hp-hr (AP-42 Table 3.3-1, 10/96)  
Calculations: 0.0022 lbs/hp-hr \* 565 hp = 1.24 lbs/hr  
1.24 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 5.46 tons/yr

PM<sub>10</sub> Emissions:

Emission Factor: 0.0022 lbs/hp-hr (AP-42 Table 3.3-1, 10/96)  
Calculations: 0.0022 lbs/hp-hr \* 565 hp = 1.24 lbs/hr  
1.24 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 5.46 tons/yr

PM<sub>2.5</sub> Emissions:

Emission Factor: 0.0022 lbs/hp-hr (AP-42 Table 3.3-1, 10/96)  
Calculations: 0.0022 lbs/hp-hr \* 565 hp = 1.24 lbs/hr  
1.24 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 5.46 tons/yr

NO<sub>x</sub> Emissions (350 kW):

Emission Factor: 9.2 g/kW-hr (EPA Non-Road Diesel Emissions Standards - Tier I)  
Calculations: 9.2 g/kW-hr \* 350 kW = 3220 g/hr  
3220 g/hr \* 8,760 hr/yr \* 0.0000011 tons/g = 31.03 tons/yr

NO<sub>x</sub> Emissions (67 kW):

Emission Factor: 7.5 g/kW-hr (EPA Non-Road Diesel Emissions Standards - Tier II)  
Calculations: 7.5 g/kW-hr \* 67 kW = 502.5 g/hr  
502.5 g/hr \* 8,760 hr/yr \* 0.00009 tons/g = 4.84 tons/yr

CO Emissions:

Emission Factor: 0.00668 lbs/hp-hr (AP-42 Table 3.3-1, 10/96)  
Calculations: 0.00668 lbs/hp-hr \* 565 hp = 3.77 lbs/hr  
3.77 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 16.59 tons/yr

VOC Emissions:

Emission Factor: 0.00251 lbs/hp-hr (AP-42 Table 3.3-1, 10/96)  
Calculations: 0.00251 lbs/hp-hr \* 565 hp = 1.42 lbs/hr  
1.42 lbs/hr \* 8,760 hr/yr \* 0.0005 tons/lb = 6.24 tons/yr

SO<sub>2</sub> Emissions:

Emission Factor: 0.00205 lbs/hp-hr (AP-42 Table 3.3-1, 10/96)  
Calculations: 0.00205 lbs/hp-hr \* 565 hp = 1.16 lbs/hr  
1.16 lbs/hr \* 8760 hr/yr \* 0.0005 tons/lb = 5.09 tons/yr

**Haul Roads**

Vehicle Miles Traveled: 5 VMT/day {Estimated}

PM Emissions:

Emission Factor: 12.46 lbs/VMT (Equation 1a from AP-42, Sec. 13.2.2, 11/06)  
Where: k = 4.9 lbs/VMT (Value for PM30/TSP, AP-42, Table 13.2.2-2, 11/06)  
s = 7.1% (AP-42, Table 13.2.2-1, 11/06)  
W = 54 tons  
a = 0.7 (Value for PM30/TSP, AP-42, Table 13.2.2-2, 11/06)  
b = 0.45 (Value for PM30/TSP, AP-42, Table 13.2.2-2, 11/06)  
Calculations: 12.46 lbs/VMT \* 5 VMT/day = 62.3 lbs/day  
62.3 lbs/day \* 365 days/yr \* 0.0005 tons/lb = 11.37 tons/yr

PM<sub>10</sub> Emissions:

Emission Factor: 3.43 lbs/VMT (Equation 1a from AP-42, Sec. 13.2.2, 11/06)  
Where: k = 1.5 lbs/VMT (Value for PM10, AP-42, Table 13.2.2-2, 11/06)  
s = 7.1% (AP-42, Table 13.2.2-1, 11/06)  
W = 54 tons

$a = 0.9$  (Value for PM<sub>10</sub>, AP-42, Table 13.2.2-2, 11/06)  
 $b = 0.45$  (Value for PM<sub>10</sub>, AP-42, Table 13.2.2-2, 11/06)  
 Calculations:  $3.43 \text{ lbs/VMT} * 5 \text{ VMT/day} = 17.15 \text{ lbs/day}$   
 $17.15 \text{ lbs/day} * 365 \text{ days/yr} * 0.0005 \text{ tons/lb} = 3.13 \text{ tons/yr}$

PM<sub>2.5</sub> Emissions:

Emission Factor:  $0.34 \text{ lbs/VMT}$  (Equation 1a from AP-42, Sec. 13.2.2, 11/06)  
 Where:  $k = 0.15 \text{ lbs/VMT}$  (Value for PM<sub>10</sub>, AP-42, Table 13.2.2-2, 11/06)  
 $s = 7.1\%$  (AP-42, Table 13.2.2-1, 11/06)  
 $W = 54 \text{ tons}$   
 $a = 0.9$  (Value for PM<sub>10</sub>, AP-42, Table 13.2.2-2, 11/06)  
 $b = 0.45$  (Value for PM<sub>10</sub>, AP-42, Table 13.2.2-2, 11/06)  
 Calculations:  $0.34 \text{ lbs/VMT} * 5 \text{ VMT/day} = 1.7 \text{ lbs/day}$   
 $1.7 \text{ lbs/day} * 365 \text{ days/yr} * 0.0005 \text{ tons/lb} = 0.31 \text{ tons/yr}$

V. Existing Air Quality

The initial location of this portable source is to be located in the Northeast (NE) ¼ of the NE ¼, Section 21, Township 19 North, Range 30 West, in Mineral County, Montana. The initial location and those areas for which this facility is permitted to operate under MAQP #4602-01 has been designated unclassified/attainment with all ambient air quality standards and there are no major air pollution sources in the surrounding area.

Addendum #1 to this permit will apply to the source while operating in or within 10 km of the Libby and Thompson Falls nonattainment areas during the summer months (April 1 – September 30).

VI. Air Quality Impacts

MAQP #4602-01 regulates the crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department-approved permitting program. In the view of the Department, the allowable emissions generated by this facility are not expected exceed any set ambient standard. In addition, this source is portable and any air quality impacts are expected to be minimal and short-lived.

If the source locates and operates in or within 10 km of a PM<sub>10</sub> nonattainment area, Peak will be required to operate in accordance with MAQP #4602-01 and Addendum #1, which includes more stringent limits and conditions to ensure that the proposed operation does not result in additional degradation of air quality in the affected nonattainment area. A more detailed discussion and analysis of ambient impacts from operations locating in or within 10 km of certain PM<sub>10</sub> nonattainment areas is contained in the Addendum Analysis to Addendum #1 of MAQP 4602-01.

VII. Ambient Air Impact Analysis

The Department determined that the impact from this permitting action will be minor. The Department believes it will not cause or contribute to a violation on 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

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

Addendum #1  
Peak Sand and Gravel, Inc.  
Montana Air Quality Permit (MAQP) #4602-01

An addendum to MAQP #4602-01 is issued to Peak Sand and Gravel, Inc. (Peak), 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:

I. Permitted Equipment

The facility is permitted to operate four crushers with a combined maximum material throughput capacity not to exceed 2,900 tons per hour (TPH), three screens with a combined maximum material throughput capacity not to exceed 2,175 TPH, two diesel engines/generators with a combined maximum rated capacity not to exceed 565 horsepower (hp), three aggregate storage bunkers and multiple conveyors.

II. Seasonal and Site Restrictions

Addendum #1 applies to the Peak facility while operating at any location in or within 10 km of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

- A. During the summer season (April 1-September 30) - The only location in or within 10 km of a PM<sub>10</sub> nonattainment area where Peak may operate is:
1. Libby or Thompson Falls PM<sub>10</sub> nonattainment areas.
  2. Any other site that may be approved, in writing, by the Montana Department of Environmental Quality (Department).
- B. Peak shall comply with the limitations and conditions contained in Addendum #1 to MAQP #4602-01 while operating in or within 10 km of any of the previously identified PM<sub>10</sub> 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**

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 and ARM 17.8.752).
2. Peak shall not cause or authorize to be discharged into the atmosphere from any equipment, such as screens or transfer points, 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. Peak 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. Peak 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 and ARM 17.8.752).
5. Peak shall not operate, or have on-site, more than four (4) crushers at any one time. Total combined crusher production shall not exceed 69,600 tons per day (ARM 17.8.749)
6. Peak shall not operate, or have on-site, more than three (3) screens at any one time. Total combined screen production shall not exceed 52,200 tons per day (ARM 17.8.749).
7. Peak shall not operate, or have on-site more than two (2) diesel-fired engine generators. The combined maximum capacity of the engines that drive the generators shall not exceed 565 horsepower (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 re-circulated/rerun material). Peak shall document, by day, the total crushing production. Peak shall sum the total crushing production for the previous day to demonstrate compliance with the limitations in Sections III.A.5.
  - b. Daily tons of material screened by each screen at each site (including amount of re-circulated/rerun material). Peak shall document, by day, the total screening production. Peak shall sum the total screening production for the previous day to demonstrate compliance with the limitations in Sections III.A.6.
  - c. Daily hours of operation at each site.
  - d. Daily hours of operation and the hp for each engine at each site.
  - e. Daily tons of bulk material loaded at each site (production).
  - 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  
Peak Sand and Gravel, Inc.  
Montana Air Quality Permit (MAQP) #4602-01

I. Permitted Equipment

Peak Sand and Gravel, Inc. (Peak) owns and operates a portable non-metallic mineral processing operation consisting of four (4) crushers with a maximum capacity of 725 tons per hour (TPH) each, three (3) screens with a maximum capacity of 725 TPH each, two (2) diesel-fired engine generators with a combined maximum capacity rating of 565 horsepower (hp), multiple conveyors and aggregate storage bunkers.

II. Source Description

Peak proposes to use 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 Montana 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

Summer Season [April 1 – September 30] (a)

Emission Source	Emissions Lbs/Day [PTE] (b)							
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>cond</sub>	CO	NO <sub>x</sub>	SO <sub>2</sub>	VOC
JCI Fast Track Jaw Crusher	20.88	9.40	1.74	--	--	--	--	--
Pegson 1300 Cone Crusher	20.88	9.40	1.74	--	--	--	--	--
Nordberg HP400 Cone Crusher	20.88	9.40	1.74	--	--	--	--	--
ISC Impactor 77 Impact Crusher	20.88	9.40	1.74	--	--	--	--	--
Powerscreen 5'x16' 2 Deck Warrior	38.28	12.88	0.87	--	--	--	--	--
Powerscreen 5'x16' 2 Deck Chieftain	38.28	12.88	0.87	--	--	--	--	--
JCI Deck Screen 8' x 20' 3 Deck	38.28	12.88	0.87	--	--	--	--	--
Material Handling	446.61	212.18	43.05	--	--	--	--	--
Diesel Genset - Caterpillar 3406C (475 hp)	25.08	25.08	4.44	0.61	76.15	353.40	23.37	28.66
Diesel Genset - John Deere 4045TF150 (90 hp)	4.75	4.75	0.72	0.12	14.43	66.96	4.43	5.43
Unpaved Roadways (Haul Roads)	22.99	6.34	0.63	--	--	--	--	--
<b>TOTAL EMISSIONS [lbs/day] ▶</b>	<b>697.79</b>	<b>324.56</b>	<b>58.41</b>	<b>0.73</b>	<b>90.58</b>	<b>420.36</b>	<b>27.80</b>	<b>34.09</b>

(a) Daily hours of operation are unrestricted during the Summer Season as PM<sub>10</sub> emissions are less than 547 pounds per day.

(b) PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions presented in the table represent the sum of the filterable and condensable particulate matter (CPM) fractions. All CPM is considered to be PM<sub>2.5</sub>.

CO, carbon monoxide  
 NO<sub>x</sub>, oxides of nitrogen  
 PM, particulate matter  
 PM<sub>10</sub>, particulate matter with an aerodynamic diameter of 10 microns or less  
 PM<sub>2.5</sub>, particulate matter with an aerodynamic diameter of 2.5 microns or less  
 PM<sub>cond</sub>, condensable particulate matter  
 SO<sub>2</sub>, oxides of sulfur  
 VOC, volatile organic compounds

**Portable Crushing & Screening Plant**

Production Rate:

Crushers (4)	2,900 tons/hour (Maximum)	69,600 tons/day (Maximum)	69,600 tons/day (Allowable)
Deck Screen (3)	2,175 tons/hour (Maximum)	52,200 tons/day (Maximum)	52,200 tons/day (Allowable)
Allowable Hours of Operation:	24 hours/day		

**Material Processing:**

**JCI Fast Track Jaw Crusher [SCC 3-05-020-01]**

Process Rate: 725 tons/hour  
 Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor 0.0012 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]  
 Calculations (0.0012 lbs/ton) \* (725 tons/hr) = 0.87 lbs/hr  
 (0.87 lbs/hr) \* (24 hrs/day) = 20.88 lbs/day

PM<sub>10</sub> Emissions (controlled):

Emission Factor 0.00054 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]  
 Calculations (0.00054 lbs/ton) \* (725 tons/hr) = 0.39 lbs/hr

$$(0.39 \text{ lbs/hr}) * (24 \text{ hrs/day}) = 9.40 \text{ lbs/day}$$

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor	0.0001 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.0001 lbs/ton) * (725 tons/hr) =		0.073 lbs/hr
	(0.073 lbs/hr) * (24 hrs/day) =		1.74 lbs/day

**Pegson 1300 Cone Crusher [SCC 3-05-020-02]**

Process Rate: 725 tons/hour  
Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor	0.0012 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.0012 lbs/ton) * (725 tons/hr) =		0.87 lbs/hr
	(0.87 lbs/hr) * (24 hrs/day) =		20.88 lbs/day

PM<sub>10</sub> Emissions (controlled):

Emission Factor	0.00054 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00054 lbs/ton) * (725 tons/hr) =		0.39 lbs/hr
	(0.39 lbs/hr) * (24 hrs/day) =		9.40 lbs/day

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor	0.0001 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.0001 lbs/ton) * (725 tons/hr) =		0.073 lbs/hr
	(0.073 lbs/hr) * (24 hrs/day) =		1.74 lbs/day

**Nordberg HP400 Cone Crusher [SCC 3-05-020-02]**

Process Rate: 725 tons/hour  
Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor	0.0012 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.0012 lbs/ton) * (725 tons/hr) =		0.87 lbs/hr
	(0.87 lbs/hr) * (24 hrs/day) =		20.88 lbs/day

PM<sub>10</sub> Emissions (controlled):

Emission Factor	0.00054 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00054 lbs/ton) * (725 tons/hr) =		0.39 lbs/hr
	(0.39 lbs/hr) * (24 hrs/day) =		9.40 lbs/day

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor	0.0001 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.0001 lbs/ton) * (725 tons/hr) =		0.073 lbs/hr
	(0.073 lbs/hr) * (24 hrs/day) =		1.74 lbs/day

**ISC Impactor 77 [SCC 3-05-020-03]**

Process Rate: 725 tons/hour

Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor	0.0012 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.0012 \text{ lbs/ton}) * (725 \text{ tons/hr}) =$		0.87 lbs/hr
	$(0.87 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$		20.88 lbs/day

PM<sub>10</sub> Emissions (controlled):

Emission Factor	0.00054 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.00054 \text{ lbs/ton}) * (725 \text{ tons/hr}) =$		0.39 lbs/hr
	$(0.3915 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$		9.40 lbs/day

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor	0.0001 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.0001 \text{ lbs/ton}) * (725 \text{ tons/hr}) =$		0.073 lbs/hr
	$(0.0725 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$		1.74 lbs/day

**Powerscreen 5'x16' 2 Deck Warrior [SCC 3-05-020-02]**

Process Rate: 725 tons/hour  
Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor	0.0022 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.0022 \text{ lbs/ton}) * (725 \text{ tons/hr}) =$		1.60 lbs/hr
	$(1.60 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$		38.28 lbs/day

PM<sub>10</sub> Emissions (controlled):

Emission Factor	0.00074 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.00074 \text{ lbs/ton}) * (725 \text{ tons/hr}) =$		0.54 lbs/hr
	$(0.54 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$		12.88 lbs/day

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor	0.00005 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.00005 \text{ lbs/ton}) * (725 \text{ tons/hr}) =$		0.036 lbs/hr
	$(0.036 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$		0.87 lbs/day

**Powerscreen 5'x16' 2 Deck Chieftain [SCC 3-05-020-02]**

Process Rate: 725 tons/hour  
Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor	0.0022 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	$(0.0022 \text{ lbs/ton}) * (725 \text{ tons/hr}) =$		1.60 lbs/hr
	$(1.60 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$		38.28 lbs/day

PM<sub>10</sub> Emissions (controlled):

Emission Factor	0.00074 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00074 lbs/ton) * (725 tons/hr) =		0.54 lbs/hr
	(0.54 lbs/hr) * (24 hrs/day) =		12.88 lbs/day

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor	0.00005 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00005 lbs/ton) * (725 tons/hr) =		0.036 lbs/hr
	(0.036 lbs/hr) * (24 hrs/day) =		0.87 lbs/day

**JCI Deck Screen 8' x 20' 3 Deck [SCC 3-05-020-02]**

Process Rate: 725 tons/hour  
 Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor	0.0022 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.0022 lbs/ton) * (725 tons/hr) =		1.60 lbs/hr
	(1.60 lbs/hr) * (24 hrs/day) =		38.28 lbs/day

PM<sub>10</sub> Emissions (controlled):

Emission Factor	0.00074 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00074 lbs/ton) * (725 tons/hr) =		0.54 lbs/hr
	(0.54 lbs/hr) * (24 hrs/day) =		12.88 lbs/day

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor	0.00005 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00005 lbs/ton) * (725 tons/hr) =		0.036 lbs/hr
	(0.036 lbs/hr) * (24 hrs/day) =		0.87 lbs/day

**Material Handling:**

**Fragmented Stone Load-In ► Crushers [SCC 3-05-020-31]**

Process Rate: 2900 tons/hour [Combined Crushing Capacity]  
 Operating Hours: 24 hours/day

**Particulate Emissions:**

PM Emissions:

Emission Factor	0.00016 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00016 lbs/ton) * (2900 tons/hr) =		0.46 lbs/hr
	(0.46 lbs/hr) * (24 hrs/day) =		11.14 lbs/day

PM<sub>10</sub> Emissions:

Emission Factor	0.00016 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00016 lbs/ton) * (2900 tons/hr) =		0.46 lbs/hr
	(0.46 lbs/hr) * (24 hrs/day) =		11.14 lbs/day

PM<sub>2.5</sub> Emissions:

Emission Factor	0.00016 lbs/ton processed	[AP-42 Table 11.19.2-2, 8/04]	
Calculations	(0.00016 lbs/ton) * (2900 tons/hr) =		0.46 lbs/hr

$$(0.46 \text{ lbs/hr}) * (24 \text{ hrs/day}) = 11.14 \text{ lbs/day}$$

**Conveyor Transfer Points [SCC 3-05-020-06]**

Process Rate: 725 tons/hour  
 Operating Hours: 24 hours/day  
 Total Transfers: 14 Transfers [Based on Process Flow Diagram]

**Particulate Emissions:**

PM Emissions (controlled):

Emission Factor 0.00014 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]  
 Calculations  $(0.00014 \text{ lbs/ton}) * (725 \text{ tons/hr}) * (14 \text{ Transfers}) = 1.42 \text{ lbs/hr}$   
 $(1.42 \text{ lbs/hr}) * (24 \text{ hrs/day}) = 34.10 \text{ lbs/day}$

PM<sub>10</sub> Emissions (controlled):

Emission Factor 0.000046 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]  
 Calculations  $(0.000046 \text{ lbs/ton}) * (725 \text{ tons/hr}) * (14 \text{ Transfers}) = 0.47 \text{ lbs/hr}$   
 $(0.47 \text{ lbs/hr}) * (24 \text{ hrs/day}) = 11.21 \text{ lbs/day}$

PM<sub>2.5</sub> Emissions (controlled):

Emission Factor 0.000013 lbs/ton processed [AP-42 Table 11.19.2-2, 8/04]  
 Calculations  $(0.000013 \text{ lbs/ton}) * (725 \text{ tons/hr}) * (14 \text{ Transfers}) = 0.132 \text{ lbs/hr}$   
 $(0.132 \text{ lbs/hr}) * (24 \text{ hrs/day}) = 3.17 \text{ lbs/day}$

**Storage Pile Load-In & Load-Out**

Process Rate: 2175 tons/hour [3 Screens]  
 Operating Hours: 24 hours/day  
 Pile Transfers: 2 [Initial Pile Formation → Pile Load-Out to Trucks]

**Particulate Emissions:**

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

where: EF, Emission Factor = lbs Emitted / ton Processed

k, Dimensionless Particle Size Multiplier PM = 0.74 [AP-42 13.2.4, 11/06]

k, Dimensionless Particle Size Multiplier PM<sub>10</sub> = 0.35 [AP-42 13.2.4, 11/06]

k, Dimensionless Particle Size Multiplier PM<sub>2.5</sub> = 0.053 [AP-42 13.2.4, 11/06]

U, Mean Wind Speed (mph) = 9.3 [ASOS/AWOS AVE-MT 10 yr Ave.]

M, Material Moisture Content (%) = 2.53 [AP-42 13.2.4.3, 11/06]

PM Emissions:

Emission Factor  $EF = 0.74 * (0.0032) * [(9.33/5)^{1.3} / (2.525/ 2)^{1.4}] = 0.0038 \text{ lbs/ton}$   
 Calculations  $(0.0038 \text{ lbs/ton}) * (2175 \text{ tons/hr}) * (2 \text{ pile transfers}) = 16.72 \text{ lbs/hr}$   
 $(16.72 \text{ lbs/hr}) * (24 \text{ hours/day}) = 401.37 \text{ lbs/day}$

PM<sub>10</sub> Emissions:

Emission Factor  $EF = 0.35 * (0.0032) * [(9.33/5)^{1.3} / (2.525/ 2)^{1.4}] = 0.0018 \text{ lbs/ton}$   
 Calculations  $(0.0018 \text{ lbs/ton}) * (2175 \text{ tons/hr}) * (2 \text{ piles}) = 7.91 \text{ lbs/hr}$   
 $(7.91 \text{ lbs/hr}) * (24 \text{ hours/day}) = 189.84 \text{ lbs/day}$

PM<sub>2.5</sub> Emissions:

Emission Factor	$EF = 0.053 * (0.0032) * [(9.33/5)^{1.3} / (2.525/2)^{1.4}] =$	0.00028	lbs/ton
Calculations	$(0.0003 \text{ lbs/ton}) * (2175 \text{ tons/hr}) * (2 \text{ piles}) =$		1.20 lbs/hr
	$(1.20 \text{ lbs/hr}) * (24 \text{ hours/day}) =$		28.75 lbs/day

**Primary Diesel Generator Set:**

Engine Rating:	475	hp
Fuel Input:	3.33	MMBtu/hr
	24.3	gallons/hour [Estimated]
Hours of Operation:	24	hours/day

**Particulate Emissions:**

PM Emissions:

Emission Factor	0.0022	lb/hp-hr	[AP-42 3.3-1, 10/96 ]	
Calculations	$(0.0022 \text{ lb/hp-hr}) * (475 \text{ hp}) =$			1.05 lbs/hr
	$(1.05 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$			25.08 lbs/day

PM<sub>10</sub> Emissions:

Emission Factor	0.0022	lb/hp-hr	[AP-42 3.3-1, 10/96 ]	
Calculations	$(0.0022 \text{ lb/hp-hr}) * (475 \text{ hp}) =$			1.05 lbs/hr
	$(1.05 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$			25.08 lbs/day

PM<sub>2.5</sub> Emissions (filterable):

Emission Factor	0.0479	lb/MMBtu	[AP-42 3.4-2, 10/96 ]	
Calculations	$(0.0479 \text{ lb/MMBtu}) * (3.33 \text{ MMBtu/hr}) =$			0.16 lbs/hr
	$(0.16 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$			3.82 lbs/day

PM<sub>2.5</sub> Emissions (condensable):

Emission Factor	0.0077	lb/MMBtu	[AP-42 3.4-2, 10/96 ]	
Calculations	$(0.0077 \text{ lb/MMBtu}) * (3.33 \text{ MMBtu/hr}) =$			0.026 lbs/hr
	$(0.026 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$			0.61 lbs/day

**CO Emissions:**

Emission Factor	0.00668	lb/hp-hr	[AP-42 3.3-1, 10/96 ]	
Calculations	$(0.00668 \text{ lb/hp-hr}) * (475 \text{ hp}) =$			3.17 lbs/hr
	$(3.17 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$			76.15 lbs/day

**NOx Emissions:**

Emission Factor	0.031	lb/hp-hr	[AP-42 3.3-1, 10/96 ]	
Calculations	$(0.031 \text{ lb/hp-hr}) * (475 \text{ hp}) =$			14.73 lbs/hr
	$(14.73 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$			353.40 lbs/day

**SO<sub>2</sub> Emissions:**

Emission Factor	0.00205	lb/hp-hr	[AP-42 3.3-1, 10/96 ]	
Calculations	$(0.0021 \text{ lb/hp-hr}) * (475 \text{ hp}) =$			0.97 lbs/hr
	$(0.97 \text{ lbs/hr}) * (24 \text{ hrs/day}) =$			23.37 lbs/day

**VOC Emissions:**

Emission Factor	0.002514	lb/hp-hr	[AP-42 3.3-1, 10/96 ]	
Calculations	$(0.0025 \text{ lb/hp-hr}) * (475 \text{ hp}) =$			1.19 lbs/hr

$$(1.19 \text{ lbs/hr}) * (24 \text{ hrs/day}) = 28.66 \text{ lbs/day}$$

**Secondary Diesel Generator Set:**

Engine Rating: 90 hp  
 Fuel Input: 0.63 MMBtu/hr  
 4.6 gallons/hour [Estimated]  
 Hours of Operation: 24 hours/day

**Particulate Emissions:**

PM Emissions:

Emission Factor 0.0022 lb/hp-hr [AP-42 3.3-1, 10/96 ]  
 Calculations (0.0022 lb/hp-hr) \* (90 hp) = 0.20 lbs/hr  
 (0.20 lbs/hr) \* (24 hrs/day) = 4.75 lbs/day

PM<sub>10</sub> Emissions:

Emission Factor 0.0022 lb/hp-hr [AP-42 3.3-1, 10/96 ]  
 Calculations (0.0022 lb/hp-hr) \* (90 hp) = 0.20 lbs/hr  
 (0.20 lbs/hr) \* (24 hrs/day) = 4.75 lbs/day

PM<sub>2.5</sub> Emissions (filterable):

Emission Factor 0.0479 lb/MMBtu [AP-42 3.4-2, 10/96 ]  
 Calculations (0.0479 lb/MMBtu) \* (0.63 MMBtu/hr) = 0.030 lbs/hr  
 (0.030 lbs/hr) \* (24 hrs/day) = 0.72 lbs/day

PM<sub>2.5</sub> Emissions (condensable):

Emission Factor 0.0077 lb/MMBtu [AP-42 3.4-2, 10/96 ]  
 Calculations (0.0077 lb/MMBtu) \* (0.63 MMBtu/hr) = 0.005 lbs/hr  
 (0.0049 lbs/hr) \* (24 hrs/day) = 0.12 lbs/day

**CO Emissions:**

Emission Factor 0.00668 lb/hp-hr [AP-42 3.3-1, 10/96 ]  
 Calculations (0.00668 lb/hp-hr) \* (90 hp) = 0.60 lbs/hr  
 (0.60 lbs/hr) \* (24 hrs/day) = 14.43 lbs/day

**NO<sub>x</sub> Emissions:**

Emission Factor 0.031 lb/hp-hr [AP-42 3.3-1, 10/96 ]  
 Calculations (0.031 lb/hp-hr) \* (90 hp) = 2.79 lbs/hr  
 (2.79 lbs/hr) \* (24 hrs/day) = 66.96 lbs/day

**SO<sub>2</sub> Emissions:**

Emission Factor 0.00205 lb/hp-hr [AP-42 3.3-1, 10/96 ]  
 Calculations (0.0021 lb/hp-hr) \* (90 hp) = 0.18 lbs/hr  
 (0.18 lbs/hr) \* (24 hrs/day) = 4.43 lbs/day

**VOC Emissions:**

Emission Factor 0.002514 lb/hp-hr [AP-42 3.3-1, 10/96 ]  
 Calculations (0.0025 lb/hp-hr) \* (90 hp) = 0.23 lbs/hr  
 (0.23 lbs/hr) \* (24 hrs/day) = 5.43 lbs/day

**Unpaved Roadways (Haul Roads)**

Miles Travelled: 5 Miles/Day [Estimate]  
 Vehicle Weight: 27.5 Tons [Mean Vehicle Weight Empty/Full]  
 Control Method: Water Application  
 Control Efficiency (C<sub>e</sub>): 50%

Emission Factor  $EF = k(s/12)^a * (W/3)^b$  [AP-42 13.2.2.2, 11/06]  
 where: EF, Emission Factor = lbs Emitted Per Vehicle Mile Traveled (VMT)  
 k, Empirical Constant PM = 4.9 [AP-42 Table 13.2.2-2, 11/06]  
 k, Empirical Constant PM<sub>10</sub> = 1.5 [AP-42 Table 13.2.2-2, 11/06]  
 k, Empirical Constant PM<sub>2.5</sub> = 0.15 [AP-42 Table 13.2.2-2, 11/06]  
 s, Surface Material Silt Content (%) = 7.1 [AP-42 Table 13.2.2-1, 11/06]  
 W, Mean Vehicle Weight (tons) = 27.5 [Applicant Provided Data]  
 a, Empirical Constant PM = 0.7 [AP-42 Table 13.2.2-2, 11/06]  
 a, Empirical Constant PM<sub>10</sub>/PM<sub>2.5</sub> = 0.9 [AP-42 Table 13.2.2-2, 11/06]  
 b, Empirical Constant PM - PM<sub>2.5</sub> = 0.45 [AP-42 Table 13.2.2-2, 11/06]

PM Emissions:

Emission Factor  $EF = 4.9 * (7.1/12)^{0.7} * (27.5/3)^{0.45} = 9.20$  lbs/VMT  
 Calculations  $(9.20 \text{ lbs/VMT}) * (5 \text{ miles/day}) = 45.98$  lbs/day (uncontrolled)  
 $(45.98 \text{ lbs/day}) * (1 - 0.5 C_e) = 22.99$  lbs/day (controlled)

PM<sub>10</sub> Emissions:

Emission Factor  $EF = 1.5 * (7.1/12)^{0.9} * (27.5/3)^{0.45} = 2.53$  lbs/VMT  
 Calculations  $(2.53 \text{ lbs/VMT}) * (5 \text{ miles/day}) = 12.67$  lbs/day (uncontrolled)  
 $(12.67 \text{ lbs/day}) * (1 - 0.5 C_e) = 6.34$  lbs/day (controlled)

PM<sub>10</sub> Emissions:

Emission Factor  $EF = 0.15 * (7.1/12)^{0.9} * (27.5/3)^{0.45} = 0.25$  lbs/VMT  
 Calculations  $(0.25 \text{ lbs/VMT}) * (5 \text{ miles/day}) = 1.27$  lbs/day (uncontrolled)  
 $(1.27 \text{ lbs/day}) * (1 - 0.5 C_e) = 0.63$  lbs/day (controlled)

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<sub>10</sub>). Due to exceedance of the national standards for PM<sub>10</sub>, 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<sub>10</sub>. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit PM<sub>10</sub> 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<sub>10</sub> emissions.

MAQP #4602-01 and Addendum #1 are for a portable crushing/screening plant that will potentially operate at sites in or within 10 km of certain PM<sub>10</sub> 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 operate on an intermittent and temporary basis and any effects on air quality will be minor and short-lived.

## VI. Air Quality Impacts

MAQP #4602-01 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.

Addendum #1 will cover the operations of this portable crushing/screening plant, while operating in or within 10 km of the Libby or Thompson Falls PM<sub>10</sub> nonattainment areas during the summer months.

## VII. Taking or Damaging Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment (see Section VIII of the Permit Analysis for MAQP #4602-01) and determined there are no taking or damaging implications.

## VIII. Environmental Assessment

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

Addendum Analysis Prepared By: D. Kuenzli

Date: July 21, 2011