



Montana Department of  
**ENVIRONMENTAL QUALITY**

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December 2, 2010

Dan Hutchings  
Valley Sand and Gravel, LLC  
7510 Applegate Drive  
Helena, Montana 59602

Dear Mr. Hutchings:

Montana Air Quality Permit #3161-04 is deemed final as of December 2, 2010, by the Department of Environmental Quality (Department). This permit is for a portable gravel crushing and screening facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

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

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

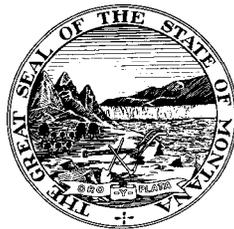
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Enclosure

Montana Department of Environmental Quality  
Permitting and Compliance Division

Montana Air Quality Permit #3161-04

Valley Sand and Gravel, LLC  
7510 Applegate Drive  
Helena, Montana 59602

December 2, 2010



## MONTANA AIR QUALITY PERMIT

Issued To: Valley Sand and Gravel, LLC  
7510 Applegate Drive  
Helena, MT 59602

Montana Air Quality Permit (MAQP): #3161-04  
Administrative Amendment (AA) Request  
Received: July 12, 2010  
Department's Decision on AA: 11/16/10  
Permit Final: 12/2/10  
AFS #: 777-3161

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Valley Sand and Gravel, LLC (VSG) 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

VSG operates a portable gravel crushing and screening facility which operates at various locations throughout Montana. However, MAQP #3161-04 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* The homepit location for this facility is in the SE¼ of Section 13, Township 11 North, Range 4 West, in Lewis and Clark County. An addendum will be required for locations 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.

#### B. Current Permit Action

The current permitting action is an AA to remove a crusher (up to 200 tons per hour (TPH) capacity) from the existing permitted equipment. This piece of equipment is now permitted under another MAQP held by VSG. MAQP #3161-04 is also updated to reflect current permit language and rule references used by the Department.

### 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 six 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).
  5. VSG 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. VSG 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. VSG shall not operate more than one crusher at any given time and the maximum rated design capacity of the crusher shall not exceed 350 TPH (ARM 17.8.749).
  8. Crushing production is limited to 3,066,000 tons during any rolling 12-month time period (ARM 17.8.749).
  9. VSG shall not operate more than one screen at any given time and the maximum rated design capacity of the screen shall not exceed 350 TPH (ARM 17.8.749).
  10. Screening production is limited to 3,066,000 tons during any rolling 12-month time period (ARM 17.8.749).
  11. VSG shall not operate or have on-site more than one diesel generator engine. The maximum capacity of the engine that drives the generator shall not exceed 380 brake-horsepower (bhp) (ARM 17.8.749).
  12. If the permitted equipment is used in conjunction with any other equipment owned or operated by VSG, 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. VSG shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart 000, *Standards of Performance for Nonmetallic Mineral Processing Plants* (ARM 17.8.340 and 40 CFR 60, Subpart 000).
  14. VSG shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous*

*Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart III; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

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. VSG 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. VSG 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. VSG 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 VSG 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. VSG shall document, by month, the crushing production from the facility. By the 25<sup>th</sup> day of each month, VSG 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. VSG shall document, by month, the screening production from the facility. By the 25<sup>th</sup> day of each month, VSG 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).

### SECTION III: General Conditions

- A. Inspection – VSG 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 Emission Monitoring Systems (CEMS), Continuous Emission Rate Monitoring Systems (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if VSG fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving VSG 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 VSG 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. VSG 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  
Valley Sand and Gravel, LLC  
MAQP #3161-03

I. Introduction/Process Description

Valley Sand and Gravel, LLC (VSG) owns and operates a portable gravel crushing and screening facility.

A. Permitted Equipment

- One crusher with a maximum rated design capacity not to exceed 350 tons per hour (TPH)
- One screen with a maximum rated design capacity not to exceed 350 TPH
- One diesel generator engine with a maximum rated design capacity not to exceed 380 brake-horsepower (bhp)
- Conveyors, stackers, and other material handling equipment

B. Source Description

VSG uses this crushing and screening plant to crush and sort sand and gravel that will be used in various construction operations. For a typical operational setup, materials are loaded into a hopper that feeds a jaw crusher. The material is transferred from the crusher to a conveyor then a screen. Oversized materials from the screen are conveyed to the cone crusher and then returned to the screen. When the material is small enough to pass through the screen, it is conveyed out to a stockpile for use.

C. Permit History

On July 28, 2001, VSG was issued an MAQP to operate a portable 1951 TelSmith cone crusher (maximum capacity 110 TPH), a 1960 2-deck Shopbuilt shaker screen (maximum capacity 100 TPH), a 1996 Extec 2-deck screen (maximum capacity 175 TPH), a 283 kilowatt Onan diesel generator (380-bhp), and associated equipment. Valley's permit was assigned **MAQP #3161-00**.

On February 9, 2002, VSG was issued a permit for the replacement of a 1951 TelSmith cone crusher with a 1972 Nordberg cone crusher. The replacement of the crusher results in the generation of particulate emissions of less than 15 tons per year. The crusher was added in accordance with the threshold levels in Administrative Rules of Montana (ARM) 17.8.705(1)(r). **MAQP #3161-01** replaced MAQP #3161-00.

On April 16, 2002, VSG requested a modification to MAQP #3161-01 for the addition of a 1999 EL-Russ double screen, and the removal of a 1996 Extec 2-deck screen and a 1960 2 deck Shopbuilt shaker screen. **MAQP #3161-02** replaced MAQP #3161-01.

On April 11, 2006, VSG requested a modification to MAQP #3161-02 for the addition of a Cedar Rapids Jaw Crusher (up to 200 TPH). **MAQP #3161-03** replaced MAQP #3161-02.

D. Current Permit Action

On October 6, 2006, VSG sent notification that their mailing address had been changed to 7510 Applegate Drive, Helena, MT 59602.

On July 12, 2010, VSG requested that a 200 TPH crusher be removed from MAQP #3161-03 and associated with MAQP #3192-02. **MAQP #3161-04** updates the equipment list and emission inventory and replaces MAQP #3161-03.

E. Additional Information

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

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Montana Department of Environmental Quality (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).

VSG 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 (NO<sub>2</sub>)
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide (CO)
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter (PM)
5. ARM 17.8.221 Ambient Air Quality Standard for Visibility
6. ARM 17.8.223 Ambient Air Quality Standard for PM with an Aerodynamic Diameter of 10 Microns or Less (PM<sub>10</sub>)

VSG 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, VSG shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank truck or trailer is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). VSG 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 VSG, the portable crushing equipment to be used under MAQP #3161-04 is subject to this subpart because the equipment age.
  - 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 VSG, the CI ICE equipment to be used under MAQP #3161-04 is not currently subject to this subpart because of the age of the CI ICE. However, because this MAQP is written in a de minimis-friendly manner this subpart may apply to CI ICE used by this facility in the future.
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. VSG is considered an 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 VSG, the RICE equipment to be used under MAQP #3161-04 is potentially subject to this subpart because it may meet the definition of a stationary RICE operating at an area source of HAPs while within their home pit.
- 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.

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. VSG has a PTE greater than 15 TPY of PM 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 VSG 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 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 TPY of any pollutant;
  - b. PTE > 10 TPY of any one HAP, PTE > 25 TPY 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 #3161-04 for VSG, 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 TPY of all HAPs.
  - c. This source is not located in a serious PM<sub>10</sub> nonattainment area.
  - d. This facility is subject to a current NSPS. 40 CFR 60, Subpart A – General Provisions; 40 CFR 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants is applicable to this facility.
  - e. This facility is potentially subject to a current NESHAP standard. 40 CFR 63, Subpart A – General Provisions and Subpart ZZZZ – National Emissions Standards for HAPs for Stationary RICE are applicable to any stationary RICE at the facility.
  - 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 VSG 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, VSG will be required to obtain a Title V Operating Permit.

### III. BACT Determination

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

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

#### IV. Emission Inventory

Emission Source	TPY						
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>
Cold Aggregate Storage Piles	2.53	1.20	0.18	--	--	--	--
Cold Aggregate Handling/Conveyors	18.40	6.75	0.16	--	--	--	--
Cold Aggregate Screens	19.16	6.67	0.08	--	--	--	--
Crushers	4.14	1.84	0.15				
Haul Roads / Vehicle Traffic	5.68	1.57	0.16	--	--	--	--
Diesel Engine: 380-bhp @ 8760 hrs	3.66	3.66	3.66	51.60	11.12	4.18	3.41
<b>Total Emissions</b>	<b>53.58</b>	<b>21.68</b>	<b>4.39</b>	<b>51.60</b>	<b>11.12</b>	<b>4.18</b>	<b>3.41</b>

#### Notes:

Limited to 3066000 TPY in screening based on 350 TPH capacity @ 8760 hours per year

Limited to 3066000 TPY in crushing based on 350 TPH capacity @ 8760 hours per year

Limited to 8760 hours per year for generators based on 380 hp capacity

PM<sub>2.5</sub> = PM with an aerodynamic diameter of 2.5 microns or less

VOC = volatile organic compounds

#### **Cold Aggregate Storage Piles**

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

Maximum Hours of Operation = 8,760 hrs/yr

Number of Piles = 1 piles (for simplicity, piles are modeled as the maximum plant capacity at one pile)

#### **Filterable PM Emissions:**

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

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

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

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

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

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

#### **Filterable PM<sub>10</sub> Emissions:**

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

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

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

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

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

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

#### **Filterable PM<sub>2.5</sub> Emissions:**

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

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

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

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

M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = 50% (Water or chemical spray)

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

### **Conveyor Transfer Point**

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

Maximum Hours of Operation = 8,760 hrs/yr

Number of Transfers = 8 transfer

#### **Filterable PM Emissions:**

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

Control Efficiency = 50%

Calculation:  $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.003 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (8 \text{ transfer}) * (50\%) = 18.40 \text{ TPY}$

#### **Filterable PM<sub>10</sub> Emissions:**

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

Control Efficiency = 50%

Calculation:  $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0011 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (8 \text{ transfer}) * (50\%) = 6.75 \text{ TPY}$

#### **Filterable PM<sub>2.5</sub> Emissions:**

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

Control Efficiency = 0% (built into emission factor)

Calculation:  $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000013 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (8 \text{ transfer}) = 0.16 \text{ TPY}$

### **Screening**

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

Maximum Hours of Operation = 8,760 hrs/yr

Number of Screens = 1 screen(s)

#### **Total PM Emissions:**

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

Control Efficiency = 50%

Calculation:  $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.025 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) * (50\%) = 19.16 \text{ TPY}$

#### **Total PM<sub>10</sub> Emissions:**

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

Control Efficiency = 50%

Calculation:  $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0087 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) * (50\%) = 6.67 \text{ TPY}$

#### **Total PM<sub>2.5</sub> Emissions:**

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

Control Efficiency = 0% (built into emission factor)

Calculation:  $(350 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00005 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) = 0.08 \text{ TPY}$

### **Crushing**

Maximum Process Rate = 350 ton/hr

Maximum Hours of Operation = 8,760 hrs/yr

#### **PM Emissions:**

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

Control Efficiency = 50%

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

#### **PM<sub>10</sub> Emissions:**

*Based on AP-42*

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

## **Crushing**

Control Efficiency = 50%

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

### **PM<sub>2.5</sub> Emissions:**

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

Control Efficiency = 0% (built into emission factor)

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

## **Diesel Engine(s): 380-bhp**

Note: Emissions are based on the power output of the engine (380 hp).

Hours of Operation = 8,760 hours

### **Total PM/PM<sub>10</sub>/PM<sub>2.5</sub> Emissions:**

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

Calculation:  $(8,760 \text{ hours}) * (380 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 3.66 \text{ TPY}$

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

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

Calculation:  $(8,760 \text{ hours}) * (380 \text{ hp}) * (0.031 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 51.60 \text{ TPY}$

### **CO Emissions:**

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

Calculation:  $(8,760 \text{ hours}) * (380 \text{ hp}) * (0.00668 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 11.12 \text{ TPY}$

### **VOC Emissions:**

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

Calculation:  $(8,760 \text{ hours}) * (380 \text{ hp}) * (0.0025141 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 4.18 \text{ TPY}$

### **SO<sub>x</sub> Emissions:**

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

Calculation:  $(8,760 \text{ hours}) * (380 \text{ hp}) * (0.00205 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 3.412 \text{ TPY}$

## **Haul Roads**

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

VMT per hour =  $(5 \text{ VMT/day}) * (\text{day}/24 \text{ hrs}) = 0.21 \text{ VMT/hr}$

Hours of Operation = 8,760 hrs/yr

### **PM Emissions:**

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

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

Where: k = constant = 4.9 lbs/VMT (Value for PM<sub>30</sub>/TSP, AP 42, Table 13.2.2-2, 11/06)

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

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

a = constant = 0.7 (Value for PM<sub>30</sub>/TSP, AP 42, Table 13.2.2-2, 11/06)

b = constant = 0.45 (Value for PM<sub>30</sub>/TSP, AP 42, Table 13.2.2-2, 11/06)

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

Calculation:  $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (12.46 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (50\%) = 5.68 \text{ TPY}$

### **PM<sub>10</sub> Emissions:**

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

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

## Haul Roads

Where:  $k$  = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)  
 $s$  = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)  
 $W$  = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)  
 $a$  = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)  
 $b$  = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)  
Control Efficiency = 50% (Water spray or chemical dust suppressant)  
Calculation:  $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (3.43 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (50\%) = 1.57 \text{ TPY}$

### PM<sub>2.5</sub> Emissions:

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.  
Emission Factor =  $k * (s / 12)^a * (W / 3)^b = 0.34 \text{ lb/VMT}$   
Where:  $k$  = constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)  
 $s$  = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)  
 $W$  = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)  
 $a$  = constant = 0.9 (Value for 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:  $(8760 \text{ hrs/yr}) * (0.21 \text{ VMT/hr}) * (0.34 \text{ lb/VMT}) * (\text{ton}/2000 \text{ lb}) * (50\%) = 0.16 \text{ TPY}$

## V. Existing Air Quality

MAQP #3161-04 applies while operating at any location in Montana designated as attainment or unclassified for all National Ambient Air Quality Standards (NAAQS); except those areas having a Department approved permitting program, areas considered tribal lands, or areas in or within certain nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* An addendum will be required for locations in or within 10 km of certain PM<sub>10</sub> nonattainment areas.

## VI. Air Quality Impacts

MAQP #3161-04 covers operation of this portable gravel crushing and screening facility while operating in areas within Montana that are classified as being in attainment with federal ambient air quality standards and areas not yet classified, excluding counties that have a Department-approved permitting program and areas that are tribal lands. This permit contains conditions and limitations that would protect air quality for the site and surrounding area, and that would limit the facility's emissions below the major source threshold. Based on the information provided, the amount of controlled emissions generated by this facility will not exceed any ambient air quality standard.

## VII. Ambient Air Impact Analysis

This permitting action is considered an administrative permitting action with no increases in potential emissions; therefore, the Department did not conduct an ambient air impact analysis.

## 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.

Analysis Prepared By: Ed Warner

Date: August 2, 2010