

**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES

**MISSOURI AIR CONSERVATION COMMISSION**

**PERMIT TO CONSTRUCT**

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **092017-011**

Project Number: 2017-06-069  
Installation ID: PORT-0755

Parent Company: Skyline Materials LTD

Parent Company Address: PO Box 127  
900 Montgomery St., Decorah, IA 52101

Installation Name: Skyline Materials LTD-Miami Quarry

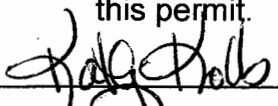
Installation Address: 31157 Hwy F, Slater, MO 65439


Location Information: Saline County, S34 T53N R20W

Application for Authority to Construct was made for:  
Stationary rock crushing equipment to be made a portable plant. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

  
Prepared by  
Kathy Kolb  
New Source Review Unit

  
Director or Designee  
Department of Natural Resources

**SEP 27 2017**

Effective Date

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

### Contact Information:

Missouri Department of Natural Resources  
Air Pollution Control Program  
P.O. Box 176  
Jefferson City, MO 65102-0176  
(573) 751-4817

The regional office information can be found at the following website:

<http://dnr.mo.gov/regions/>

**GENERAL SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

1. **Equipment Identification Requirement**  
Skyline Materials LTD-Miami Quarry shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers are included in Table 1 of this permit.
2. **Relocation of Portable Rock Crushing Plant**
  - A. Skyline Materials LTD – PORT 0755 shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0755, contain a nonroad engine requirement limiting the portable plant at the site specific location to 12 consecutive months.
  - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
    - 1) If the portable rock crushing plant is moving to a site previously permitted, and if the circumstances at the site have not changed, then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
    - 2) If the portable rock crushing plant is moving to a new site, or if circumstances at the site have changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**  
Skyline Materials LTD-Miami Quarry shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
4. **Reporting Requirement**  
Skyline Materials LTD-Miami Quarry shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after any exceedances of the limitations imposed by this permit.

**SITE SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

PORT ID Number: PORT-0755

Site ID Number: 195-0038

Site Name: Miami Quarry

Site Address: 31157 Hwy F, Slater, MO 65439

Site County: Saline S34 T53N R20W

1. **Best Management Practices Requirement**  
Skyline Materials LTD-Miami Quarry shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.
2. **Annual Emission Limit**
  - A. Skyline Materials LTD-Miami Quarry shall emit less than 15.0 tons of PM<sub>10</sub> in any 12-month period from the entire installation as defined in Table 1.
  - B. Skyline Materials LTD-Miami Quarry shall demonstrate compliance with Special Condition 2.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. **Moisture Content Testing Requirement**
  - A. Skyline Materials LTD-Miami Quarry shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
  - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
  - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
  - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
  - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Skyline Materials LTD-Miami Quarry main office within 30 days of completion of the required test.

**SITE SPECIFIC SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

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- F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 3.A, another test may be performed within 15 days of the noncompliant test. If the results of that test is less than the moisture content in Special Condition 3.A, Skyline Materials LTD-Miami Quarry shall either:
- 1) Apply for a new permit to account for the revised information, or
  - 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
4. **Primary Equipment Requirement**  
Skyline Materials LTD-Miami Quarry shall process all rock through the screen (EP-08). Bypassing the screen is prohibited.
5. **Nonroad Engine Requirement**  
Skyline Materials LTD-Miami Quarry's engine, Caterpillar 8412, shall not remain at one location within this site longer than 12 consecutive months in order for the engine to meet the definition of a nonroad engine as stated in 40 CFR 89.2. This engine shall be moved with its associated equipment at least once every 12 consecutive months at this site.
6. **Record Keeping Requirement**  
Skyline Materials LTD-Miami Quarry shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
7. **Reporting Requirement**  
Skyline Materials LTD-Miami Quarry shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2017-06-069

Installation ID Number: PORT-0755

Permit Number: 092017-011

Skyline Materials LTD-Miami Quarry:  
31157 Hwy F  
Slater, MO 65439

Complete: July 7, 2017

Parent Company:  
Skyline Materials LTD  
PO Box 127  
900 Montgomery St.  
Decorah, IA 52101

Saline County, S34 T53N R20W

PROJECT DESCRIPTION

This rock crushing plant is being relocated from Glasgow Quarry to Miami Quarry. According to the Air Pollution Control Programs' records, Miami Quarry (Site ID 195-0038) was previously owned by Glasgow Quarries, APAC and Inland River. It was purchased in August 2008 by Skyline LTD/Bruening Rock Products from Decorah, Iowa. While at Glasgow Quarry (Site ID 089-0023), the rock crushing plant had numerous Basic Operating Permits with Air Pollution Control Program but never a construction permit. Skyline LTD is requesting to make the plant a portable plant. This plant will become PORT-0755 and relocate to the Miami Quarry in Saline County. It will have a MHDR of 300 tons per hour due to the primary and secondary crushers being bottlenecked by the 2-deck screen (EP-08). The equipment is listed in Table 1.

A Caterpillar diesel generator Model 8412 (1999) 863 HP will supply power for the portable plant. The diesel engine meets the definition of non-road engine as defined in 40 CFR 89.2 (1)(i). Therefore, the emissions of the engine were not included. Although a portable plant is allowed to operate at a site for 24 consecutive months, the diesel engine is only allowed to operate at this site for 12 consecutive months in order for the diesel engine to be classified as a non-road engine.

The applicant is using one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is located in Saline County, attainment area for all criteria pollutants.

This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

No construction permits for PORT-0755 have been issued to Skyline Materials LTD-Miami Quarry from the Air Pollution Control Program.

## TABLES

Table 1: List of Equipment

Emission Point	Description	MHDR (tons per hour)
EP-01	Truck unloading into grizzly	300
EP-02	Grizzly	300
EP-03	Primary Crusher Jaw, Lippman 30 x 48 (S/N 20000694)	300
EP-04	Underconveyor	300
EP-05	Conveyor	300
EP-06	Secondary Crusher, Impeller, JWB (James W Bell) (S/N JWB0243)	300
EP-07	Underconveyor	300
EP-08	2-Deck Screen Deister 6 x 12 (S/N 1020510)	300
EP-09	Conveyor (3 coming off of screen)	300
EP-10	Inclined Pep Screen Vari Vibe 6 x 12 ( S/N 991462)	300
EP-11	Conveyor (2 coming off of screen)	300
EP-12	Bin 50 ton	300
EP-13a	Storage Pile Load In	300
EP-13b	Storage Pile Load Out	300
EP-13c	Vehicular Activity	3.79 VMT per hour
EP-13d	Wind Erosion	2 Acres
EP-14	Haul Road Pit to Crusher	5.83 VMT per hour
EP-15	Haul Road Crusher to Storage Pile	6.00 VMT per hour
EP-16	Haul Road Finished Product Shipping	15.40 VMT per hour
Nonroad Engine	Caterpillar diesel generator Model 8412 (1999) (S/N 81Z024328)	863 HP

Table 2 summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, are not site specific and should not vary from site to site. There are no existing actual emissions because the last EIQ was submitted in 2008 with zero chargeable emissions. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). Conditioned potential

emissions account for the voluntary PM<sub>10</sub> annual emissions limit to avoid dispersion modeling requirements.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	<sup>a</sup> Potential Emissions of Process Equipment	<sup>b</sup> Existing Actual Emissions	<sup>c</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	10.04	0.0	208.29	46.97
PM <sub>10</sub>	15.0	3.73	0.0	66.52	<15.0
PM <sub>2.5</sub>	10.0	0.50	0.0	15.57	3.51
SO <sub>x</sub>	40.0	N/A	0.0	N/A	N/A
NO <sub>x</sub>	40.0	N/A	0.0	N/A	N/A
VOC	40.0	N/A	0.0	N/A	N/A
CO	100.0	N/A	0.0	N/A	N/A

N/A = Not Applicable

<sup>a</sup>Excludes site specific haul roads and storage pile emissions

<sup>b</sup>The last EIQ was submitted in 2008 with zero chargeable emissions.

<sup>c</sup>Includes site specific haul roads and storage pile emissions

## EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the rock-crushing equipment:

- Calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004.
- The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5 % by weight.

Emissions from aggregate handling:

- Calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral Processing," August 2004.
- The controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5% by weight.

Emissions from haul roads and vehicular activity areas:

- Calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006.
- A 90% control efficiency for PM and PM<sub>10</sub> and a 74% control efficiency for PM<sub>2.5</sub> were applied to the emission calculations for the use of BMPs.

Emissions from storage piles:

- Load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4.



- The moisture content of the aggregate is 1.5% by weight.
- Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are conditioned below de minimis levels. Potential emissions of PM are above de minimis levels but remain below major levels.

### APPLICABLE REQUIREMENTS

Skyline Materials LTD-Miami Quarry shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- No operating permit is required because this is a portable plant.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

### SPECIFIC REQUIREMENTS

- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 26, 2017, received June 26, 2017, designating Skyline Materials LTD as the owner and operator of the installation.



## **Attachment AA: Best Management Practices**

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the plant is operating.

1. **Pavement**
  - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions while the plant is operating.
  - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
  
2. **Application of Chemical Dust Suppressants**
  - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
  - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
  - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources' personnel upon request.
  
3. **Application of Water-Documented Daily**
  - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
  - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
  - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
  - D. The operator shall record the date, volume of water application and total surface area of active haul roads or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
  - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources' personnel upon request.

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....percent	<b>MMBtu</b> ....Million British thermal units
<b>°F</b> .....degrees Fahrenheit	<b>MMCF</b> .....million cubic feet
<b>acfm</b> .....actual cubic feet per minute	<b>MSDS</b> .....Material Safety Data Sheet
<b>BACT</b> .....Best Available Control Technology	<b>NAAQS</b> ....National Ambient Air Quality Standards
<b>BMPs</b> .....Best Management Practices	<b>NESHAPs</b> ..National Emissions Standards for Hazardous Air Pollutants
<b>Btu</b> .....British thermal unit	<b>NO<sub>x</sub></b> .....nitrogen oxides
<b>CAM</b> .....Compliance Assurance Monitoring	<b>NSPS</b> .....New Source Performance Standards
<b>CAS</b> .....Chemical Abstracts Service	<b>NSR</b> .....New Source Review
<b>CEMS</b> .....Continuous Emission Monitor System	<b>PM</b> .....particulate matter
<b>CFR</b> .....Code of Federal Regulations	<b>PM<sub>2.5</sub></b> .....particulate matter less than 2.5 microns in aerodynamic diameter
<b>CO</b> .....carbon monoxide	<b>PM<sub>10</sub></b> .....particulate matter less than 10 microns in aerodynamic diameter
<b>CO<sub>2</sub></b> .....carbon dioxide	<b>ppm</b> .....parts per million
<b>CO<sub>2e</sub></b> .....carbon dioxide equivalent	<b>PSD</b> Prevention of Significant Deterioration
<b>COMS</b> .....Continuous Opacity Monitoring System	<b>PTE</b> .....potential to emit
<b>CSR</b> .....Code of State Regulations	<b>RACT</b> .....Reasonable Available Control Technology
<b>dscf</b> .....dry standard cubic feet	<b>RAL</b> .....Risk Assessment Level
<b>EIQ</b> .....Emission Inventory Questionnaire	<b>SCC</b> .....Source Classification Code
<b>EP</b> .....Emission Point	<b>scfm</b> .....standard cubic feet per minute
<b>EPA</b> .....Environmental Protection Agency	<b>SDS</b> .....Safety Data Sheet
<b>EU</b> .....Emission Unit	<b>SIC</b> .....Standard Industrial Classification
<b>fps</b> .....feet per second	<b>SIP</b> .....State Implementation Plan
<b>ft</b> .....feet	<b>SMAL</b> .....Screening Model Action Levels
<b>GACT</b> .....Generally Available Control Technology	<b>SO<sub>x</sub></b> .....sulfur oxides
<b>GHG</b> .....Greenhouse Gas	<b>SO<sub>2</sub></b> .....sulfur dioxide
<b>gpm</b> .....gallons per minute	<b>SSM</b> .....startup, shutdown, malfunction
<b>gr</b> .....grains	<b>tph</b> .....tons per hour
<b>GWP</b> .....Global Warming Potential	<b>tpy</b> .....tons per year
<b>HAP</b> .....Hazardous Air Pollutant	<b>VMT</b> .....vehicle miles traveled
<b>hr</b> .....hour	<b>VOC</b> .....Volatile Organic Compound
<b>hp</b> .....horsepower	
<b>lb</b> .....pound	
<b>lbs/hr</b> .....pounds per hour	
<b>MACT</b> .....Maximum Achievable Control Technology	
<b>µg/m<sup>3</sup></b> .....micrograms per cubic meter	
<b>m/s</b> .....meters per second	
<b>Mgal</b> .....1,000 gallons	
<b>MW</b> .....megawatt	
<b>MHDR</b> .....maximum hourly design rate	

NOTICE: This spreadsheet is for your use only and should be used with caution. MoDNR does not guarantee the accuracy of the information it contains. This spreadsheet is subject to continual revision and updating. It is your responsibility to be aware of the most current, accurate and complete information available. MoDNR is not responsible for errors or omissions in this spreadsheet. Submittal of the information contained in this spreadsheet (workbook) does not relieve the responsible official of the certification statement signed on the first page of the application.

**For Single Plant Operation**

Hours per day	8.0
Days per year	246.9
Hours per year	1975.3

**For Multiple Plant Operation**

Hours per day	8.0
Days per year	246.9
Hours per year	1975.3

Pollutant	Justification for Limit
PM10	De Minimis

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 1975 hours per year(tons/yr)	Deminimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	10.04	208.29	46.97	25	0.1585
PM <sub>10</sub>	3.73	66.52	15.00	15	0.0506
PM <sub>2.5</sub>	0.50	15.57	3.51	10	0.0118
SO <sub>2</sub>	-	-	-	40	0.0000
NO <sub>2</sub>	-	-	-	40	0.0000
VOC	-	-	-	40	0.0000
CO	-	-	-	100	0.0000
CH <sub>2</sub> O	-	-	-	2.00	0.0000
Pb	-	-	-	0.01	0.0000
HAPs	-	-	-	10	0.0000
CO <sub>2</sub>	-	-	-	100	0.0000
N <sub>2</sub> O	-	-	-	100	0.0000
CH <sub>4</sub>	-	-	-	100	0.0000
GHG <sub>mass</sub>	-	-	-	100	0.0000
CO <sub>2</sub> eq	-	-	-	100,000	0.0000

Limit Hours per Year
Limit Hours per Year w/ 24 hr day

Maximum hourly design rate (tons/hr)	300
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Tons of product per day	2,400.0
Tons of product per year	592,581.5





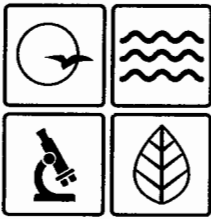


Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lb/UsdM)	Emission Rate (lb/hr)	Potential Emissions (ton/yr)	Allowable Emissions (ton/yr)
		EngSet #1 Model Year			bhp gallons per hour MMBtu/hour kW-hr			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub> SO <sub>2</sub> NO <sub>x</sub> CO VOC CH <sub>2</sub> O HAPs CO <sub>2</sub> N <sub>2</sub> O GHG <sub>equ</sub> CH <sub>4</sub>	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
		EngSet #2 Model Year			bhp gallons per hour MMBtu/hour kW-hr			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub> SO <sub>2</sub> NO <sub>x</sub> CO VOC CH <sub>2</sub> O HAPs CO <sub>2</sub> N <sub>2</sub> O GHG <sub>equ</sub> CH <sub>4</sub>	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
		EngSet #3 Model Year			bhp gallons per hour MMBtu/hour kW-hr			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub> SO <sub>2</sub> NO <sub>x</sub> CO VOC CH <sub>2</sub> O HAPs CO <sub>2</sub> N <sub>2</sub> O GHG <sub>equ</sub> CH <sub>4</sub>	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
	13a	Pile #1 Load in		300.00	tons per hour			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub>	0.0087 0.0041 0.0006	ton ton ton	2.62E+00 1.24E+00 1.67E-01	11.46 5.42 0.82	2.56 1.22 0.19
	13b	Load out		300.00	tons per hour			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub>	0.0087 0.0041 0.0006	ton ton ton	2.62E+00 1.24E+00 1.67E-01	11.46 5.42 0.82	2.56 1.22 0.19
	13c	Vehicular Activity		3.76	VMT per hour	Unpaved, Documented Watering		N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	60% 74% 90% 90% 90% 90% 90% 90% 90% 90% 90%	PM PM <sub>10</sub> PM <sub>2.5</sub>	7.4488 2.1181 0.2118	VMT VMT VMT	2.82E+00 8.02E-01 2.09E-01	12.36 3.51 0.21	2.79 0.79 0.21
	13d	Wind Erosion		2.00	acres			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub>	0.1763 0.0992 0.0134	acre-hr acre-hr acre-hr	3.57E-01 1.78E-01 2.67E-02	1.58 0.79 0.12	0.36 0.19 0.03
		Pile #2 Load in			tons per hour			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub>		ton ton ton			
		Load out			tons per hour			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub>		ton ton ton			
		Vehicular Activity			VMT per hour			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub>		VMT VMT VMT			
		Wind Erosion			acres			N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	PM PM <sub>10</sub> PM <sub>2.5</sub>		acre-hr acre-hr acre-hr			

Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lbs/UoM)	Emission Rate (lb/hr)	Potential Emissions (tons/yr)	Allowable Emissions (tons/yr)
		Pile #3													
		Load in			tons per hour			N/A	N/A	PM		ton			
								N/A	N/A	PM <sub>10</sub>		ton			
								N/A	N/A	PM <sub>2.5</sub>		ton			
		Load out			tons per hour			N/A	N/A	PM		ton			
								N/A	N/A	PM <sub>10</sub>		ton			
								N/A	N/A	PM <sub>2.5</sub>		ton			
		Vehicular Activity			VMT per hour			N/A	N/A	PM		VMT			
								N/A	N/A	PM <sub>10</sub>		VMT			
								N/A	N/A	PM <sub>2.5</sub>		VMT			
		Wind Erosion			acres			N/A	N/A	PM		acre-hr			
								N/A	N/A	PM <sub>10</sub>		acre-hr			
								N/A	N/A	PM <sub>2.5</sub>		acre-hr			
		Pile #4													
		Load in			tons per hour			N/A	N/A	PM		ton			
								N/A	N/A	PM <sub>10</sub>		ton			
								N/A	N/A	PM <sub>2.5</sub>		ton			
		Load out			tons per hour			N/A	N/A	PM		ton			
								N/A	N/A	PM <sub>10</sub>		ton			
								N/A	N/A	PM <sub>2.5</sub>		ton			
		Vehicular Activity			VMT per hour			N/A	N/A	PM		VMT			
								N/A	N/A	PM <sub>10</sub>		VMT			
								N/A	N/A	PM <sub>2.5</sub>		VMT			
		Wind Erosion			acres			N/A	N/A	PM		acre-hr			
								N/A	N/A	PM <sub>10</sub>		acre-hr			
								N/A	N/A	PM <sub>2.5</sub>		acre-hr			
EP-14	Road #1 Pit to Crusher			5.83	VMT per hour		Unpaved, Documented Watering	N/A	99%	PM	13.4987	VMT	7.87E+00	34.48	7.77
								N/A	90%	PM <sub>10</sub>	3.9846	VMT	2.32E+00	10.17	2.26
								N/A	74%	PM <sub>2.5</sub>	0.3985	VMT	6.04E-01	2.64	0.60
EP-15	Road #2 Crusher to Storage Pile			6.00	VMT per hour		Unpaved, Documented Watering	N/A	95%	PM	16.6049	VMT	9.98E+00	43.64	9.84
								N/A	90%	PM <sub>10</sub>	4.9011	VMT	2.94E+00	12.88	2.90
								N/A	74%	PM <sub>2.5</sub>	0.4901	VMT	7.65E-01	3.35	0.78
EP-16	Road #3 Finished Product Shipping			15.40	VMT per hour		Unpaved, Documented Watering	N/A	90%	PM	12.9391	VMT	1.90E+01	83.23	16.77
								N/A	90%	PM <sub>10</sub>	3.6411	VMT	5.01E+00	24.57	5.54
								N/A	74%	PM <sub>2.5</sub>	0.3641	VMT	1.48E+00	6.39	1.44
	Road #4				VMT per hour			N/A	N/A	PM		VMT			
								N/A	N/A	PM <sub>10</sub>		VMT			
								N/A	N/A	PM <sub>2.5</sub>		VMT			
	Road #5				VMT per hour			N/A	N/A	PM		VMT			
								N/A	N/A	PM <sub>10</sub>		VMT			
								N/A	N/A	PM <sub>2.5</sub>		VMT			
	Road #6				VMT per hour			N/A	N/A	PM		VMT			
								N/A	N/A	PM <sub>10</sub>		VMT			
								N/A	N/A	PM <sub>2.5</sub>		VMT			

Equipment	Unit ID	Description of Unit	Equipment Description/SCC	Heat Rate	UoM per hour						Emission Factor (lbs/UoM)							
		Combustion #1				mmBtu		100%	N/A	PM		mgal						
						mgal		100%	N/A	PM <sub>10</sub>		mgal						
						mmscf		100%	N/A	PM <sub>2.5</sub>		mgal						
								100%	N/A	SO <sub>2</sub>		mgal						
								100%	N/A	NO <sub>2</sub>		mgal						
								100%	N/A	VOC		mgal						
								100%	N/A	CO		mgal						
								100%	N/A	CH <sub>2</sub> O		mgal						
								100%	N/A	Pb		mgal						
								100%	N/A	HAPs		mgal						
								100%	N/A	CO <sub>2</sub>		mgal						
								100%	N/A	N <sub>2</sub> O		mgal						
								100%	N/A	GHG <sub>equiv</sub>		mgal						
		Combustion #2				mmBtu		100%	N/A	PM		mgal						
						mgal		100%	N/A	PM <sub>10</sub>		mgal						
						mmscf		100%	N/A	PM <sub>2.5</sub>		mgal						
								100%	N/A	SO <sub>2</sub>		mgal						
								100%	N/A	NO <sub>2</sub>		mgal						
								100%	N/A	VOC		mgal						
								100%	N/A	CO		mgal						
								100%	N/A	CH <sub>2</sub> O		mgal						
								100%	N/A	Pb		mgal						
								100%	N/A	HAPs		mgal						
								100%	N/A	CO <sub>2</sub>		mgal						
								100%	N/A	N <sub>2</sub> O		mgal						
								100%	N/A	GHG <sub>equiv</sub>		mgal						
		Combustion #3				mmBtu		100%	N/A	PM		mgal						
						mgal		100%	N/A	PM <sub>10</sub>		mgal						
						mmscf		100%	N/A	PM <sub>2.5</sub>		mgal						
								100%	N/A	SO <sub>2</sub>		mgal						
								100%	N/A	NO <sub>2</sub>		mgal						
								100%	N/A	VOC		mgal						
								100%	N/A	CO		mgal						
								100%	N/A	CH <sub>2</sub> O		mgal						
								100%	N/A	Pb		mgal						
								100%	N/A	HAPs		mgal						
								100%	N/A	CO <sub>2</sub>		mgal						
								100%	N/A	N <sub>2</sub> O		mgal						
								100%	N/A	GHG <sub>equiv</sub>		mgal						
				100%	N/A	CH <sub>4</sub>		mgal										

Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lb/UoM)	Emission Rate (t/yr)	Potential Emissions (tons/yr)	Allowable Emissions (tons/yr)
Equipment Operational Status	Emission Unit Number	Description of Unit	Equipment/SCC Description	M/HTP	Units	Equip Type	Control Type	Emission Factor (lb/UoM)							
N	EP-01	Truck unloading into grizzly	Truck Unloading - Fragmented Stone EF 30502031	300.00	Tons	Fugitive	Moisture => 1.5%	100%	0.00%	PM <sub>10</sub>	0.000032	Tons	9.60E-03	4.20E-02	9.48E-03
						Fugitive		100%	0.00%	PM <sub>2.5</sub>	0.000018	Tons	4.80E-03	2.10E-02	4.74E-03
						Fugitive		100%	0.00%	PM <sub>2.5</sub>	0.000009	Tons	2.40E-03	1.05E-02	2.37E-03
N	EP-02	grizzly	Grizzly Feeder 30502031	300.00	Tons	Fugitive	Moisture => 1.5%	100%	0.00%	PM <sub>10</sub>	0.000032	Tons	8.80E-03	4.20E-02	8.48E-03
						Fugitive		100%	0.00%	PM <sub>10</sub>	0.000016	Tons	4.80E-03	2.10E-02	4.74E-03
						Fugitive		100%	0.00%	PM <sub>2.5</sub>	0.000008	Tons	2.40E-03	1.05E-02	2.37E-03
N	EP-03	jaw crusher	Crusher-Primary, (Diameter 3-12') 30502001	300.00	Tons	Process	Moisture => 1.5%	100%	77.78%	PM <sub>10</sub>	0.00054	Tons	3.80E-01	1.58E+00	3.58E-01
						Process		100%	77.50%	PM <sub>10</sub>	0.00024	Tons	1.82E-01	7.10E-01	1.60E-01
						Process		100%	77.50%	PM <sub>2.5</sub>	0.000444444	Tons	3.00E-02	1.31E-01	2.98E-02
N	EP-04	underconveyor	Conveyor 30502008	300.00	Tons	Process	Moisture => 1.5%	100%	95.33%	PM <sub>10</sub>	0.003	Tons	4.20E-02	1.84E-01	4.15E-02
						Process		100%	95.82%	PM <sub>10</sub>	0.0011	Tons	1.38E-02	6.04E-02	1.36E-02
						Process		100%	95.82%	PM <sub>2.5</sub>	0.00031087	Tons	3.90E-03	1.71E-02	3.85E-03
N	EP-05	conveyor	Conveyor 30502008	300.00	Tons	Process	Moisture => 1.5%	100%	95.33%	PM <sub>10</sub>	0.003	Tons	4.20E-02	1.84E-01	4.15E-02
						Process		100%	95.82%	PM <sub>10</sub>	0.0011	Tons	1.38E-02	6.04E-02	1.36E-02
						Process		100%	95.82%	PM <sub>2.5</sub>	0.00031087	Tons	3.90E-03	1.71E-02	3.85E-03
N	EP-06	inspector-secondary	Crusher-Secondary, (Diameter 1-4') 30502002	300.00	Tons	Process	Moisture => 1.5%	100%	77.78%	PM <sub>10</sub>	0.00054	Tons	3.80E-01	1.58E+00	3.58E-01
						Process		100%	77.50%	PM <sub>10</sub>	0.00024	Tons	1.82E-01	7.10E-01	1.60E-01
						Process		100%	77.50%	PM <sub>2.5</sub>	0.000444444	Tons	3.00E-02	1.31E-01	2.98E-02
N	EP-07	underconveyor	Conveyor 30502008	300.00	Tons	Process	Moisture => 1.5%	100%	95.33%	PM <sub>10</sub>	0.003	Tons	4.20E-02	1.84E-01	4.15E-02
						Process		100%	95.82%	PM <sub>10</sub>	0.0011	Tons	1.38E-02	6.04E-02	1.36E-02
						Process		100%	95.82%	PM <sub>2.5</sub>	0.00031087	Tons	3.90E-03	1.71E-02	3.85E-03
N	EP-08	2 deck screen	Screens, (3/16" or Greater) 30502002	300.00	Tons	Process	Moisture => 1.5%	100%	91.20%	PM <sub>10</sub>	0.028	Tons	6.80E-01	2.89E+00	6.52E-01
						Process		100%	91.49%	PM <sub>10</sub>	0.0087	Tons	2.22E-01	9.72E-01	2.19E-01
						Process		100%	91.49%	PM <sub>2.5</sub>	0.000587836	Tons	1.50E-02	6.57E-02	1.48E-02
N	EP-09	conveyor - 3 coming off the screen	Conveyor 30502008	300.00	Tons	Process	Moisture => 1.5%	100%	95.33%	PM <sub>10</sub>	0.003	Tons	4.20E-02	1.84E-01	4.15E-02
						Process		100%	95.82%	PM <sub>10</sub>	0.0011	Tons	1.38E-02	6.04E-02	1.36E-02
						Process		100%	95.82%	PM <sub>2.5</sub>	0.00031087	Tons	3.90E-03	1.71E-02	3.85E-03
N	EP-10	peg screen (incline)	Screens, (3/16" or Greater) 30502002	300.00	Tons	Process	Moisture => 1.5%	100%	91.20%	PM <sub>10</sub>	0.028	Tons	6.80E-01	2.89E+00	6.52E-01
						Process		100%	91.49%	PM <sub>10</sub>	0.0087	Tons	2.22E-01	9.72E-01	2.19E-01
						Process		100%	91.49%	PM <sub>2.5</sub>	0.000587836	Tons	1.50E-02	6.57E-02	1.48E-02
N	EP-11	conveyor (2)	Conveyor 30502008	300.00	Tons	Process	Moisture => 1.5%	100%	95.33%	PM <sub>10</sub>	0.003	Tons	4.20E-02	1.84E-01	4.15E-02
						Process		100%	95.82%	PM <sub>10</sub>	0.0011	Tons	1.38E-02	6.04E-02	1.36E-02
						Process		100%	95.82%	PM <sub>2.5</sub>	0.00031087	Tons	3.90E-03	1.71E-02	3.85E-03
N	EP-12	bin	Storage Bin 30502008	300.00	Tons	Process	Moisture => 1.5%	100%	95.33%	PM <sub>10</sub>	0.003	Tons	4.20E-02	1.84E-01	4.15E-02
						Process		100%	95.82%	PM <sub>10</sub>	0.0011	Tons	1.38E-02	6.04E-02	1.36E-02
						Process		100%	95.82%	PM <sub>2.5</sub>	0.00031087	Tons	3.90E-03	1.71E-02	3.85E-03



Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

SEP 27 2017

Mr. John Courtney  
Fleet Manager  
Skyline Materials LTD-Miami Quarry  
PO Box 127  
900 Montgomery St.  
Decorah, IA 52101

RE: New Source Review - Permit Number:  
Project Number: 2017-06-069; Installation Number: PORT-0755

Dear Mr. Courtney:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: [www.oa.mo.gov/ahc](http://www.oa.mo.gov/ahc).



Recycled paper

Mr. John Courtney  
Page Two

If you have any questions, please do not hesitate to contact Kathy Kolb, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817.  
Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



Susan Heckenkamp  
New Source Review Unit Chief

SH:kkj

Enclosures

c: Northeast Regional Office  
PAMS File: 2017-06-069

Permit Number: