



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 #3192-02 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

VW:EW
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #3192-02

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

December 2, 2010



MONTANA AIR QUALITY PERMIT

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

Montana Air Quality Permit: #3192-02
Application Complete: 9/7/10
Preliminary Determination Issued: 10/15/10
Department's Decision Issued: 11/16/10
Permit Final: 12/2/10
AFS #: 777-3192

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Valley Sand & 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 rock crushing and screening facility at various locations throughout Montana. However, MAQP #3192-02 applies while operating at any location in Montana, except within those areas having a Department of Environmental Quality (Department) approved permitting program, those areas considered tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, 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. A complete list of the permitted equipment is contained in Section I.A of the Permit Analysis.

B. Current Permit Action

VSG requested to remove equipment from other permits that they held and consolidate them into MAQP #3192-02. VSG also acquired a generator powered by a 743 brake-horsepower (bhp) diesel engine, a generator powered by a 207-bhp diesel engine, and removed a generator powered by a 515-bhp diesel engine. The current permitting action adds a 250 ton per hour (TPH) crusher, a 200 TPH crusher, a 743-bhp diesel generator engine, and a 207-bhp diesel generator engine to the MAQP, establishes minimum stack height requirements for the diesel generator engines, removes a 515-bhp diesel generator engine, and updates the emissions inventory and permit conditions.

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).
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 three crusher(s) at any given time and the total combined maximum rated design capacity of the crusher(s) shall not exceed 750 TPH (ARM 17.8.749).
8. Crushing production is limited to 6,570,000 tons during any rolling 12-month time period (ARM 17.8.749).
9. VSG shall not operate more than three screen(s) at any given time and the total combined maximum rated design capacity of the screen(s) shall not exceed 750 TPH (ARM 17.8.749).
10. Screening production is limited to 6,570,000 tons during any rolling 12-month time period (ARM 17.8.749).
11. VSG shall not operate or have on-site more than two diesel generator engine(s). The maximum combined capacity of the engine(s) that drives the generator(s) shall not exceed 950 hp (ARM 17.8.749).
12. Operation of the diesel engines driving the generators shall not exceed 5,250 hours each during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
13. The diesel generator engine exhaust stack heights shall have a minimum height above ground level of the following (ARM 17.8.749):
 - a. No less than 10 feet above ground level for the 207-bhp diesel engine
 - b. No less than 22 feet above ground level for the 743-bhp diesel engine

14. 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).
15. 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).
16. VSG 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 000). Additional testing may be required by 40 CFR 60, Subpart 000 (ARM 17.8.340 and 40 CFR 60, Subpart 000).
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 25th 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 25th 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).
7. VSG shall document, by month, the hours of operation of the diesel generator engines. By the 25th day of each month, VSG shall calculate the hours of operation for the diesel generator engines for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.12. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).
8. VSG shall annually certify that its emissions are less than those that would require the facility to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

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 Monitory System (CEMS), Continuous Emission 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 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 & Gravel, LLC
MAQP #3192-02

I. Introduction/Process Description

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

A. Permitted Equipment

1. 250 ton per hour (TPH) screen
2. 300 TPH screen
3. 200 TPH crusher and screen
4. 300 TPH crusher
5. 250 TPH crusher
6. 743 brake-horsepower (bhp) diesel generator engine
7. 207 bhp diesel generator engine
8. Various conveyors/material handling equipment

B. Source Description

VSG proposes to use this portable gravel crushing and screening facility and associated equipment to crush, screen, and sort sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a feeder, transferred by conveyor, and passed through the crusher. Materials are crushed by the crusher and sent to the screens. Materials are screened, separated, and either sent to a crusher for further size reduction or to stockpiles via a conveyor belt. Stockpiled gravel is then sold for use in construction operations.

The homepit location for this facility is in the SE $\frac{1}{4}$ of Section 13, Township 11 North, Range 4 West, in Lewis and Clark County.

C. Permit History

On June 25, 2005, VSG was issued **MAQP #3192-00**, which allowed them to operate a portable wash plant. The portable wash plant included a 1987 EL Russ 2-deck wash plant and associated equipment (three conveyors). The facility was allowed to move to various locations within Montana.

On October 12, 2005, VSG submitted a complete permit application and requested to add a crusher (up to 300 tons per hour (TPH)), a screen (up to 300 TPH), and a diesel generator engine (up to 384 kilowatts (kW)). On November 17, 2005, VSG was issued **MAQP #3192-01** which replaced MAQP #3192-00.

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 submitted a letter requesting that all of the equipment from MAQP #3196-01 be removed from that permit and included in MAQP #3192. In addition, VSG wanted a 200 TPH capacity cone crusher from MAQP #3161-03 removed from that permit

and included in MAQP #3192. The current permitting action adds the 250 TPH crusher formerly included in MAQP #3196-01 and the 200 TPH combined crushing and screening plant formerly permitted in MAQP #3161-03 into MAQP #3192. The equipment list reflects that the 250 TPH wash plant has lost its washing capacity and is now a sorting screen only. VSG also requested to add a generator powered by a 743 bhp diesel engine.

On September 7, 2010, VSG informed the Montana Department of Environmental Quality (Department) that the generator powered by the 515-bhp diesel engine has been replaced with a generator powered by a 207-bhp diesel engine.

The emission inventory has been updated based on the changes in equipment and permit conditions have been established to maintain a minor source status. In addition, minimum stack height requirements for the diesel generator engines have been established that are protective of the nitrogen dioxide (NO₂) national ambient air quality standard (NAAQS). **MAQP #3192-02** replaces MAQP #3192-01.

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 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).

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 (SO₂)
2. ARM 17.8.211 Ambient Air Quality Standards for NO₂
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 Particulate Matter with an Aerodynamic Diameter of 10 Microns or Less (PM₁₀)

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 17.8.340 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 #3192-02 is subject to this subpart because of the operational sizes of the equipment and manufacture dates.
 - 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, some of the CI ICE equipment to be used under MAQP #3192-02 is subject to this subpart because they were manufactured on or after April 1, 2006.
 7. 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 #3192-02 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. VSG submitted the appropriate permit application fee for the current permit action.

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

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

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

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year (TPY) of any pollutant. VSG has a PTE greater than 15 TPY of PM, PM₁₀, nitrogen oxides (NO_x), and CO; therefore, an air quality permit is required.
3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. VSG submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. VSG submitted an affidavit of publication of public notice for the July 14, 2010, issue of the *Independent Record*, a newspaper of general circulation in the Town of Helena in Lewis & Clark County, as proof of compliance with the public notice requirements.
6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
 9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving 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 PM₁₀ in a serious PM₁₀ 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 #3192-02 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 PM₁₀ nonattainment area.
 - d. This facility is subject to current NSPS. 40 CFR 60, Subpart A – General Provisions, Subpart OOO – Standards of Performance for Non-Metallic Mineral Processing Plants, and Subpart IIII – Standards of Performance for Stationary CI ICE are applicable to the 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.

VSG requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations; the Department determined that this facility is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit; this source will be subject to the Title V Operating Permit Program.
 - i. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.

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

III. BACT 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 incorporation of the 250 TPH crusher and 200 TPH combined crushing and screening plant into MAQP #3192-02 because these emitting units are not new or modified emitting units for VSG and they were permitted under different MAQPs held by VSG until this permitting action. The Department conducted a BACT analysis on the 743-bhp and 207-bhp diesel generator engines.

Diesel Engines BACT Analysis

The control options required for the diesel engines are consistent with other recently permitted similar sources and are capable of achieving the appropriate emission standards. NO_x emissions were analyzed, as NO_x is the primary pollutant emitted from this type of source. The following options were examined during the NO_x BACT analysis for the diesel engines:

1. Selective Catalytic Reduction (SCR), which is a post-combustion gas treatment technique that uses a catalyst to reduce nitrogen oxide and NO₂ to molecular nitrogen, water and oxygen (O₂). Ammonia (NH₃) is commonly used as the reducing agent.
2. Non-selective Catalytic Reduction (NSCR) uses a three-way catalyst to promote the decomposition of NO_x to nitrogen and water. Exhaust CO and hydrocarbons are simultaneously oxidized to carbon dioxide (CO₂) and water in this process. NSCR is applicable only to engines with exhaust O₂ concentrations below approximately 1% (such as rich-burn natural gas-fired engines); and
3. Proper design and operation can reduce NO_x by controlling the combustion temperature, residence time, and available O₂. Normal combustion practices involve maximizing the heating efficiency of the fuel in an effort to minimize fuel usage. Increasing the efficiency of fuel combustion also minimizes NO_x formation.

Technical Feasibility

NSCR is only applicable to rich-burn engines and diesel-fueled engines cannot be operated as rich-burn. Consequently, NSCR is technically infeasible for the diesel engines. Operation of an SCR unit would require that the combustion unit operate on a continuous basis for optimal NO_x control. The generator engines are limited on their allowable annual hours of operation but they could potentially operate continuously during a typical workday.

Environmental Feasibility

The primary environmental concern from any of the proposed options is the on-site storage and usage of urea for an SCR system. Urea is the safest of the common reducing agents used with SCR, but it requires conversion to ammonia through thermal decomposition in order to be used as an effective reducing agent. Although this type of system is in operation at many facilities, it is an additional environmental liability.

Economic Feasibility

The gravel crushing and screening industry is generally seasonal with intermittent operations based on product demand. In addition, the facility is portable and typically will only operate within a job site for a limited time. Due to the relatively short duration of a typical crushing project, the cost of implementing and maintaining an SCR system represents an adverse economic impact that is disproportionately high relative to control costs required of similar facilities. It is therefore eliminated from consideration as BACT for this application.

The Department determined that proper engine design and maintenance with no add-on controls and good operating practices as BACT. The proposed NO_x BACT is consistent with previous BACT determinations made by the Department for diesel-fired engines.

The Department determined that additional controls for PM species, volatile organic compounds (VOC), CO, and oxides of sulfur (SO_x) are technically or economically infeasible. Therefore, the Department determined that proper operation and maintenance with no additional controls for PM species, VOC, CO, and SO_x would constitute BACT for the diesel generators/engines.

In addition, any stationary diesel engine would be required to comply with the federal engine emission standards found in 40 CFR Part 63, Subpart ZZZZ or NSPS emission limitations for stationary CI ICE (40 CFR 60, Subpart IIII).

IV. Emission Inventory

| Emission Source | TPY | | | | | | |
|-----------------------------------|--------------|------------------|-------------------|-----------------|--------------|-------------|-----------------|
| | PM | PM ₁₀ | PM _{2.5} | NO _x | CO | VOC | SO _x |
| Cold Aggregate Storage Piles | 5.43 | 2.57 | 0.39 | -- | -- | -- | -- |
| Cold Aggregate Handling/Conveyors | 17.74 | 6.50 | 0.15 | -- | -- | -- | -- |
| Cold Aggregate Screens | 41.06 | 14.29 | 0.16 | -- | -- | -- | -- |
| Crushers | 8.87 | 3.94 | 0.33 | | | | |
| Haul Roads / Vehicle Traffic | 5.68 | 1.57 | 0.16 | -- | -- | -- | -- |
| Diesel Engine: 743-bhp @ 5250 hrs | 4.29 | 4.29 | 4.29 | 60.46 | 13.03 | 4.90 | 4.00 |
| Diesel Engine: 207-bhp @ 5250 hrs | 1.20 | 1.20 | 1.20 | 16.84 | 3.63 | 1.37 | 1.11 |
| Total Emissions | 84.27 | 34.36 | 6.68 | 77.31 | 16.66 | 6.27 | 5.11 |

Notes:

Inventory reflects enforceable limits on hours of operation of the diesel generator engines to keep emissions below the Title V threshold and 80 TPY.

PM_{2.5} PM with an aerodynamic diameter of 2.5 microns or less

CALCULATIONS

Cold Aggregate Storage Piles

Maximum Process Rate = 750 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Cold Aggregate Storage Piles

Number of Piles = 1 piles (for simplification, pile forming emissions are estimated by assuming maximum process rate forming a single 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: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00331 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 5.43 \text{ TPY}$

Filterable PM₁₀ Emissions:

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

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

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: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00156 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 2.57 \text{ TPY}$

Filterable PM_{2.5} Emissions:

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

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

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

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

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

Control Efficiency = 50% (Water or chemical spray)

Calculation: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ piles}) * (1 - 50/100) = 0.39 \text{ TPY}$

Conveyor Transfer Point

Maximum Process Rate = 300 ton/hr (Maximum single screen process rate estimate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Transfers = 9 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: $(300 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.003 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (9 \text{ transfer}) * (1 - 50/100) = 17.74 \text{ TPY}$

Filterable PM₁₀ Emissions:

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

Control Efficiency = 50%

Calculation: $(300 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0011 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (9 \text{ transfer}) * (1 - 50/100) = 6.50 \text{ TPY}$

Filterable PM_{2.5} Emissions:

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

Control Efficiency = 0% (built into emission factor)

Calculation: $(300 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.000013 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (9 \text{ transfer}) = 0.15 \text{ TPY}$

Screening

Maximum Process Rate = 750 ton/hr (Maximum plant process rate)

Maximum Hours of Operation = 8,760 hrs/yr

Number of Screens = 1 screen(s) (using max plant rate with 3 screens in operation)

Total PM Emissions:

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

Control Efficiency = 50%

Calculation: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.025 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) * (1 - 50/100) = 41.06 \text{ TPY}$

Total PM₁₀ Emissions:

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

Control Efficiency = 50%

Calculation: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0087 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) * (1 - 50/100) = 14.29 \text{ TPY}$

Total PM_{2.5} Emissions:

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

Control Efficiency = 0% (built into emissions factor)

Calculation: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.00005 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 \text{ screen(s)}) = 0.16 \text{ TPY}$

Crushing

Maximum Process Rate = 750 ton/hr (Application information, max plant rate with 3 crushers)

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: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0054 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = 8.87 \text{ TPY}$

PM₁₀ Emissions:

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

Control Efficiency = 50%

Calculation: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0024 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) * (1 - 50/100) = 3.94 \text{ TPY}$

PM_{2.5} Emissions:

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

Control Efficiency = 0% (built into emission factor)

Calculation: $(750 \text{ ton/hr}) * (8760 \text{ hrs/yr}) * (0.0001 \text{ lb/ton}) * (\text{ton}/2000 \text{ lb}) = 0.33 \text{ TPY}$

Diesel Engine: 743-bhp

Hours of Operation = 5,250 hours

Total PM/PM₁₀/PM_{2.5} Emissions:

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

Calculation: $(5,250 \text{ hours}) * (743 \text{ hp}) * (0.0022 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 4.29 \text{ TPY}$

NO_x Emissions:

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

Calculation: $(5,250 \text{ hours}) * (743 \text{ hp}) * (0.031 \text{ lbs/hp-hr}) * (\text{ton}/2000 \text{ lb}) = 60.46 \text{ TPY}$

Diesel Engine: 743-bhp

CO Emissions:

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

Calculation: (5,250 hours) * (743 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 13.03 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: (5,250 hours) * (743 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 4.90 TPY

SO_x Emissions:

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

Calculation: (5,250 hours) * (743 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 4.00TPY

Diesel Engine: 207-bhp

Hours of Operation = 5,250 hours

Total PM/PM₁₀/PM_{2.5} Emissions:

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

Calculation: (5,250 hours) * (207 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 1.20 TPY

NO_x Emissions:

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

Calculation: (5,250 hours) * (207 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 16.84 TPY

CO Emissions:

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

Calculation: (5,250 hours) * (207 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 3.63 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: (5,250 hours) * (207 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 1.37 TPY

SO_x Emissions:

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

Calculation: (5,250 hours) * (207 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 1.11 TPY

V. Existing Air Quality

MAQP #3192-02 applies while operating at any location in Montana designated as attainment or unclassified for all 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 PM₁₀ nonattainment areas.

VI. Air Quality Impacts

MAQP #3192-02 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

MAQP #3192-02 states that the facility will operate a 743-bhp diesel generator engine and a 207-bhp diesel generator engine to supply electricity for the facility. The Department determined, based on ambient air modeling, that in order to maintain compliance with the one-hour NO₂ NAAQS, VSG will need a minimum stack height above ground level of 22-feet for the 743 bhp diesel generator engine and 10-feet for the 207-bhp diesel generator engine. These minimum stack heights will provide adequate dispersion of the NO₂ emissions to maintain compliance with the one-hour NO₂ NAAQS. This condition is based on ambient air modeling of the diesel generator engine emissions while located in the homepit location indefinitely. These stack height requirements would also protect the NO₂ NAAQS while operating in other temporary locations where VSG is limited by ARM 17.8.765(b) to remain at those locations for less than one year. The Department believes that the facility will not cause or contribute to a violation of any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

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

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

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

IX. Environmental Assessment

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

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, MT 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Valley Sand & Gravel

Montana Air Quality Permit number: 3192-02

Preliminary Determination Issued: 10/15/10

Department Decision Issued: 11/16/10

Permit Final: 12/2/10

1. *Legal Description of Site:* VSG operates a portable gravel crushing and screening facility with a homepit location in the SE¹/₄ of Section 13, Township 11 North, Range 4 West, in Lewis and Clark County, Montana. However, MAQP #3192-02 applies while operating at any location in Montana, except within those areas having a Department approved permitting program, those areas considered tribal lands, or those areas in or within 10 km of certain PM₁₀ nonattainment areas. An addendum to this air quality permit will be required if VSG intends to locate in or within 10 km of certain PM₁₀ nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County.*
2. *Description of Project:* VSG is consolidating equipment that was formerly listed in other MAQPs held by VSG (a 250 TPH crusher formerly included in MAQP #3196-01 and a 200 TPH combined crushing and screening plant formerly permitted in MAQP #3161-03) into MAQP #3192-02. Additionally, 743-bhp and 207-bhp diesel generator engines have been added to the MAQP and a 515-bhp diesel generator engine has been removed. VSG proposes to use this crushing and screening facility to screen and sort sand and gravel materials for use in various construction operations. For a typical operational setup, materials are loaded into the crushing/screening plant by a feeder, transferred by conveyor, and passed through the crusher. Materials are crushed by the crusher and sent to the screens. Materials are screened, separated, and sent to the wash plant via a conveyor belt. Materials are washed by the wash plant, separated, and conveyed to a stockpile for sale and use in construction operations.
3. *Objectives of Project:* This facility would be used to supply aggregate to various construction projects and would allow Valley to operate the portable equipment at various locations throughout Montana.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because VSG has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in MAQP #3192-02.

6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.
7. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

| | | Major | Moderate | Minor | None | Unknown | Comments Included |
|---|--|-------|----------|-------|------|---------|-------------------|
| A | Terrestrial and Aquatic Life and Habitats | | | X | | | Yes |
| B | Water Quality, Quantity, and Distribution | | | X | | | Yes |
| C | Geology and Soil Quality, Stability and Moisture | | | X | | | Yes |
| D | Vegetation Cover, Quantity, and Quality | | | X | | | Yes |
| E | Aesthetics | | | X | | | Yes |
| F | Air Quality | | | X | | | Yes |
| G | Unique Endangered, Fragile, or Limited Environmental Resources | | | X | | | Yes |
| H | Demands on Environmental Resource of Water, Air and Energy | | | X | | | Yes |
| I | Historical and Archaeological Sites | | | X | | | Yes |
| J | Cumulative and Secondary Impacts | | | X | | | Yes |

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

A. Terrestrial and Aquatic Life and Habitats

Terrestrials would use the same area as the aggregate crushing and screening operations. The facility operations would be considered a minor source of emissions, by industrial standards, with intermittent and seasonal operations. Therefore, only minor effects on terrestrial life would be expected as a result of equipment operations or from pollutant deposition.

Impacts on aquatic life could result from storm water runoff and pollutant deposition, but such impacts would be minor as the facility would be a minor source of emissions (with seasonal and intermittent operations) and only minor amounts of water would be used for pollution control. Also, the nearest water body (an unnamed stream is over 100 meters away) from the proposed operation. At such distances, only minor and temporary effects to aquatic life would be expected from the proposed operation because only minor amounts of pollutants would be emitted. Pollutant emissions would be well dispersed in the area of operation before reaching the water body and only minor deposition would occur. Therefore, only minor and temporary effects to aquatic life and habitat would be expected from the proposed operation.

B. Water Quality, Quantity and Distribution

Water would be used for pollution control for equipment operations and may be utilized for dust suppression on the surrounding roadways and areas of operation. However, water use would only cause a minor surface disturbance to this proposed operational site, since only minor amounts of water would be required to be used for pollution control. Therefore, at most, only minor surface and groundwater quality impacts would be expected as a result of using

water for dust suppression because only small amounts of water would be required to control air pollutant emissions and deposition of air pollutants upon surrounding water bodies would be minor (as described in Section 8.F of this EA).

C. Geology and Soil Quality, Stability and Moisture

The additional equipment would only have minor impacts on soils for the homepit or any proposed site location due to the construction and use of the proposed facility because the facility is relatively small in size, would use only relatively small amounts of water for pollution control, and would only have seasonal and intermittent operations. Further, the facility would generate relatively small amounts of air pollutants that would be widely dispersed before depositing upon the surrounding soils, typically soils within a previously disturbed open-cut pit. Therefore, any affects upon geology and soil quality, stability, and moisture at any proposed operational site would be minor.

D. Vegetation Cover, Quantity, and Quality

Because the additions to the facility would be a minor source of emissions by industrial standards and would initially (and typically) operate in areas previously designated and used for aggregate crushing and screening, impacts from the emissions upon vegetative cover, quality, and quantity would be minor.

As described in Section 8.F of this EA, the amount of air emissions from this project would be minor. As a result, the corresponding deposition of the air pollutants on the surrounding vegetation would also be minor. Also, because the water usage is minimal, as described in Section 8.B, and the associated soil disturbance is minimal, as described in Section 8.C, corresponding vegetative impacts would be minor.

E. Aesthetics

The additional aggregate crushing and screening equipment would be visible and would create additional noise while operating in the homepit location and other permitted operational sites. However, MAQP #3192-02 would include conditions to control emissions, including visible emissions from the plant. Therefore, because the facility is portable, would operate on an intermittent and seasonal basis, and would typically locate within an open-cut pit, any visual and noise impacts would be minor and short-lived.

F. Air Quality

The air quality impacts from the proposed project would be minor because the facility would be relatively small, would operate on an intermittent and temporary basis, and would typically locate in a previously disturbed site. MAQP #3192-02 would include conditions limiting the opacity from the plant, as well as requiring water spray bars and other means to control air pollution. Further, MAQP #3192-02 would limit total emissions from the aggregate crushing and screening operations and any additional VSG equipment operated at the site to 250 TPY or less, excluding fugitive emissions, and limit each component of the aggregate crushing and screening operation. Thus, because only small and intermittent amounts of air pollutants would be generated and deposited upon any given area of the surrounding environment from this facility, all associated air quality impacts would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources, the Department previously contacted the Montana Natural Heritage Program (MNHP) to identify any species of concern associated with the homepit site location (SE¼ of Section 13, Township 11 North, Range 4 West, in Lewis and Clark County, Montana). Search results concluded that the Black-tailed Prairie Dog, a mammal species designated as sensitive by U.S fish & Wildlife Service, has recorded occurrences within the defined area. The defined area, in this case, is defined by the township and range of the homepit site, with an additional one-mile buffer. Based on the small size and temporary nature of the equipment operations, the fact that the facility operations would typically take place in a previously disturbed area, and the minimal disturbance expected to the environment (water, air, and soils), the Department determined that minor impacts to any unique endangered, fragile, or limited environmental resources would occur.

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

Due to the relatively small size of the proposed project, the aggregate crushing and screening operations would only require small quantities of water, air, and energy for proper operation. Small quantities of water would be used for dust suppression and would control particulate emissions being generated at the site. Energy requirements would also be small because the energy demands of the facility would typically be provided by the portable diesel generators and the facility would not be used continuously. The facility would have limited hours of operation, limited production, and would have seasonal and intermittent use. In addition, impacts to air resources would be minor because the source is small by industrial standards, with intermittent and seasonal operations, and because air pollutants generated by the facility would be widely dispersed. Therefore, any impacts to water, air, and energy resources in any given area would be minor.

I. Historical and Archaeological Sites

The Department previously contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the homepit location. Search results concluded that there is one previously recorded historical mining site within the same section as the homepit location. According to the SHPO, there would be a low likelihood that cultural properties would be impacted by the project. Therefore, minor impacts upon historical or archaeological sites would be expected as a result of proposed operation in the homepit or other locations due to the small size and temporary nature of the equipment operations, the fact that the facility operations would typically take place in a previously disturbed area, and the minimal disturbance expected to the environment (water, air, and soils).

J. Cumulative and Secondary Impacts

The proposed additional equipment would cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment because the facility would generate emissions of PM, PM₁₀, PM_{2.5}, NO_x, VOC, CO, and SO_x. Emissions and noise would cause minimal disturbance because the equipment is small and the facility would be expected to operate in areas designated and used for such operations. Additionally, this facility, in combination with other emissions from equipment operations at the operational site, would not be permitted to exceed 250 TPY of non-fugitive emissions. Overall, any cumulative or secondary impacts to the physical and biological aspects of the human environment would be minor.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

| | | Major | Moderate | Minor | None | Unknown | Comments Included |
|---|---|-------|----------|-------|------|---------|-------------------|
| A | Social Structures and Mores | | | | X | | Yes |
| B | Cultural Uniqueness and Diversity | | | | X | | Yes |
| C | Local and State Tax Base and Tax Revenue | | | X | | | Yes |
| D | Agricultural or Industrial Production | | | X | | | Yes |
| E | Human Health | | | X | | | Yes |
| F | Access to and Quality of Recreational and Wilderness Activities | | | X | | | Yes |
| G | Quantity and Distribution of Employment | | | | X | | Yes |
| H | Distribution of Population | | | | X | | Yes |
| I | Demands for Government Services | | | X | | | Yes |
| J | Industrial and Commercial Activity | | | X | | | Yes |
| K | Locally Adopted Environmental Plans and Goals | | | X | | | Yes |
| L | Cumulative and Secondary Impacts | | | X | | | Yes |

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

A. Social Structures and Mores

The additional equipment would not cause disruption to the social structures and mores in the area because the source would be a minor source of air emissions (by industrial standards) and would only have intermittent operations. Additionally, the equipment would be expected to operate in an area previously designated and used for aggregate production and in an area removed from the general population. Further, the facility would be a minor source of air pollution and would be required to operate according to the conditions that would be placed in MAQP #3192-02. Thus, no native or traditional communities would be affected by the proposed project operations and no impacts upon social structures or mores would result.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of this area would not be impacted by the proposed additional equipment because the homepit has already been used for aggregate mining, is a bermed pit, and the facility would be a portable source with seasonal and intermittent operations. Therefore, the predominant use of the surrounding area would not change as a result of this project and the cultural uniqueness and diversity of the area would not be affected.

C. Local and State Tax Base and Tax Revenue

The additional equipment would have little, if any, impact on the local and state tax base and tax revenue because the proposed project would be a relatively small industrial source (minor source) and would operated on a seasonal and intermittent basis. The proposed project would require the use of a few existing employees. Thus, only minor, if any impacts to the local and state tax base and revenue could be expected from the employees and facility production. Furthermore, the impact to local tax base and revenue would be minor because the source would also be portable and the money generated for taxes would be widespread.

D. Agricultural or Industrial Production

The additional equipment would have only a minor impact on local industrial production since the proposed project is a minor source of emissions (by industrial standards) and would typically locate in an existing open-cut pit. There could be minor effects on agricultural land but the proposed project would be small and temporary in nature and would be permitted with operational conditions and limitations that would minimize impacts upon surrounding vegetation (as described in Section 8.D of this EA). Additionally, pollution control would be utilized for equipment operations and crushing/screening/washing production limits would be established.

E. Human Health

MAQP #3192-02 would incorporate conditions to ensure that the aggregate crushing and screening operations would be operated in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As described in Section 8.F of this EA, the air emissions from this proposed project would be minimized by the use of water spray and other conditions that would be established in MAQP #3192-02. Further, the facility would be operating on a temporary and intermittent basis. Therefore, only minor impacts would be expected upon human health from the proposed facility.

F. Access to and Quality of Recreational and Wilderness Activities

The additional equipment would initially (and typically) operate within the confines of an existing open-cut pit. Therefore, only minor impacts upon access to and quality of recreational and wilderness activities would result. Additionally, noise from the proposed project would be minor because the facility would typically operate within the confines of an existing and bermed open-cut pit. Also, the proposed project would operate on a seasonal and intermittent basis and would be relatively small by industrial standards. Therefore, any changes in the quality of recreational and wilderness activities created by operating the equipment at a given site would be expected to be minor and intermittent.

G. Quantity and Distribution of Employment

The aggregate crushing and screening operation remains a small portable source with seasonal and intermittent operations and would not be expected to have any long-term effects upon the quality and distribution of employment in any given area of operation. Therefore, no effects upon the quantity and distribution of employment in these areas would be expected.

H. Distribution of Population

The additional equipment would only require a few existing employees to operate. Also, no individuals would be expected to permanently relocate to a given area of operation as a result of operating the crushing and screening facility, which would have only intermittent and seasonal operations. Therefore, the aggregate crushing and screening operations would not disrupt the normal population distribution in any given area of operation.

I. Demands for Government Services

Minor increases would be seen in traffic on existing roadways in the area while the aggregate crushing and screening operations is in progress due to the increased potential production. In addition, government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, demands for government services would be minor, due to the relatively small size and seasonal nature of the aggregate crushing and screening operations.

J. Industrial and Commercial Activity

The additional equipment would represent only a minor increase in the industrial activity in any given area because the source would be a minor source (relatively small in size by industrial standards) and would be portable and temporary in nature.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals that would affect VSG. VSG would be allowed, by permit, to operate in areas designated by EPA as attainment or unclassified. MAQP #3192-02 would contain conditions for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards. Because the facility would be a small and portable source, and would have intermittent and seasonal operations, any effects from the proposed project would be minor and short-lived.

L. Cumulative and Secondary Impacts

The additional equipment would cause minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area because the source is a portable, temporary source. Further, no other industrial operations are expected to result from the permitting of this proposed project. Minor increases in traffic would have minor effects on local traffic in the immediate area. Because the source is relatively small and temporary, only minor economic impacts to the local economy would be expected from operating the proposed project. Further, this proposed project may be operated in conjunction with other equipment owned and operated by VSG, but any cumulative impacts upon the social and economic aspects of the human environment would be minor and short-lived. Thus, only minor and temporary cumulative effects would result to the local economy.

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

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a portable gravel crushing and screening facility. MAQP #3192-02 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

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

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

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