DEQ
Montana Department
of Environmental Quality

May 26, 2015

Rob Koelzer
Schellinger Construction Co. Inc.
P.O. Box 39
Columbia Falls, MT 59912-0039

Dear Mr. Koelzer:

Montana Air Quality Permit #2624-16 is deemed final as of May 23, 2015, by the Department of Environmental Quality (Department). This permit is for a portable crushing/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,

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

John P. Proulx
Environmental Science Specialist
Air Quality Bureau
(406) 444-1277

JM:JP
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Montana Air Quality Permit #2624-16

Schellinger Construction Co. Inc.
P.O. Box 39
Columbia Falls, MT 59912-0039

May 23, 2015

MONTANA AIR QUALITY PERMIT

Issued To: Schellinger Construction Co., Inc.
P.O. Box 39
Columbia Falls, MT 59912-0039

MAQP: #2624-16
Administrative Amendment (AA) Request Received: 4/17/2015
Department's Decision on AA: 5/7/2015
Permit Final: 5/23/2015
AFS #:777-2624

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Schellinger Construction Co., Inc. (Schellinger), 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. Location

Schellinger operates a portable crushing/screening facility that may operate at various locations throughout Montana. MAQP #2624-16 applies while operating at any location within 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 (PM_{10}) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.* Addendum #16 applies to the Schellinger facility while operating at any location in or within 10 km of certain PM_{10} nonattainment areas. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Current Permit Action

On April 17, 2015, the Department received a letter requesting an Administrative Amendment from Schellinger stating that they would be willing to accept an hourly operational limit change to 4,400 hours per year on Montana Air Quality Permit (MAQP) #2624-16. Schellinger's MAQP and addendum are being updated to reflect a horsepower rating instead of a kilowatt rating for the diesel-fired generator and to update limits and conditions to maintain allowable emissions of criteria pollutants below 100 TPY. In addition, the Department has updated the rule references, permit format, and the emissions inventory.

Section II: Conditions and Limitations

A. Emissions Limitations

1. All visible emissions from any Standards of Performance for New Stationary Sources (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 12, 1983 but before April 22, 2008: 15% opacity

2. All visible emissions form any other NSPS-affected equipment (such as screens and conveyers) 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: 8% 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. Schellinger 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).

5. Schellinger 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.4 (ARM 17.8.752).

6. Water shall be available and used, as necessary, to maintain compliance with the opacity limitations in Sections II.A.1, II.A.2, and II.A.3 (ARM 17.8.752).

7. Schellinger shall not operate more than two crushers at any given time and the cumulative maximum rated design capacity of the crushers shall not exceed 600 tons per hour (TPH) (ARM 17.8.749).

8. Total combined crusher production from the facility shall be limited to 5,256,000 tons during any rolling 12-month time period (ARM 17.8.749).

9. Schellinger shall not operate more than two screens at any given time and the cumulative maximum rated design capacity of the screens shall not exceed 600 TPH (ARM 17.8.749).

10. Total combined screen production from the facility shall be limited to 5,256,000 tons during any rolling 12-month time period (ARM 17.8.749).

11. Schellinger shall not operate more than one diesel generator at any given time and the maximum rated design capacity shall not exceed 1,455 brake horsepower (bhp) and shall not exceed 4,400 hours during any rolling 12-month time period (ARM 17.8.1204(3) and ARM 17.8.749).

12. If the permitted equipment is used in conjunction with any other equipment owned or operated by Schellinger, 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 time period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

13. Schellinger shall comply with all applicable standards and limitations, and the reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart OOO (ARM 17.8.340 and 40 CFR 60, Subpart OOO), as applicable.

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 Sections II.A.1 and II.A.2 (ARM 17.8.340 and 40 CFR 60, General Provisions and Subpart OOO).

2. All compliance source tests shall be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

3. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this portable crushing/screening plant is moved to another location, an Intent to Transfer Form must be sent to the Department. In addition, a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The Intent to Transfer Form and 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 17.8.765).

2. Schellinger shall maintain on-site records showing daily hours of operation and daily production rates for the last 12 months. All records compiled in accordance with this permit shall be maintained by Schellinger as a permanent business record for at least 5 years following the date of the measurement, shall be submitted to the Department upon request, and must be available at the plant site for inspection by the Department (ARM 17.8.749).

3. Schellinger shall supply the Department with annual production information for all emission points, as required by the Department in the annual emissions inventory request. The request will include, but is not limited to, all sources of emissions identified in the most recent emission inventory and sources identified in Section I.A of the permit analysis. Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in units as required by the Department. This information may be used for calculating operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505).

4. Schellinger shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emissions unit. The notice must be

submitted to the Department, in writing, 10 days prior to start-up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).

5. Schellinger shall document, by month, the total combined crusher production from the facility. By the 25th day of each month, Schellinger shall total the combined crusher production during the previous 12 months to verify compliance with the limitation in Section II.A.8. A written report of the compliance verification shall be submitted annually to the Department, along with the annual emission inventory (ARM 17.8.749).

6. Schellinger shall document, by month, the total combined screen production from the facility. By the 25th day of each month, Schellinger shall total the combined screen production during the previous 12 months to verify compliance with the limitation in Section II.A.10. A written report of the compliance verification shall be submitted annually to the Department, along with the annual emission inventory (ARM 17.8.749).

7. Schellinger shall document, by month, the hours of operation of the 1,455 bhp diesel-fired generator. By the 25th day of each month, Schellinger shall total the hours of operation of the diesel generator during the previous 12 months to verify compliance with the limitation in Section II.A.11. A written report of the compliance verification shall be submitted along with the annual emission inventory (ARM 17.8.749).

8. Schellinger 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 17.8.1204).

Section III: General Conditions

A. Inspection - Schellinger 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 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 Schellinger fails to appeal as indicated below.

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

D. Enforcement - Violations of limitations, conditions, and requirements contained herein may constitute grounds for permit revocation, penalties, or other enforcement as specified in Section 75-2-401 *et seq.*, MCA.

E. Appeals - Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If the Board does not issue a stay, the Department's decision on the application is final 16 days after the Departments decision is made.

F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.

G. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Schellinger may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Construction Commencement - Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked.

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. Schellinger shall comply with the conditions contained in this permit while operating at any location in Montana, except within those areas having a Department approved permitting program.

Montana Air Quality Permit (MAQP) Analysis
Schellinger Construction Co., Inc.
MAQP #2624-16

I. Introduction/Process Description

A. Permitted Equipment

Schellinger Construction Co., Inc. (Schellinger) operates a portable crushing/screening facility consisting of two crushers (up to 600 tons per hour (TPH) combined capacity), two 3-deck screens (up to 600 TPH combined capacity), a diesel generator (up to 1,455 brake horsepower (bhp)), and associated equipment.

B. Source Description

Schellinger uses this crushing/screening plant to crush and sort sand and gravel. For a typical operational setup, the raw materials are loaded into a hopper and conveyed to the crushing/screening plant. Materials are crushed by the crushers, screened and sorted by the screens, and stockpiled for sale and use, generally for construction operations.

C. Permit History

On March 20, 1990, **Permit #2624-00** was issued to Schellinger to operate a diesel generator, a screen, a 1976 Pioneer 50 VE portable duplex gravel crusher, and associated equipment. The jaw crusher was limited to a maximum production rate of 200 TPH, and the rolls crusher was limited to a maximum production rate of 200 TPH.

On March 17, 1994, **Permit #2624-01** with **Addendum 1** was issued to Schellinger to allow the crushing plant to operate at the NW½ of the NE¼ of Section 1, Township 30 North, Range 22 West, in Flathead County. The location was within the Whitefish particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment area.

On April 13, 1994, **Permit #2624-02** with **Addendum 2** was issued to allow the crushing plant to operate at the NW¼ of the NW¼ of Section 31, Township 29 North, Range 21 West (NUPAC Pit) and at the NW¼ of the NW¼ of Section 22, Township 29 North, Range 21 West (A-1 Paving's Pit) in Flathead County during the winter months (October 1 through March 31). The NUPAC pit is approximately 0.6 kilometers (km) from the Kalispell PM_{10} nonattainment area and A-1 Paving's pit is approximately 2.25 km from the Kalispell PM_{10} nonattainment area.

On August 7, 1995, Schellinger requested that Permit #2624-02 be modified to allow the crushing plant to continue operation within 10 km of certain PM_{10} nonattainment areas during the winter months (October 1 through March 31). The new conditions and reporting requirements were stated in **Addendum 3** of **Permit #2624-03**.

On August 25, 1996, **Permit #2624-04** with **Addendum 4** was issued to Schellinger, which modified Permit #2624-03 and allowed Schellinger to operate the crushing plant within 10 km of certain PM_{10} nonattainment areas during the summer months, and to operate throughout the winter months (October 1996 through March 1997) within 10 km of the

Thompson Falls and Kalispell PM_{10} nonattainment areas. Also, Permit #2624-04 was updated to reflect the new emission factors used in the emission inventory. As a result of using the new emission factors, the operational limit of 8500 hours per year was removed.

On March 23, 1997, **Permit #2624-05** with **Addendum 5** was issued to Schellinger for the operation of the crushing plant in or within 10 km of certain PM_{10} nonattainment areas. The permit allowed the operation of this plant in these areas through September 30, 1997. On November 12, 1997, Schellinger requested that Permit #2624-05 be modified to allow the crushing plant to operate at the NE¼ of the NE¼ of Section 26, Township 29 North, Range 22 West in Flathead County until September 30, 1998, and in or within 10 km of any PM_{10} nonattainment area from April 1, 1998, through September 30, 1998. It was determined that the conditions contained in Permit #2624-05 must be modified, per General Condition I of Permit #2624-05, and controls implemented to limit the impacts of the portable crusher's emissions on the nonattainment area. A SCREEN VIEW Model was completed and demonstrated no significant impacts on the nonattainment area for the operation of the crushing plant at the NE¼ of the NE¼ of Section 26, Township 29 North, Range 22 West in Flathead County. The new conditions and reporting requirements were stated in **Addendum 6** of **Permit #2624-06**. Permit #2624-06 replaced Permit #2624-05.

On December 19, 1998, Schellinger was issued **Permit #2624-07** with **Addendum 7** to allow the facility to operate at seven different locations in or within 10 km of the Kalispell PM_{10} non-attainment area during the winter months. In addition, Permit #2624-07 allowed operation in or within 10 km of the following PM_{10} nonattainment areas from April 1, 1999, to September 30, 1999: Libby, Kalispell, Columbia Falls, Whitefish, Thompson Falls, and Butte.

On March 16, 1999, Schellinger was issued **Permit #2624-08** with **Addendum 8** to allow the facility to operate at seven different locations in or within 10 km of the Kalispell, Columbia Falls, and Whitefish PM_{10} nonattainment areas during the winter months (October 1, 1999, through March 31, 2000). In addition, Permit #2624-08 allowed operation in or within 10 km of the following PM_{10} nonattainment areas from April 1, 2000, through September 30, 2000: Libby, Kalispell, Columbia Falls, Whitefish, Thompson Falls, and Butte. SCREEN VIEW air dispersion modeling was conducted for the proposed operation in order to determine a production limit that would be protective of the nonattainment areas. Worst case modeling results were used to determine a production limit that would be protective of existing air quality in or within 10 km of the PM_{10} nonattainment areas. Permit #2624-08 replaced Permit #2624-07 and Addendum 8 replaced Addendum 7.

On September 14, 2000, Schellinger was issued **Permit #2624-09** with **Addendum 9** for a renewal of the addendum in Permit #2624-08 to allow the facility to continue operation at seven different locations in or within 10 km of the Kalispell, Columbia Falls, and Whitefish PM_{10} nonattainment areas during the winter months (October 1, 2000, through March 31, 2001). In addition, Permit #2624-08 allowed operation in or within 10 km of the following PM_{10} nonattainment areas from April 1, 2001, through September 30, 2001; Libby, Kalispell, Columbia Falls, Whitefish, Thompson Falls, and Butte. SCREEN VIEW air dispersion modeling was conducted to determine a production limit that would protect the nonattainment areas. Worst-case modeling results were used to determine a production limit that would protect existing air quality in or within 10 km of the PM_{10} nonattainment areas. Based on Schellinger's request, the Department of Environmental Quality (Department)

determined that the modeling performed for Permit #2624-08 was still valid. The decisions in this permit were based on that modeling. Permit #2624-09 replaced Permit #2624-08 and Addendum 9 replaced Addendum 8.

On May 8, 2002, Schellinger was issued **Permit #2624-10** with **Addendum 10** to replace a 1976 Pioneer duplex crusher (jaw and rolls) with a 1990 El-Jay cone crusher (maximum capacity 200 TPH), a 1998 Nordberg cone crusher (maximum capacity 300 TPH), a 1979 Pioneer cone crusher (maximum capacity 200 TPH), a 1994 diesel generator (1200 kW), and associated equipment. Additionally, Schellinger requested to renew their addendum to operate at seven different locations in or within 10 km of the Kalispell, Columbia Falls, and Whitefish PM_{10} nonattainment areas during the winter months and in or within 10 km of certain PM_{10} nonattainment areas during the summer months. SCREEN VIEW air dispersion modeling was conducted to determine a production limit that would be protective of the nonattainment areas. Worst-case modeling results were used to determine a production limit that would protect existing air quality in or within 10 km of the nonattainment areas. The decisions in this permit are based on that modeling. **Permit #2624-10** replaced Permit #2624-09 and **Addendum 10** replaced Addendum 9.

On October 5, 2002, Schellinger was issued a permit to correctly identify the 1979 Pioneer crusher as a jaw and rolls crusher, not a cone crusher, as was originally reported. Additionally, Schellinger requested the addition of a 1998 Nordberg 3-deck screen, a 1990 EL-Jay 3-deck screen, and a 1979 Pioneer 4-deck screen to the list of permitted equipment. Furthermore, Schellinger requested to update their addendum, to incorporate the new equipment, and again be allowed to operate at seven different locations in or within 10 km of the Kalispell, Columbia Falls, and Whitefish PM_{10} nonattainment areas during the winter months and in or within 10 km of certain PM_{10} nonattainment areas during the summer months. Worst-case modeling results using SCREEN VIEW air dispersion modeling were used to determine a production limit that would protect existing air quality in or within 10 km of the PM_{10} nonattainment areas. The decisions in the addendum were based on that modeling. **Permit #2624-11** replaced Permit #2624-10 and **Addendum 11** replaced Addendum 10.

On January 15, 2003, Schellinger submitted an administrative amendment request to remove the 1990 EL-Jay cone crusher (maximum capacity 200 TPH) and attached 3-deck (6'x16') screen (maximum capacity 200 TPH) and replace it with a crusher and attached screen with a capacity of up to 300 TPH. This equipment was added as an Administrative Amendment because the facility would be required to keep their production below the production limits previously established in Sections II.A.7 and II.A.8 of Permit #2624-11 and Sections III.A.6 and III.A.7 of Addendum 11, and would not result in an increase in emissions for the facility. Additionally, a request to update the addendum and include the NW¼ of the SE¼ and the NE¼ of the SW¼ of Section 36, Township 30 North, Range 21 West, in Flathead County, Montana as a site in the addendum was also requested. The facility would be allowed to operate at eight different locations in or within 10 km of the Kalispell, Columbia Falls, and Whitefish PM_{10} nonattainment areas during the winter months and in or within 10 km of certain PM_{10} nonattainment areas during the summer months. Worst-case SCREEN VIEW air dispersion modeling results were used to determine a production limit that would protect existing air quality in or within 10 km of the PM_{10} nonattainment areas. **Permit #2624-12** replaced Permit #2624-11 and **Addendum 12** replaced Addendum 11.

On August 13, 2003, Schellinger submitted an administrative amendment request to remove the duplex crushing/screening unit consisting of a 1979 Pioneer jaw crusher (maximum capacity 200 tons per hour (TPH)) with an attached 1979 Pioneer rolls crusher (maximum capacity 200 TPH) and 1979 Pioneer 4-deck (5'x14') screen (maximum capacity 200 TPH), and associated equipment from Permit #2624-12. This permit action would not result in an increase in emissions for the facility, because the facility would be required to keep their production below the production limits previously established. Additionally, the addendum was also updated to reflect the current equipment for the facility. Also, the permit was updated to reflect the current permit language and rule references used by the Department. **Permit #2624-13** replaced Permit #2624-12 and **Addendum 13** replaced Addendum 12.

On February 2, 2004, the Department received a written request from Schellinger to add three additional sites to the list in the addendum of potential winter locations that Schellinger may use. The Department updated the addendum to reflect the request. In addition, the Department added language to the addendum that would allow Schellinger to propose additional winter sites without needing an administrative amendment to operate at the sites. Furthermore, the Department updated the rule citations within the permit and permit analysis to reflect the current air quality rules. **Permit #2624-14** replaced Permit #2624-13 and **Addendum 14** replaced Addendum 13.

On November 30, 2006, Schellinger submitted a complete application for a modification of Permit #2624-14. Schellinger requested the Department to update the permit to reflect the following: current emission factors; updated emissions inventory; current Department language regarding spray bar requirements; reduction of the size of the 1,200 kW diesel generator to 1,000 kW; maximize allowable production; and list additional pits for winter season operations. The Department updated Schellinger's permit as requested. Permit **#2624-15** replaces Permit #2624-14 and **Addendum 15** replaces Addendum 14.

D. Current Permit Action

During review of Schellinger's 2014 annual emissions inventory submission for this permit, the Department noted that the horsepower rating provided for the 1000 kW generator was inconsistent with the language in the MAQP. Upon further review, it was noted that the Department had incorrectly converted the generator set electrical rating directly into an equivalent engine horsepower rating rather than using the actual engine nameplate capacity. In order to address this error, the Department requested authority from Schellinger to correct the engine size reference and to update the limit on hours of operation to maintain allowable emissions of criteria pollutants below 100 tons per year (TPY). The Department received a letter requesting an Administrative Amendment on April 17, 2015, from Schellinger, stating that they would be willing to accept an hourly operational limit change to 4,400 hours per year in order for potential emissions to remain under 100 (TPY). The Department is updating the MAQP to reflect a brake horsepower rating instead of a kilowatt rating for their diesel-fired generator and to update the allowable annual hours of operation for the diesel-fired generator. The Department is also updating the addendum to reflect the request, rule references, permit format, and the emissions inventory. **MAQP #2624-16** replaces MAQP #2624-15 and **Addendum 16** replaces Addendum 15.

E. Additional Information

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

II. Applicable Rules and Regulations

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

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

1. ARM 17.8.101 Definitions. This rule 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).

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

4. ARM 17.8.110 Malfunctions. (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 in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

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

1. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
2. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
3. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
4. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
5. ARM 17.8.223 Ambient Air Quality Standard for PM_{10}

Schellinger 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 to an 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 (PM). (2) Under this rule, Schellinger shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.

4. ARM 17.8.310 Particulate Matter, Industrial 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 rule.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.

6. ARM 17.8.340 Standard of Performance for New Stationary Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS). Based on the information provided by Schellinger, the portable gravel crushing and screening plant and its associated equipment are subject to NSPS (40 CFR 60) as follows:

   a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpar 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 Schellinger, the portable crushing equipment to be used under MAQP #2624-16 is subject to this subpart because the facility is a nonmetallic mineral processing plant.

c. 40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engine (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Since the CI ICE to be used under MAQP #2624-16 are intended to be portable, Schellinger is not required to comply with the applicable emission limitations and operating limitations of 40 CFR 60, Subpart IIII. However, this subpart would become applicable if Schellinger operated them at a single location for more than 12 months.

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

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that Schellinger shall submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. A permit fee is not required for the current permit action because the permit action is considered an administrative permit change.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department. This air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

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

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

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any asphalt plant, crusher, or screen that has the Potential to Emit (PTE) greater than 15 tons per year of any pollutant. Schellinger has a PTE greater than 15 tons per year of total PM, oxides of nitrogen (NO_x), and carbon monoxide (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. 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 IV 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 Schellinger 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 Schellinger, 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 air quality permit may be transferred from one location to another if the Department receives a complete notice of Intent to Transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.

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

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

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

   This facility is not a major stationary source since it is not a listed source and the facility's PTE is less than 250 tons per year (excluding fugitive emissions) of any air pollutant.

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

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

   a. PTE > 100 tons/year of any pollutant.

   b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or a lesser quantity as the Department may establish by rule.

   c. PTE > 70 tons/year of PM_{10} in a serious PM_{10} nonattainment area.

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #2624-15 for Schellinger, the following conclusions were made:

   a. The facility's PTE is less than 100 tons/year for all criteria pollutants.

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

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

   d. This facility is potentially subject to a current NESHAP (40 CFR 63 Subparts A and ZZZZ).

   e. This facility is subject to current NSPS requirements (40 CFR 60, Subpart A, Subpart OOO, and potentially IIII).

   f. This source is not a Title IV affected source or a solid waste combustion unit.

   g. This source is not an EPA designated Title V source.

   h. 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 potential to emit.

      i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's potential to emit does not require the source to obtain an air quality operating permit.

      ii. Any source that obtains a federally enforceable limit on potential to emit shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

      Based on these facts, the Department has determined that Schellinger will be a minor source of emissions as defined under Title V. Schellinger accepted federally enforceable conditions to stay below the Title V threshold. However, if minor sources subject to NSPS are required to obtain a Title V Operating Permit, Schellinger will be required to obtain an Operating Permit. The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy this requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

III. BACT Analysis

A BACT determination is required for each new or modified source. Schellinger 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

CONTROLLED	**tons/year**						
Emission Source	**PM**	**PM10**	**PM2.5**	**NOx**	**CO**	**VOC**	**SO 2**
Cold Aggregate Storage Piles	8.66	4.10	0.62	--	--	--	--
Cold Aggregate Handling/Conveyors	0.37	0.12	0.03	--	--	--	--
Cold Aggregate Screens	5.78	1.94	0.13	--	--	--	--
Wash Plant	5.78	1.94	0.13	--	--	--	--
600 TPH Jaw Crusher	3.15	1.42	0.26	--	--	--	--
600 TPH Cone Crusher	3.15	1.42	0.26	--	--	--	--
Plant Load-Out	1.98	1.01	0.15	--	--	--	--
Haul Roads / Vehicle Traffic	11.37	3.13	0.31	--	--	--	--
1455 hp Diesel Engine Generator	7.04	7.04	7.04	99.23	21.38	8.05	6.5 6
Total Emissions	**26.70**	**14.02**	**8.03**	**99.23**	**21.38**	**8.05**	**6.5 6**

Notes:
1. Values in table reflect "controlled" cells from subsequent worksheets
Note: Limitations were placed on the diesel generator to keep NO_x emissions below the 100 tpy Title V threshold.

Calculations:

Cold Aggregate Storage Piles

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr
Number of Piles = 1 piles

PM Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00330 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 = 8.2 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)

M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)
Control Efficiency = % (Water or chemical spray)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00330 lb/ton) * (ton/2000 lb) * (1 piles) = 8.66 ton/yr
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00330 lb/ton) * (ton/2000 lb) * (1 piles) * (1 - /100) = 8.66 ton/yr

PM10 Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00156 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 = 8.2 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)
Control Efficiency = % (Water or chemical spray)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00156 lb/ton) * (ton/2000 lb) * (1 piles) = 4.10 ton/yr
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00156 lb/ton) * (ton/2000 lb) * (1 piles) * (1 - /100) = 4.10 ton/yr

PM2.5 Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00024 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 = 8.2 mph (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 2.5% (Average from values provided in AP 42, Sec. 13.2.4.3, 11/06)
Control Efficiency = % (Water or chemical spray)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00024 lb/ton) * (ton/2000 lb) * (1 piles) = 0.62 ton/yr
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00024 lb/ton) * (ton/2000 lb) * (1 piles) * (1 - /100) = 0.62 ton/yr

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr
Number of Transfers = 1 transfer (Company Information)

Total PM Emissions:
Emission Factor = 0.00014 lb/ton (0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00014 lb/ton) * (ton/2000 lb) * (1 transfer) = 0.37 ton/yr

Total PM10 Emissions:
Emission Factor = 0.000046 lb/ton (0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.000046 lb/ton) * (ton/2000 lb) * (1 transfer) = 0.12 ton/yr

Total PM2.5 Emissions
Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (1 transfer) = 0.03 ton/yr

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr 5256000 tons/year
Number of Screens = 1 screen(s) (Company Information)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 5.78 ton/yr

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 1.94 ton/yr

Total PM2.5 Emissions
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.13 ton/yr

Wash Plant

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr 5256000 tons/year
Number of Wash Plants = 1 plant(s) (Company Information)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (1 plant(s)) = 5.78 ton/yr

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (1 plant(s)) = 1.94 ton/yr

Total PM2.5 Emissions
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (1 plant(s)) = 0.13 ton/yr

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

Maximum Process Rate = 600 ton/hr (Application information)
Maximum Hours of Operation = 8,760 hrs/yr

PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) = 3.15 ton/yr

PM_{10} Emissions:
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) = 1.42 ton/yr

PM2.5 Emissions
Emission Factor = 0.0001 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) = 0.26 ton/yr

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr

PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0012 lb/ton) * (ton/2000 lb) = 3.15 ton/yr

PM_{10} Emissions:
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.00054 lb/ton) * (ton/2000 lb) = 1.42 ton/yr

PM2.5 Emissions:
Emission Factor = 0.0001 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0001 lb/ton) * (ton/2000 lb) = 0.26 ton/yr

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 8,760 hrs/yr
Number of loads = 24 loads (Estimate)

Total PM Emissions:
Emission Factor = 0.0000314 lb/ton (PM=PM10 / 51%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0000314 lb/ton) * (ton/2000 lb) * (24 loads) = 1.98 ton/yr

Total PM10 Emissions:
Emission Factor = 0.000016 lb/ton (PM10=1.6E-05, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.000016 lb/ton) * (ton/2000 lb) * (24 loads) = 1.01 ton/yr

Total PM2.5 Emissions:
Emission Factor = 0.0000024 lb/ton (PM2.5=1.6E-05 * 15%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)
Calculation: (600 ton/hr) * (8760 hrs/yr) * (0.0000024 lb/ton) * (ton/2000 lb) * (24 loads) = 0.15 ton/yr

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)
VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr
Hours of Operation = 8,760 hrs/yr

PM Emissions:
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 12.46 lb/VMT
Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 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 PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) = 11.37 tons/yr (Uncontrolled Emissions)

PM10 Emissions:
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 3.43 lb/VMT
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)
Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) = 3.13 tons/yr (Uncontrolled Emissions)

PM2.5 Emissions
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.34 lb/VMT
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)

Calculation: (8760 hrs/yr) * (0.21 VMT/hr) * (0.34 lb/VMT) * (ton/2000 lb) = 0.31 tons/yr (Uncontrolled Emissions)

Diesel Engine Generator

Note: Emissions are based on the power output of the engine (1455 hp).
Operational Capacity of Engine = 1,455 hp
Hours of Operation = 4,400.00 hours

PM Emissions:
PM Emissions = 7.04 ton/yr (Assume all PM < 1.0 um)
PM Emissions = 14,084.40 lbs/yr (Assume all PM < 1.0 um)

PM-10 Emissions:
Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (4,400 hours) * (1,455 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 7.04 ton/yr
Calculation: (4,400 hours) * (1,455 hp) * (0.0022 lbs/hp-hr) = 14,084.40 lbs/yr

PM2.5 Emissions
Emission Factor = 0.0022 lbs/hp-hr (Assume all PM < 1.0 um)
Calculation: (4,400 hours) * (1,455 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 7.04 ton/yr (Assume all PM < 1.0 um)
Calculation: (4,400 hours) * (1,455 hp) * (0.0022 lbs/hp-hr) = 14,084.40 lbs/yr

NOx Emissions:
Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (4,400 hours) * (1,455 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 99.23 ton/yr
Calculation: (4,400 hours) * (1,455 hp) * (0.031 lbs/hp-hr) = 198,462.00 lbs/yr

CO Emissions:
Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (4,400 hours) * (1,455 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 21.38 ton/yr
Calculation: (4,400 hours) * (1,455 hp) * (0.00668 lbs/hp-hr) = 42,765.36 lbs/yr

VOC Emissions:
Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)
Calculation: (4,400 hours) * (1,455 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 8.05 ton/yr
Calculation: (4,400 hours) * (1,455 hp) * (0.0025141 lbs/hp-hr) = 16,095.27 lbs/yr

SOx Emissions:
Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (4,400 hours) * (1,455 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 6.562 ton/yr
Calculation: (4,400 hours) * (1,455 hp) * (0.00205 lbs/hp-hr) = 13,124.10 lbs/yr

V. Existing Air Quality

The conditions and limitations within Permit #2624-16 would protect air quality for the sites and the surrounding area. This permit will cover the operations while operating at various locations throughout Montana.

VI. Ambient Air Quality Impact Analysis

Permit #2624-16 will cover the operations of a portable crushing/screening plant to be located at various locations throughout Montana. Addendum 16 to Permit #2624-16 sets conditions and limitations that allow for this portable crushing/screening plant to be located at various locations in or within 10 km of the Kalispell, Columbia Falls, and Whitefish PM_{10} nonattainment areas during the summer months (April 1 through March 31) and in or within 10 km of certain PM_{10} nonattainment areas during the summer months (April 1 through September 30). Based on the information provided, the Department believes that the amount of controlled emissions generated by this facility will not exceed any set ambient air quality standard. In addition, this source is portable and any air quality impacts will be minimal.

Addendum #16
Schellinger Construction Co., Inc.
Montana Air Quality Permit #2624-16

An addendum to air quality Montana Air Quality Permit (MAQP) #2624-16 is issued to Schellinger Construction Co., Inc. (Schellinger), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.765, as amended, for the following:

I. Permitted Equipment

Schellinger is permitted to operate a portable diesel generator (up to 1,455 brake horse power (bhp)), two crushers (combined maximum capacity 600 tons per hour (TPH)), two (combined maximum capacity 600 TPH), and associated equipment. Schellinger will operate at various locations throughout Montana, including in or within 10 kilometers (km) of the following certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas: Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish.

II. Seasonal and Site Restrictions

Addendum 14 applies to the Schellinger facility while operating at any location in or within 10 km of certain PM_{10} nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

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

B. During the winter season (October 1-March 31) - The only locations in or within 10 km of a PM_{10} nonattainment area where Schellinger may operate are:

1. NE¼ of the SW¼ of Section 23, Township 30 North, Range 21 West (A-1 Paving Hodgson Road Pit);
2. NE¼ of the NE¼ of Section 26, Township 29 North, Range 22 West (Tutvedt Pit);
3. NW¼ of the NW¼ of Section 31, Township 29 North, Range 21 West (NUPAC Pit);
4. NW¼ of the NW¼ of Section 22, Township 29 North, Range 21 West (A-1 Paving Pit);
5. N½ of Section 21, Township 30 North, Range 21 West (Carlson Pit);
6. S½ of the SE¼ of Section 31, Township 31 North, Range 22 West (Peschel Pit);
7. NE¼ and SE¼ of the NW ¼ of Section 9, Township 27 North, Range 21 West (Spoklie Pit);
8. NW¼ of the SE¼ of Section 36, Township 30 North, Range 21 West (County Pit);

9. NW¼ of the SE¼ of Section 36, Township 30 North, Range 21 West (Jellison Pit);
10. SE¼ of the NW¼ of Section 11, Township 30 North, Range 20 West (Columbia Heights Pit);
11. Section 17, Township 29, Range 22 West (Beasley Pit);
12. NW¼ of Section 16, township 29 North, Range 22 West (Tutvedt Pit 2); and
13. Any other site that may be approved, in writing, by the Department of Environmental Quality (Department).

C. Schellinger shall comply with the limitations and conditions contained in Addendum #16 to MAQP #2624-16 while operating in or within 10 km of any of the previously listed PM_{10} nonattainment areas. Addendum #16 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum #16 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

III. Conditions and Limitations

A. Operational Conditions and Limitations – **Summer Season (April 1 - September 30)**

1. Water spray bars must be available and operated, as necessary, on the crushers, screens, and all transfer points to maintain compliance with the opacity limitations in Sections III.A.2 and III.A.3 (ARM 17.8.749).

2. All visible emissions from the crushing/screening plant may not exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

3. Schellinger shall not cause or authorize to be discharged into the atmosphere from any other equipment, such as screens or transfer points, any visible emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).

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

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

6. The combined crusher production for the facility shall not exceed 14,400 tons during any rolling 24-hour time period (ARM 17.8.749).

7. The combined screen production for the facility shall not exceed 14,400 tons during any rolling 24-hour time period (ARM 17.8.749).

B. Operational Conditions and Limitations – **Winter Season (October 1 – March 30)**

1. Water spray bars must be available and operated, as necessary, on the crushers, screens, and all transfer points to maintain compliance with the opacity limitations in Sections III.A.2 and III.A.3 (ARM 17.8.749).

2. All visible emissions from the crushing/screening plant may not exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

3. Schellinger shall not cause or authorize to be discharged into the atmosphere from any other equipment, such as screens or transfer points, any visible emissions that exhibit an opacity of 10% or greater (ARM 17.8.749).

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

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

6. The combined crusher production for the facility shall not exceed 7,200 tons during any rolling 24-hour time period (ARM 17.8.749).

7. The combined screen production for the facility shall not exceed 7,200 tons during any rolling 24-hour time period (ARM 17.8.749).

8. The operation of the diesel generator shall not exceed 12 hours of operation during any rolling 24-hour period (ARM 17.8.749).

C. Operational Reporting Requirements

1. Schellinger shall provide the Department with written notification of job completion within 10 working days after job completion (ARM 17.8.749).

2. Schellinger shall provide the Department with written notice of relocation of the permitted equipment within 15 working days before the physical transfer of equipment (ARM 17.8.765).

3. Production information for the sites covered by this addendum must be submitted to the Department with the annual emissions inventory request or within 30 days of completion of the project. The information must include (ARM 17.8.749):

   a. Tons of material crushed by each crusher at each site

   b. Tons of material screened by each screen at each site

   c. Tons of bulk material loaded at each site

   d. Daily hours of operation at each site

   e. Gallons of diesel used by the generator at each site

f. Fugitive dust information consisting of a listing of all plant vehicles, including the following for each vehicle type:

   i. Number of vehicles
   ii. Vehicle type
   iii. Vehicle weight, loaded
   iv. Vehicle weight, unloaded
   v. Number of tires on vehicle
   vi. Average trip length
   vii. Number of trips per day per vehicle
   viii. Average vehicle speed
   ix. Area of activity
   x. Vehicle fuel usage (gasoline and diesel) annual total

g. Fugitive dust control for haul roads and general plant area:

   i. Hours of operation of water trucks
   ii. Application schedule for chemical dust suppressant, if applicable

4. Schellinger shall document, by day, the combined total crushing production during the winter season. Schellinger shall sum the combined total crushing production during the previous 24 hours to verify compliance with the limitation in Section III.A.6. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted and may be submitted along with the annual emissions inventory (ARM 17.8.749).

5. Schellinger shall document, by day, the combined total crushing production during the summer season. Schellinger shall sum the combined total crushing production during the previous 24 hours to verify compliance with the limitation in Section III.B.6. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted and may be submitted along with the annual emissions inventory (ARM 17.8.749).

6. Schellinger shall document, by day, the combined total screening production during the winter season. Schellinger shall sum the combined total screening production during the previous 24 hours to verify compliance with the limitation in Section III.A.7. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted and may be submitted along with the annual emissions inventory (ARM 17.8.749).

7. Schellinger shall document, by day, the combined total screening production during the summer season. Schellinger shall sum the combined total screening production during the previous 24 hours to verify compliance with the limitation in Section III.B.7. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted and may be submitted along with the annual emissions inventory (ARM 17.8.749).

8. Schellinger shall document, by day, the hours of operation of the diesel generator. Schellinger shall total the hours of operation of the diesel generator during the previous 24 hours to verify compliance with the limitation in Section III.A.8 and Section III.B.8. A written report of compliance and the emissions inventory shall be submitted to the Department annually. The report for the previous calendar year shall be submitted and may be submitted along with the annual emissions inventory (ARM 17.8.749)

Addendum 16 Analysis
Schellinger Construction Co., Inc.
Montana Air Quality Permit #2624-16

I. Permitted Equipment

Schellinger Construction Co., Inc. (Schellinger), operates a portable diesel generator (up to 1,455 brake horsepower (bhp)), two crushers (total maximum capacity up to 600 tons per hour (TPH)), two screens (total maximum capacity up to 600 TPH), and associated equipment.

II. Process Description

Schellinger proposes to use this crushing/screening plant to crush and sort sand and gravel. For a typical operational setup, the raw materials are initially sent through the feeder and processed (through up to 2 crushers, up to 2 screens, and associated equipment), stockpiled, and sold, generally for construction operations.

III. Applicable Rules and Regulations

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

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

A. ARM 17.8.749 Conditions for Issuance of Permit. This rule requires that the source demonstrate compliance with applicable rules and standards before a permit can be issued. Also, a permit may be issued with such conditions as are necessary to assure compliance with all applicable rules and standards. Schellinger demonstrated compliance with all applicable rules and standards as required for permit issuance.

B. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.

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

1. Written notice of Intent to Transfer location and proof of public notice are sent to the Department;

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

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

Schellinger must submit proof of compliance with the transfer and public notice requirements when they transfer to any of the locations covered by this addendum, and will only be allowed to stay in the new location for a period of less than 1 year. Also, the conditions and limitations of Addendum 16 to Montana Air Quality Permit (MAQP) #2624-16 will prevent Schellinger from having a significant impact on certain particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) nonattainment areas.

IV. Emission Inventory (Addendum 16 to Permit #2624-16)

CONTROLLED (Summer)	**pounds/day**						
Emission Source	**PM**	**PM10**	**PM2.5**	**NOx**	**CO**	**VOC**	**SO2**
Cold Aggregate Storage Piles	47.59	22.51	3.41	--	--	--	--
Cold Aggregate Handling/Conveyors	2.02	0.66	0.19	--	--	--	--
Cold Aggregate Screens	31.68	10.66	0.72	--	--	--	--
Wash Plant	31.68	10.66	0.72	--	--	--	--
600 ton/hr Jaw Crusher	17.28	7.78	1.44	--	--	--	--
600 ton/hr Cone Crusher	17.28	7.78	1.44	--	--	--	--
Bulk Load-Out	0.45	0.23	0.03	--	--	--	--
Haul Roads / Vehicle Traffic	62.30	17.17	1.72	--	--	--	--
1455 hp Diesel Engine Generator	38.41	38.41	38.41	541.26	116.63	43.90	35.79
Total Emissions	**248.70**	**115.85**	**48.08**	**541.26**	**116.63**	**43.90**	**35.79**

<547 lb/day

CONTROLLED (Winter)	**pounds/day**						
Emission Source	**PM**	**PM10**	**PM2.5**	**NOx**	**CO**	**VOC**	**SO2**
Cold Aggregate Storage Piles	23.80	11.26	1.70	--	--	--	--
Cold Aggregate Handling/Conveyors	1.01	0.33	0.09	--	--	--	--
Cold Aggregate Screens	15.84	5.33	0.36	--	--	--	--
Wash Plant	15.84	5.33	0.36	--	--	--	--
600 ton/hr Jaw Crusher	8.64	3.89	0.72	--	--	--	--
600 ton/hr Cone Crusher	8.64	3.89	0.72	--	--	--	--
Bulk Load-Out	0.23	0.12	0.02	--	--	--	--
Haul Roads / Vehicle Traffic	31.15	8.59	0.86	--	--	--	--
1455 hp Diesel Engine Generator	38.41	38.41	38.41	541.26	116.63	43.90	35.79
Total Emissions	**143.55**	**77.13**	**43.25**	**541.26**	**116.63**	**43.90**	**35.79**

<82 lb/day

Notes:

1. Values in table reflect "controlled" cells from subsequent worksheets

Note: Limitations were placed on the diesel generator to keep NO_x emissions below the 100 tpy Title V threshold

Calculations:

Cold Aggregate Storage Piles

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (summer hours)
Maximum Hours of Operation = 12 hrs/day (winter hours)
Number of Piles = 1 piles

PM Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00331 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)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00331 lb/ton) * (1 piles) = 47.59 lb/day (Summer hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00331 lb/ton) * (1 piles) = 23.80 lb/day (Winter hours)

PM10 Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00156 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)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00156 lb/ton) * (1 piles) = 11.26 lb/day (Summer hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00156 lb/ton) * (1 piles) = 11.26 lb/day (Winter hours)

PM2.5 Emissions:
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00024 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)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00024 lb/ton) * (1 piles) = 1.70 lb/day (Summer hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00024 lb/ton) * (1 piles) = 1.70 lb/day (Winter hours)

Conveyor Transfer Point (SCC 3-05-02006)

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day
Maximum Hours of Operation = 12 hrs/day
Number of Transfers = 1 transfer (Company Information)

Total PM Emissions:
Emission Factor = 0.00014 lb/ton (0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00014 lb/ton) * (1 transfer) = 2.02 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00014 lb/ton) * (1 transfer) = 1.01 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.000046 lb/ton (0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.000046 lb/ton) * (1 transfer) = 0.66 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.000046 lb/ton) * (1 transfer) = 0.33 lb/day (Winter Hours)

PM2.5 Emissions:
Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.000013 lb/ton) * (1 transfer) = 0.19 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.000013 lb/ton) * (1 transfer) = 0.09 lb/day (Winter Hours)

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 12 hrs/day (Winter Hours)
Number of Screens = 1 screen(s) (Company Information)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.0022 lb/ton) * (1 screen(s)) = 31.68 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.0022 lb/ton) * (1 screen(s)) = 15.84 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00074 lb/ton) * (1 screen(s)) = 10.66 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00074 lb/ton) * (1 screen(s)) = 5.33 lb/day (Winter Hours)

PM2.5 Emissions:
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00005 lb/ton) * (1 screen(s)) = 0.72 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00005 lb/ton) * (1 screen(s)) = 0.36 lb/day (Winter Hours)

Wash Plant

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 12 hrs/day (Winter Hours)
Number of Wash Plants = 1 plant(s) (Company Information)

Total PM Emissions:
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.0022 lb/ton) * (1 plant(s)) = 31.68 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.0022 lb/ton) * (1 plant(s)) = 15.84 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00074 lb/ton (0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00074 lb/ton) * (1 plant(s)) = 10.66 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00074 lb/ton) * (1 plant(s)) = 5.33 lb/day (Winter Hours)

PM2.5 Emissions:
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00005 lb/ton) * (1 plant(s)) = 0.72 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00005 lb/ton) * (1 plant(s)) = 0.36 lb/day (Winter Hours)

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 12 hrs/day (Winter Hours)

Total PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.0012 lb/ton) = 17.28 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.0012 lb/ton) = 8.64 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)

Calculation: (600 ton/hr) * (24 hrs/day) * (0.00054 lb/ton) = 7.78 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00054 lb/ton) = 3.89 lb/day (Winter Hours)

PM2.5 Emissions
Emission Factor = 0.0001 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.0001 lb/ton) = 1.44 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.0001 lb/ton) = 0.72 lb/day (Winter Hours)

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 12 hrs/day (Winter Hours)

Total PM Emissions:
Emission Factor = 0.0012 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.0012 lb/ton) = 17.28 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.0012 lb/ton) = 8.64 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.00054 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00054 lb/ton) = 7.78 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00054 lb/ton) = 3.89 lb/day (Winter Hours)

Total PM2.5 Emissions:
Emission Factor = 0.0001 lb/ton (crushing, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.0001 lb/ton) = 1.44 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.0001 lb/ton) = 0.72 lb/day (Winter Hours)

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

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 24 hrs/day (Summer Hours)
Maximum Hours of Operation = 12 hrs/day (Winter Hours)
Number of loads = 1 loads (Estimate)

Total PM Emissions:
Emission Factor = 0.0000314 lb/ton (PM=PM10 / 51%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00003 lb/ton) * (1 loads) = 0.45 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00003 lb/ton) * (1 loads) = 0.23 lb/day (Winter Hours)

Total PM10 Emissions:
Emission Factor = 0.000016 lb/ton (PM10=1.6E-05, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00002 lb/ton) * (1 loads) = 0.23 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (12 hrs/day) * (0.00002 lb/ton) * (1 loads) = 0.12 lb/day (Winter

Hours)

Total PM2.5 Emissions:
Emission Factor = 0.0000024 lb/ton (PM2.5=1.6E-05 * 15%, AP-42, Appendix B.2, Table B.2.2, Category 3, 9/90)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.00000 lb/ton) * ( ) = 0.03 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (24 hrs/day) * (0.03456 lb/day) * ( ) = 0.02 lb/day (Winter Hours)

Haul Roads

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)
VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr
Hours of Operation = 24 hrs/day (Summer Hours)
Hours of Operation = 12 hrs/day (Winter Hours)

PM Emissions:
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 12.46 lb/VMT
Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 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 PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
Calculation: (24 hrs/day) * (0.21 VMT/hr) * (12.46 lb/VMT) = 62.30 lb/day (Uncontrolled Emissions, Summer Hours)
Calculation: (12 hrs/day) * (0.21 VMT/hr) * (12.46 lb/VMT) = 31.15 lb/day (Uncontrolled Emissions, Winter Hours)

PM10 Emissions:
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 3.43 lb/VMT
Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 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)
Calculation: (24 hrs/day) * (0.21 VMT/hr) * (3.43 lb/VMT) = 17.17 lb/day (Uncontrolled Emissions, Summer Hours)
Calculation: (12 hrs/day) * (0.21 VMT/hr) * (3.43 lb/VMT) = 8.59 lb/day (Uncontrolled Emissions, Winter Hours)

PM2.5 Emissions:
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.

Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.34 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)
Calculation: (24 hrs/day) * (0.21 VMT/hr) * (0.34 lb/VMT) = 1.72 lb/day (Uncontrolled Emissions, Summer Hours)
Calculation: (12 hrs/day) * (0.21 VMT/hr) * (0.34 lb/VMT) = 0.86 lb/day (Uncontrolled Emissions, Winter Hours)

Diesel Engine Generator
Note: Emissions are based on the power output of the engine (1455 hp).
Operational Capacity of Engine = 1,455 hp
Hours of Operation = 24.00 hrs/day (Summer Hours)
Hours of Operation = 12.00 hrs/day (Winter Hours)

PM Emissions:
PM Emissions = 38.41 lbs/day (Assume PM = PM10, Summer Hours)
PM Emissions = 38.41 lbs/day (Assume PM = PM10, Winter Hours)

PM-10 Emissions:
Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (12 hrs/day) * (1,455 hp) * (0.0022 lbs/hp-hr) = 38.41 lb/day (Summer Hours)
Calculation: (12 hrs/day) * (1,455 hp) * (0.0022 lbs/hp-hr) = 38.41 lb/day (Winter Hours)

PM2.5 Emissions:
Emission Factor = 0.0022 lbs/hp-hr (Assume all PM < 1.0 um)
Calculation: (12 hrs/day) * (1,455 hp) * (0.0022 lbs/hp-hr) = 38.41 lb/day (Summer Hours)
Calculation: (12 hrs/day) * (1,455 hp) * (0.0022 lbs/hp-hr) = 38.41 lb/day (Winter Hours)

NOx Emissions:
Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (12 hrs/day) * (1,455 hp) * (0.031 lbs/hp-hr) = 541.26 lb/day (Summer Hours)
Calculation: (12 hrs/day) * (1,455 hp) * (0.031 lbs/hp-hr) = 541.26 lb/day (Winter Hours)

CO Emissions:
Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (12 hrs/day) * (1,455 hp) * (0.00668 lbs/hp-hr) = 116.63 lb/day (Summer Hours)
Calculation: (12 hrs/day) * (1,455 hp) * (0.00668 lbs/hp-hr) = 116.63 lb/day (Winter Hours)

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

Calculation: (12 hrs/day) * (1,455 hp) * (0.0025141 lbs/hp-hr) = 43.90 lb/day (Summer Hours)
Calculation: (12 hrs/day) * (1,455 hp) * (0.0025141 lbs/hp-hr) = 43.90 lb/day (Winter Hours)

SOx Emissions:
Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (12 hrs/day) * (1,455 hp) * (0.00205 lbs/hp-hr) = 35.79 lb/day (Summer Hours)
Calculation: (12 hrs/day) * (1,455 hp) * (0.00205 lbs/hp-hr) = 35.79 lb/day (Winter Hours)

V. Existing Air Quality

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

Addendum 16 to MAQP #2624-16 is for a portable crushing/screening plant to locate at sites in or within 10 km of certain PM_{10} nonattainment areas during the summer season (April 1 through September 30). Summer seasons may include locations in or within 10 kilometers of the Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish PM_{10} nonattainment areas. Winter season (October 1 through March 31) operations may include only the locations listed in Section II.A of Addendum 16.

VI. Air Quality Impacts

Schellinger applied for an air quality permit to operate a portable crushing/screening plant to be located at various locations throughout Montana. MAQP #2624-16 and Addendum 16 will cover the Schellinger crushing/screening plant while operating at any location within Montana, excluding those counties that have a Department approved permitting program and those areas considered tribal lands. Based on the information provided, the Department believes that the amount of controlled emissions generated by this facility will not exceed any ambient air quality standard. In addition, this source is portable and any air quality impacts will be minimal.

VII. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the Department conducted 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.

VIII. Environmental Assessment

This permit action will not result in an increase of emissions form the facility and is considered an Administrative Amendment; therefore, an environmental assessment is not required.

Analysis Prepared By: John P. Proulx
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