

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: 122017 - 002

Project Number: 2017-08-044
Installation ID: PORT-0752

Parent Company: Ray County Stone Producers, LLC

Parent Company Address: 9596 EE Hwy, Richmond, MO 64085

Installation Name: Ray County Stone Producers, LLC-PORT-0725

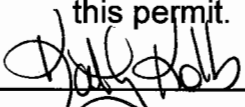
Installation Address: 9565 Hwy EE, Richmond, MO 64085

Location Information: Ray County, S05 T51N R28W

Application for Authority to Construct was made for:
Replacing primary and secondary crushers for PORT-0725. 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

DEC 06 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. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permits 112015-008, 112015-008A and 112015-008B from the Air Pollution Control Program.
2. **Equipment Identification Requirement**
Ray County Stone Producers, LLC-PORT-0725 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 must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
3. **Relocation of Portable Rock Crushing Plant**
 - A. Ray County Stone Producers, LLC-PORT-0725 shall not be operated at any location longer than 24 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.
4. **Record Keeping Requirement**
Ray County Stone Producers, LLC-PORT-0725 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.

GENERAL SPECIAL CONDITIONS:

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

5. Reporting Requirement

Ray County Stone Producers, LLC-PORT-0725 shall report to the Air Pollution Control Program Compliance / Enforcement Section by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, 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-0752

Site Name: EE Quarry

Site Address: 9565 Hwy EE, Richmond, MO 64085

Site County: Ray S05 T51N R28W

PORT ID Number: PORT-0752

Site Name: Blue Mound Quarry

Site Address: 24049 Hwy Z, Dawn, MO

Site County: Livingston, S35 T56N R24W

PORT ID Number: PORT-0752

Site Name: Rayville Quarry

Site Address: 17279 Maddux, Rayville, MO

Site County: Ray, S14,15 T53N R28W

1. Undocumented Watering Requirement
Ray County Stone Producers, LLC-PORT-0725 shall apply a water spray on all haul roads and vehicular activity areas whenever conditions exist that would allow visible emissions from these sources to leave the property.
2. Annual Emission Limit
 - A. Ray County Stone Producers, LLC-PORT-0725 shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation which consists of the equipment listed in Table 1. The SSM emissions as reported to the Air Pollution Control Program's Compliance/Enforcement Section in accordance with the requirements of 10 CSR 10-6.050 *Start-Up, Shutdown, and Malfunction Conditions* shall be included in the limit.
 - B. Ray County Stone Producers, LLC-PORT-0725 shall demonstrate compliance with Special Condition 2.A using Attachment A, B or C, or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. Moisture Content Testing Requirement
 - A. Ray County Stone Producers, LLC-PORT-0725 shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.

SITE SPECIFIC SPECIAL CONDITIONS:

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

- 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 Ray County Stone Producers, LLC-PORT-0725 main office within 30 days of completion of the required test.
 - 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, Ray County Stone Producers, LLC-PORT-0725 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. Plans may be sent by mail to P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
4. **Primary Equipment Requirement**
Ray County Stone Producers, LLC-PORT-0725 shall process all rock through the primary crusher (EU-02). Bypassing the primary crusher is prohibited.
5. **Nonroad Engine Requirement**
Ray County Stone Producers, LLC-PORT-0725's engine 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. These engines shall be moved with its associated equipment at least once every 12 consecutive months at this site.
6. **Record Keeping Requirement**
Ray County Stone Producers, LLC-PORT-0725 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.

SITE SPECIFIC SPECIAL CONDITIONS:

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

7. **Reporting Requirement**

Ray County Stone Producers, LLC-PORT-0725 shall report to the Air Pollution Control Program, Compliance / Enforcement Section by mail to P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, 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: 2017-08-044
Installation ID Number: PORT-0752

Permit Number: **122017-002**

Ray County Stone Producers, LLC-PORT-0725: Complete: September 22, 2017
9565 Hwy EE
Richmond, MO 64085

Parent Company:
Ray County Stone Producers, LLC
9596 EE Hwy
Richmond, MO 64085

Ray County, S05 T51N R28W

PROJECT DESCRIPTION

Ray County Stone Producers, LLC is replacing the primary crusher from PORT-0725 (Permit # 112015-008) with a new Eagle 1400 with an increased MHDR from 200 tph to 250 tph. They will also be replacing the secondary crusher with a Cedarapids roll crusher Model 4026 (1968-70 Model). The new equipment list for PORT-0725 is listed in Table 1 below.

Table 1: Equipment List for PORT-0725

Unit ID	Equipment	Make/Model	Combined Capacity (tons/ hour)
EU-01	Load in	N/A	250
EU-02	Primary Crusher	Eagle 1400	250
EU-03	Conveyor	42" Eagle	250
EU-04	Screen (3 deck) #1	6 x 20	250
EU-05	4 discharge conveyors from Screen #1	30"	250
EU-06	Secondary Crusher	Cedarapids roll crusher (Model 4026)	250
EU-07	Conveyor from crusher (underconveyor)	30"	250
EU-08	Screen #2	6 x 20	250
EU-09	4 discharge conveyors from Screen #2	Generic Conveyors	250
Nonroad	Diesel Generator	CAT 320 kw generator	N/A

N/A = Not applicable

PORT-0725 has been previously located and permitted in Richmond (EE Quarry), Dawn (Blue Mound Quarry) and Rayville, Missouri. This permit will update the respective emission factor for those sites as indicated in Attachments A, B and C.

The applicant is using undocumented watering to control emissions from haul roads and vehicular activity areas.

A Caterpillar diesel 320 kw generator 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.

PORT-0725 can be located in Ray County, a maintenance area for ozone and an attainment area for all other criteria pollutants and also Livingston County, an 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].

TABLES

The following permits have been issued to Ray County Stone Producers, LLC-PORT-0725 from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
112015-008	Installation of PORT-0725 at Richmond, MO (EE Quarry)
112015-008A	Relocation of PORT-0725 to Dawn, MO (Blue Mound Quarry)
112015-008B	Relocation of PORT-0725 to Rayville, MO

The table below 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. The existing actual emissions were taken from the 2016 Emissions Inventory Questionnaire (EIQ). 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 PM₁₀ annual emission limit to avoid dispersion modeling requirements found in 10 CSR-6.060 Section (6).

Table 3: Emissions Summary (tons per year) for EE Quarry in Richmond, MO

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions from Process Equipment	Existing Actual Emissions (2016 EIQ)	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	9.06	0.0	230.16	47.78
PM ₁₀	15.0	3.00	0.0	72.26	<15.0
PM _{2.5}	10.0	0.39	0.0	8.89	1.85
SO _x	40.0	N/A	0.0	N/A	N/A
NO _x	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
GHG (CO ₂ e)	75,000	N/A	0.0	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	N/A	0.0	N/A	N/A
Total HAPs	25.0	N/A	0.0	N/A	N/A

N/A = Not Applicable;

^aExcludes site specific haul road and storage pile emissions

^bIncludes site specific haul road and storage pile emissions

Table 4: Emissions Summary (tons per year) for Blue Mound Quarry in Dawn, MO

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions from Process Equipment	Existing Actual Emissions (2016 EIQ)	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	9.06	0.0	1,090.94	50.21
PM ₁₀	15.0	3.00	0.0	325.94	<15.0
PM _{2.5}	10.0	0.39	0.0	38.75	1.78
SO _x	40.0	N/A	0.0	N/A	N/A
NO _x	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
GHG (CO ₂ e)	75,000	N/A	0.0	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	N/A	0.0	N/A	N/A
Total HAPs	25.0	N/A	0.0	N/A	N/A

N/A = Not Applicable;

^aExcludes site specific haul road and storage pile emissions

^bIncludes site specific haul road and storage pile emissions

Table 5: Emissions Summary (tons per year) for Rayville, MO

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions from Process Equipment	Existing Actual Emissions (2016 EIQ)	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	9.06	0.0	185.42	46.89
PM ₁₀	15.0	3.00	0.0	59.31	<15.0
PM _{2.5}	10.0	0.39	0.0	7.39	1.87
SO _x	40.0	N/A	0.0	N/A	N/A
NO _x	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
GHG (CO ₂ e)	75,000	N/A	0.0	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	N/A	0.0	N/A	N/A
Total HAPs	25.0	N/A	0.0	N/A	N/A

N/A = Not Applicable;

^aExcludes site specific haul road and storage pile emissions

^bIncludes site specific haul road 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 50% control efficiency for PM and PM₁₀ and a 41% control efficiency for PM_{2.5} were applied to the emission calculations for the use of undocumented watering on haul roads and vehicular activity.

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 PM₁₀ are conditioned below de minimis levels. Potential emissions of PM are above de minimis levels but remain below major levels.

APPLICABLE REQUIREMENTS

Ray County Stone Producers, LLC-PORT-0725 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.
- *Operating Permits*, 10 CSR 10-6.065 does not apply because this is a portable plant.
- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *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 August 18, 2017, received August 22, 2017, designating Ray County Stone Producers, LLC as the owner and operator of the installation.

Attachment A: Annual Emissions Tracking Sheet

Ray County Stone Producers, LLC-PORT-0725

Project Number: 2017-08-044

Permit Number:

122017-002

Site Name: EE Quarry

Site Address: 9565 Hwy EE, Richmond, MO 64085

Site County: Ray, EE Quarry

This sheet covers the period from _____ to _____ (Copy as needed)
(Month, Day Year) (Month, Day Year)

Month	Production (tons)	PM ₁₀ Composite Emission Factor (lb/ton)	Monthly PM ₁₀ Emissions ¹ (lbs)	SSM PM ₁₀ Emissions ² (lbs)	Monthly PM ₁₀ Emissions ³ (tons)	12-Month Rolling Total Emissions ⁴ (tons)
<i>Example</i>	<i>35,000</i>	<i>0.0660</i>	<i>2,310.0</i>	<i>0.0</i>	<i>1.16</i>	<i>1.16 + 11 previous months at this site</i>
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¹Multiply the monthly production by the emission factor.

²As reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050 for the month.

³Divide the monthly emissions (lbs) by 2000.

⁴Add the monthly PM₁₀ emissions plus the SSM emissions from the same time period and divide by 2000 and

add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 15.0 tons of PM₁₀ per consecutive 12 months is necessary for compliance.

Attachment B: Annual Emissions Tracking Sheet

Ray County Stone Producers, LLC-PORT-0725

Project Number: 2017-08-044

Permit Number:

122017-002

Site Name: Blue Mound Quarry

Site Address: 24049 Hwy Z, Dawn, MO

Site County: Livingston, S35 T56N R24W

This sheet covers the period from _____ to _____ (Copy as needed)

(Month, Day Year)

(Month, Day Year)

Month	Production (tons)	PM ₁₀ Composite Emission Factor (lb/ton)	Monthly PM ₁₀ Emissions ¹ (lbs)	SSM PM ₁₀ Emissions ² (lbs)	Monthly PM ₁₀ Emissions ³ (tons)	12-Month Rolling Total Emissions ⁴ (tons)
<i>Example</i>	<i>35,000</i>	<i>0.2977</i>	<i>10,4195</i>		<i>5.21</i>	<i>5.21 + 11 previous months at this site</i>
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¹Multiply the monthly production by the emission factor.

²As reported to the Air Pollution Control Program’s Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050 for the month.

³Divide the monthly emissions (lbs) by 2000.

⁴Add the monthly PM₁₀ emissions plus the SSM emissions from the same time period and divide by 2000 and

⁵Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 15.0 tons of PM₁₀ per consecutive 12 months is necessary for compliance.

Attachment C: Annual Emissions Tracking Sheet

Ray County Stone Producers, LLC-PORT-0725

Project Number: 2017-08-044

Permit Number: **122017-002**

Site Name: Rayville Quarry
 Site Address: 17279 Maddux, Rayville, MO
 Site County: Ray, S14,15 T53N R28W

This sheet covers the period from _____ to _____ (Copy as needed)
 (Month, Day Year) (Month, Day Year)

Month	Production (tons)	PM ₁₀ Composite Emission Factor (lb/ton)	Monthly PM ₁₀ Emissions ¹ (lbs)	SSM PM ₁₀ Emissions ² (lbs)	Monthly PM ₁₀ Emissions ³ (tons)	12-Month Rolling Total Emissions ⁴ (tons)
<i>Example</i>	35,000	0.0542	1,897		0.95	<i>0.95 + 11 previous months at this site</i>
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¹Multiply the monthly production by the emission factor.
²As reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050 for the month.
³Divide the monthly emissions (lbs) by 2000.
⁴Add the monthly PM₁₀ emissions plus the SSM emissions from the same time period and divide by 2000 and
 Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 15.0 tons of PM₁₀ per consecutive 12 months is necessary for compliance.

APPENDIX A

Abbreviations and Acronyms

%percent	MMBtuMillion British thermal units
°Fdegrees Fahrenheit	MMCFmillion cubic feet
acfmactual cubic feet per minute	MSDSMaterial Safety Data Sheet
BACTBest Available Control Technology	NAAQSNational Ambient Air Quality Standards
BMPsBest Management Practices	NESHAPs ..National Emissions Standards for Hazardous Air Pollutants
BtuBritish thermal unit	NO_xnitrogen oxides
CAM Compliance Assurance Monitoring	NSPSNew Source Performance Standards
CASChemical Abstracts Service	NSRNew Source Review
CEMS Continuous Emission Monitor System	PMparticulate matter
CFRCode of Federal Regulations	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COcarbon monoxide	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CO₂carbon dioxide	ppmparts per million
CO₂ecarbon dioxide equivalent	PSD Prevention of Significant Deterioration
COMS Continuous Opacity Monitoring System	PTEpotential to emit
CSRCode of State Regulations	RACTReasonable Available Control Technology
dscfdry standard cubic feet	RALRisk Assessment Level
EIQEmission Inventory Questionnaire	SCCSource Classification Code
EPEmission Point	scfmstandard cubic feet per minute
EPAEnvironmental Protection Agency	SDSSafety Data Sheet
EUEmission Unit	SICStandard Industrial Classification
fpsfeet per second	SIPState Implementation Plan
ftfeet	SMALScreening Model Action Levels
GACT Generally Available Control Technology	SO_xsulfur oxides
GHGGreenhouse Gas	SO₂sulfur dioxide
gpmgallons per minute	SSMstartup, shutdown, & malfunction
grgrains	tphtons per hour
GWPGlobal Warming Potential	tpytons per year
HAPHazardous Air Pollutant	VMTvehicle miles traveled
hrhour	VOCVolatile Organic Compound
hphorsepower	
lbpound	
lbs/hrpounds per hour	
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	
Mgal1,000 gallons	
MWmegawatt	
MHDRmaximum hourly design rate	

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For Single Plant Operation

Hours per day	8.0
Days per year	276.9
Hours per year	2215.5

For Multiple Plant Operation

Hours per day	8.0
Days per year	276.9
Hours per year	2215.5

Pollutant	Justification for Limit
PM10	De Minimis

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 2215 hours per year (tons/yr)	Deminimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	8.06	185.42	46.89	25	0.1693
PM ₁₀	3.00	59.31	15.00	15	0.0542
PM _{2.5}	0.39	7.39	1.87	10	0.0068
SO ₂	-	-	-	40	0.0000
NO ₂	-	-	-	40	0.0000
VOC	-	-	-	40	0.0000
CO	-	-	-	100	0.0000
CH ₂ O	-	-	-	2.00	0.0000
Pb	-	-	-	0.01	0.0000
HAPs	-	-	-	10	0.0000
CO ₂	-	-	-	100	0.0000
N ₂ O	-	-	-	100	0.0000
CH ₄	-	-	-	100	0.0000
GHG _{mass}	-	-	-	100	0.0000
CO ₂ eq	-	-	-	100,000	0.0000

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

Maximum hourly design rate (tons/hr)	250
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Tons of product per day	2,000.0
Tons of product per year	553,863.8

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General Plant Information

Primary Unit Size (tons per hour)	250 T61N R20W S05
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Emission Point Information

Emission Point	Stack Height (feet)	Stack Inside Diameter (feet)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp. (°F)

Storage Pile Information

Storage Pile ID No.	File #1	File #2	File #3	File #4
Maximum Area of Storage Pile (Acres)	5			
Type of Material Stored:	Crushed limestone			
Moisture Content %:	1.5			
SR Content %:	1.6			
Method of Load In to Storage Pile:	Conveyor/Stacker			
Method of Load Out from Storage Pile:	Truck			
Distance Loader Travels (feet)	200			
Unloaded Loader Weight (tons)	12.00			
Loaded Loader Weight (tons)	28.00			
Rate (tons/hour)	250.00			
max VMT per hour	1,1837			
Surface Treatment	Unpaved			
Vehicular Area Control	Watering			

Haul Road Information

Haul Road ID No.	Road #1	Road #2	Road #3	Road #4	Road #5	Road #6
Length of Haul Road (feet)	1000					
Unloaded Truck Weight (tons)	12					
Loaded Truck Weight (tons)	28					
Rate Hauled (tons/hour)	250					
max VMT per hour	5,9188					
Surface Treatment	Unpaved					
Haul Road Control	Watering					

Engine Set Information

	#1	#2	#3
Type of Fuel			
Brake Horsepower (bhp)			
Engine kilowatt rating (kW)			
gallons per hour			
Engine MHDR (mmBtu per hour, input)			
Is this a generator-set engine?			
Model Year (yyyy)			
Fuel Sulfur Content (% weight sulfur)			

Combustion Sources

Combustion ID - Description	Combustion #1	Combustion #2		Combustion #3		
		Desc #2	Desc #3	Desc #3	Desc #3	
Heat Rate		mmBtu/hour		mmBtu/hour		
		mgal/hour		mgal/hour		
		mmscf/hour		mmscf/hour		
	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98
Fuel Type						
Fuel Sulfur Content (% weight sulfur, for oil; grains of sulfur/100 cutt gas vapor for Butane and Propane; not used for Natural gas)		% weight sulfur		% weight sulfur		% weight sulfur

Liquid Storage Tanks

Tank ID	Tank #1	Tank #2	Tank #3	Tank #4	Tank #5	Tank #6
Annual VOC (pounds)						
Annual VOC (tons)						

Enter Emission Unit Information Below

Equipment Operational Status	Emission Unit Number	Description of Unit	Equipment/BOC Description	Equip Type	Max Hourly ThroughPut	MHTP	Control Type	*OOO* Applicable
					(MHTP)	Units		
E	EP-01	loading into crusher/grizzly	Truck Unloading - Fragmented Stone EF 30502031	Fugitive	250.0000	Tons	Moisture => 1.5%	
R	EP-02	primary crusher/ Eagle 1400	Crusher-Primary, (Diameter 3-12') 30502001	Process	250.0000	Tons	Moisture => 1.5%	
E	EP-03	conveyor 42" Eagle	Conveyor 30502006	Process	250.0000	Tons	Moisture => 1.5%	
E	EP-04	Screen BCO	Screens, (3/16" or Greater) 30502002	Process	250.0000	Tons	Moisture => 1.5%	
E	EP-05	conveyor plus 3- 30" conveyors	Conveyor 30502006	Process	250.0000	Tons	Moisture => 1.5%	
R	EP-06	Cedar rapids roll crusher Model 4026 91688-70	Crusher-Secondary, (Diameter 1-4') 30502002	Process	250.0000	Tons	Moisture => 1.5%	
E	EP-07	conveyor	Conveyor 30502006	Process	250.0000	Tons	Moisture => 1.5%	
E	EP-08	three deck screen	Screens, (3/16" or Greater) 30502002	Process	250.0000	Tons	Moisture => 1.5%	
E	EP-09	Conveyors (4)	Conveyor 30502006	Process	250.0000	Tons	Moisture => 1.5%	

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 (lbs/Gal)	Emission Rate (lb/hr)	Potential Emissions (lb/yr)	Allowable Emissions (lb/yr)
	Engle#1	Model Year			gpg gallons per hour MMBtu/hour LW-hr			N/A	N/A	PM ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₄ HAPs CO ₂ H ₂ O GHG _{equiv} CH ₄	lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu				
	Engle#2	Model Year			gpg gallons per hour MMBtu/hour LW-hr			N/A	N/A	PM ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₄ HAPs CO ₂ H ₂ O GHG _{equiv} CH ₄	lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu				
	Engle#3	Model Year			gpg gallons per hour MMBtu/hour LW-hr			N/A	N/A	PM ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₄ HAPs CO ₂ H ₂ O GHG _{equiv} CH ₄	lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu lbm/ltu				
	Dis #1	Lead in		250.00	tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton	2.18E+00 1.03E+00	8.30 4.02	2.24 1.14	
		Lead out		250.00	tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton	1.98E+01 1.03E+00	0.88 4.02	0.17 1.14	
		Vehicle Activity		1.18	VMT per hour	Unpaved, Working		N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT	2.18E+00 1.03E+00	0.60 0.27	1.82 0.80	
		Wind Erosion		5.00	acres			N/A	41%	PM ₁₀ PM _{2.5}	lbm/acre-hr lbm/acre-hr	1.78E+01 4.48E+01	0.77 1.88	8.20 0.49	
	Dis #2	Lead in			tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton				
		Lead out			tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton				
		Vehicle Activity			VMT per hour			N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT	2.18E+00 1.03E+00	0.60 0.27	1.82 0.80	
		Wind Erosion			acres			N/A	41%	PM ₁₀ PM _{2.5}	lbm/acre-hr lbm/acre-hr	1.78E+01 4.48E+01	0.77 1.88	8.20 0.49	
	Dis #3	Lead in			tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton				
		Lead out			tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton				
		Vehicle Activity			VMT per hour			N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT	2.18E+00 1.03E+00	0.60 0.27	1.82 0.80	
		Wind Erosion			acres			N/A	41%	PM ₁₀ PM _{2.5}	lbm/acre-hr lbm/acre-hr	1.78E+01 4.48E+01	0.77 1.88	8.20 0.49	
	Dis #4	Lead in			tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton				
		Lead out			tons per hour			N/A	N/A	PM ₁₀ PM _{2.5}	lbm/ton lbm/ton				
		Vehicle Activity			VMT per hour			N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT	2.18E+00 1.03E+00	0.60 0.27	1.82 0.80	
		Wind Erosion			acres			N/A	41%	PM ₁₀ PM _{2.5}	lbm/acre-hr lbm/acre-hr	1.78E+01 4.48E+01	0.77 1.88	8.20 0.49	
	Road #1			5.92	VMT per hour	Unpaved, Working		N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT	10.12E+01 2.04E+01	131.23 26.76	53.20 8.88	
	Road #2				VMT per hour			N/A	41%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT	0.55E+00 1.04E+00	4.56	1.15	
	Road #3				VMT per hour			N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT				
	Road #4				VMT per hour			N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT				
	Road #5				VMT per hour			N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT				
	Road #6				VMT per hour			N/A	50%	PM ₁₀ PM _{2.5}	lbm/VMT lbm/VMT				

Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Control Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lb/Unit)	Emission Rate (lb/hr)	Potential Emissions (ton/yr)	Allowable Emissions (ton/yr)
Equipment															
Equipment	Unit ID	Description of Unit	Equipment/SCC	Heat Rate	Unit per hour	Emission Factor									
		Combustion #1		mmBtu		100%	NA	PM			mgal				
				mgal		100%	NA	PM ₁₀			mgal				
				mgal		100%	NA	PM _{2.5}			mgal				
				mgal		100%	NA	SO ₂			mgal				
				mgal		100%	NA	NO _x			mgal				
				mgal		100%	NA	VOC			mgal				
				mgal		100%	NA	CO			mgal				
				mgal		100%	NA	CH ₄			mgal				
				mgal		100%	NA	PH ₃			mgal				
				mgal		100%	NA	HAPs			mgal				
				mgal		100%	NA	CO ₂			mgal				
				mgal		100%	NA	NO ₂			mgal				
				mgal		100%	NA	CH ₂ Cl ₂			mgal				
				mgal		100%	NA	CH ₄			mgal				
		Combustion #2		mmBtu		100%	NA	PM			mgal				
				mgal		100%	NA	PM ₁₀			mgal				
				mgal		100%	NA	PM _{2.5}			mgal				
				mgal		100%	NA	SO ₂			mgal				
				mgal		100%	NA	NO _x			mgal				
				mgal		100%	NA	VOC			mgal				
				mgal		100%	NA	CO			mgal				
				mgal		100%	NA	CH ₄			mgal				
				mgal		100%	NA	PH ₃			mgal				
				mgal		100%	NA	HAPs			mgal				
				mgal		100%	NA	CO ₂			mgal				
				mgal		100%	NA	NO ₂			mgal				
				mgal		100%	NA	CH ₂ Cl ₂			mgal				
				mgal		100%	NA	CH ₄			mgal				
		Combustion #3		mmBtu		100%	NA	PM			mgal				
				mgal		100%	NA	PM ₁₀			mgal				
				mgal		100%	NA	PM _{2.5}			mgal				
				mgal		100%	NA	SO ₂			mgal				
				mgal		100%	NA	NO _x			mgal				
				mgal		100%	NA	VOC			mgal				
				mgal		100%	NA	CO			mgal				
				mgal		100%	NA	CH ₄			mgal				
				mgal		100%	NA	PH ₃			mgal				
				mgal		100%	NA	HAPs			mgal				
				mgal		100%	NA	CO ₂			mgal				
				mgal		100%	NA	NO ₂			mgal				
				mgal		100%	NA	CH ₂ Cl ₂			mgal				
				mgal		100%	NA	CH ₄			mgal				
Equipment Questionnaire Status															
Equipment Questionnaire Status	Emission Unit Number	Description of Unit	Equipment/SCC Description	MTP	Units	Equip Type	Control Type	Emission Factor (lb/Unit)							
E	EP-01	loading into crusher/gritdry	Track Unloading - Fragmented Stone EP 3000201	250.00	Tons	Fugitive	Mixture ↔ 1.5%	100%	0.00032	PM	0.00032	Tons	8.08E-03	2.55E-02	8.88E-03
						Fugitive	0.00%	100%	0.00014	PM ₁₀	0.00014	Tons	4.00E-03	1.28E-02	4.43E-03
						Fugitive	0.00%	100%	0.00006	PM _{2.5}	0.00006	Tons	2.00E-03	6.19E-03	2.22E-03
R	EP-02	primary crusher Eagle 1400	Crusher Primary, (Diameter 3-17') 3000201	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.0056	PM	0.0056	Tons	2.08E-01	1.21E+00	3.23E-01
						Process	77.50%	100%	0.0024	PM ₁₀	0.0024	Tons	1.38E-01	5.91E-01	1.60E-01
						Process	77.50%	100%	0.000444444	PM _{2.5}	0.000444444	Tons	2.50E-02	1.10E-01	2.77E-02
E	EP-03	conveyor 42' Eagle	Conveyor 30002008	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.003	PM	0.003	Tons	3.95E-02	1.52E-01	3.88E-02
						Process	88.82%	100%	0.0011	PM ₁₀	0.0011	Tons	1.19E-02	5.04E-02	1.27E-02
						Process	88.82%	100%	0.0001087	PM _{2.5}	0.0001087	Tons	2.25E-03	1.42E-02	3.60E-03
E	EP-04	Screen S-20	Screens, (3/16" or Greater) 30002002	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.025	PM	0.025	Tons	5.88E-01	2.47E+00	6.90E-01
						Process	81.47%	100%	0.0097	PM ₁₀	0.0097	Tons	1.89E-01	8.10E-01	2.65E-01
						Process	81.47%	100%	0.000678261	PM _{2.5}	0.000678261	Tons	1.25E-02	5.68E-02	1.38E-02
E	EP-05	conveyor plus 3-30' conveyors	Conveyor 30002008	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.003	PM	0.003	Tons	3.95E-02	1.52E-01	3.88E-02
						Process	88.82%	100%	0.0011	PM ₁₀	0.0011	Tons	1.19E-02	5.04E-02	1.27E-02
						Process	88.82%	100%	0.0001087	PM _{2.5}	0.0001087	Tons	2.25E-03	1.42E-02	3.60E-03
R	EP-06	Cedar rapids roll crusher Model 428 816	Crusher-Secondary, (Diameter 1-4') 30002002	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.0064	PM	0.0064	Tons	3.00E-01	1.31E+00	3.20E-01
						Process	77.50%	100%	0.0025	PM ₁₀	0.0025	Tons	1.33E-01	5.61E-01	1.56E-01
						Process	77.50%	100%	0.000444444	PM _{2.5}	0.000444444	Tons	2.50E-02	1.10E-01	2.77E-02
E	EP-07	conveyor	Conveyor 30002008	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.003	PM	0.003	Tons	3.95E-02	1.52E-01	3.88E-02
						Process	88.82%	100%	0.0011	PM ₁₀	0.0011	Tons	1.19E-02	5.04E-02	1.27E-02
						Process	88.82%	100%	0.0001087	PM _{2.5}	0.0001087	Tons	2.25E-03	1.42E-02	3.60E-03
E	EP-08	fine disk screen	Screens, (3/16" or Greater) 30002002	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.0097	PM	0.0097	Tons	2.41E+00	9.09E-01	2.65E-01
						Process	81.47%	100%	0.0035	PM ₁₀	0.0035	Tons	8.10E-01	3.48E-01	1.08E-01
						Process	81.47%	100%	0.000272686	PM _{2.5}	0.000272686	Tons	1.25E-02	5.68E-02	1.38E-02
E	EP-09	Conveyors (4)	Conveyor 30002008	250.00	Tons	Process	Mixture ↔ 1.5%	100%	0.003	PM	0.003	Tons	3.95E-02	1.52E-01	3.88E-02
						Process	88.82%	100%	0.0011	PM ₁₀	0.0011	Tons	1.19E-02	5.04E-02	1.27E-02
						Process	88.82%	100%	0.0001087	PM _{2.5}	0.0001087	Tons	2.25E-03	1.42E-02	3.60E-03

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For Single Plant Operation

Hours per day	8.0
Days per year	50.4
Hours per year	403.1

For Multiple Plant Operation

Hours per day	8.0
Days per year	50.4
Hours per year	403.1

Pollutant	Justification for Limit
PM10	De Minimis

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 403 hours per year (tons/yr)	De minimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	8.06	1,090.94	50.21	25	0.9963
PM ₁₀	3.00	325.94	15.00	15	0.2977
PM _{2.5}	0.39	38.75	1.78	10	0.0354
SO ₂	-	-	-	40	0.0000
NO ₂	-	-	-	40	0.0000
VOC	-	-	-	40	0.0000
CO	-	-	-	100	0.0000
CH ₂ O	-	-	-	2.00	0.0000
Pb	-	-	-	0.01	0.0000
HAPs	-	-	-	10	0.0000
CO ₂	-	-	-	100	0.0000
N ₂ O	-	-	-	100	0.0000
CH ₄	-	-	-	100	0.0000
GHG _{mass}	-	-	-	100	0.0000
CO ₂ eq	-	-	-	100,000	0.0000

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

Maximum hourly design rate (tons/hr)	250
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Tons of product per day	2,000.0
Tons of product per year	100,784.7

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General Plant Information

Primary Unit Size (tons per hour) 250 TSSN R29W 914,16

Emission Point Information

Emission Point	Stack Height (feet)	Stack Inside Diameter (feet)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp. (°F)

Storage Pile Information

Storage Pile ID No.	Pile #1	Pile #2	Pile #3	Pile #4
Maximum Area of Storage Pile (Acres)	1			
Type of Material Stored	Crushed limestone			
Moisture Content %	1.5			
Silt Content %	1.8			
Method of Load In to Storage Pile	Truck			
Method of Load Out from Storage Pile	Loader			
Distance Loader Travels (feet)	50			
Unloaded Loader Weight (tons)	31.00			
Loaded Loader Weight (tons)	38.00			
Rate (tons/hour)	250.00			
max VMT per hour	0.9470			
Surface Treatment	Unpaved			
Vehicular Area Control	Watering			

Haul Road Information

Haul Road ID No.	Road #1	Road #2	Road #3	Road #4	Road #5	Road #6
Length of Haul Road (feet) <small>Enter the length of each roadway in feet. The plant layout diagram (drawn to scale) should document and support the value entered. Note: Twice this distance is used, one trip in and one out.</small>	7920					
Unloaded Truck Weight (tons)	12					
Loaded Truck Weight (tons)	28					
Rate Hauled (tons/hour)	250					
max VMT per hour	46.8750					
Surface Treatment	Unpaved					
Haul Road Control	Watering					

Engine Set Information

	#1	#2	#3
Type of Fuel			
Brake Horsepower (bhp)			
Engine kilowatt rating (kW)			
gallons per hour			
Engine MHDR (mmBtu per hour, input)			
Is this a generator-set engine?			
Model Year (yyyy)			
Fuel Sulfur Content (% weight sulfur)			

Combustion Sources

Combustion ID - Description	Combustion #1	Combustion #2	Combustion #3
	Hest Rate	mmBtu/hour	mmBtu/hour
	mgal/hour	mgal/hour	mgal/hour
	mmscf/hour	mmscf/hour	mmscf/hour
Fuel Type	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98	In regards to 40 CFR Part 98
Fuel Sulfur Content (% weight sulfur, for oil; grains of sulfur/100 cuft gas vapor for Butane and Propane; not used for Natural gas)	% weight sulfur		% weight sulfur

Liquid Storage Tanks

Tank ID	Tank #1	Tank #2	Tank #3	Tank #4	Tank #5	Tank #6
Annual VOC (pounds)						
Annual VOC (tons)						

Enter Emission Unit Information Below

Emission Unit	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type	Control	Control	Emission	Emission	Emission	Emission	Emission	Emission	Emission		
								(%)	(%)								(%)	(%)
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											
CO _{2e}	Emission Unit Project Name	Emission	SEC	Maximum Month	Units of Measure	Control Measure	Control Type											

Emission Point Number	Emission Unit Number	Description	BCC	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lb/HR)	Emission Rate (tph)	Potential Emissions (lb/year)	Allowable Emissions (lb/year)
Equipment															
Equipment	Unit ID	Description of Unit	Equipment Description/BCC	Max Rate	Unit per hour						Emission Factor (lb/HR)				
		Combustion #1		100%	PM			100%	NA	PM	mpg				
				100%	PM ₁₀			100%	NA	PM ₁₀	mpg				
				100%	PM _{2.5}			100%	NA	PM _{2.5}	mpg				
				100%	NO _x			100%	NA	NO _x	mpg				
				100%	CO			100%	NA	CO	mpg				
				100%	SO ₂			100%	NA	SO ₂	mpg				
				100%	NO ₂			100%	NA	NO ₂	mpg				
				100%	CO ₂			100%	NA	CO ₂	mpg				
				100%	CH ₄			100%	NA	CH ₄	mpg				
				100%	H ₂ O			100%	NA	H ₂ O	mpg				
				100%	PM			100%	NA	PM	mpg				
				100%	PM ₁₀			100%	NA	PM ₁₀	mpg				
				100%	PM _{2.5}			100%	NA	PM _{2.5}	mpg				
				100%	NO _x			100%	NA	NO _x	mpg				
				100%	CO			100%	NA	CO	mpg				
				100%	SO ₂			100%	NA	SO ₂	mpg				
				100%	NO ₂			100%	NA	NO ₂	mpg				
				100%	CO ₂			100%	NA	CO ₂	mpg				
				100%	CH ₄			100%	NA	CH ₄	mpg				
				100%	H ₂ O			100%	NA	H ₂ O	mpg				
				100%	PM			100%	NA	PM	mpg				
				100%	PM ₁₀			100%	NA	PM ₁₀	mpg				
				100%	PM _{2.5}			100%	NA	PM _{2.5}	mpg				
				100%	NO _x			100%	NA	NO _x	mpg				
				100%	CO			100%	NA	CO	mpg				
				100%	SO ₂			100%	NA	SO ₂	mpg				
				100%	NO ₂			100%	NA	NO ₂	mpg				
				100%	CO ₂			100%	NA	CO ₂	mpg				
				100%	CH ₄			100%	NA	CH ₄	mpg				
				100%	H ₂ O			100%	NA	H ₂ O	mpg				
Equipment Operations Base															
Equipment Operations Base	Emission Unit Number	Description of Unit	Equipment/BCC Description	MaxTP	Units	Equip Type	Control Type				Emission Factor (lb/HR)				
E	EP-01	loading into crusher/grizzly	Truck Unloading - Fragmented Stone EP 3662001	250.00	Tons	Fugitive	Moisture ** 1.5%	100%	0.00%	PM	0.000012	Tons	0.000-02	3.50E-02	1.41E-02
						Fugitive		100%	0.00%	PM ₁₀	0.000010	Tons	4.90E-03	1.79E-02	8.06E-04
						Fugitive		100%	0.00%	PM _{2.5}	0.000009	Tons	2.05E-03	0.76E-02	4.03E-04
R	EP-02	primary crusher Eagle 1400	Crusher-Primary, (Diameter 3-17) 3030201	250.00	Tons	Process	Mistblow ** 1.5%	100%	77.75%	PM	0.0054	Tons	0.00E-01	1.31E+00	6.60E-02
						Process		100%	77.50%	PM ₁₀	0.0024	Tons	1.30E-01	6.91E-01	3.77E-02
						Process		100%	77.00%	PM _{2.5}	0.000444444	Tons	2.60E-02	1.10E-01	6.04E-03
E	EP-03	conveyor #2 Eagle	Conveyor 3030208	250.00	Tons	Process	Moisture ** 1.5%	100%	95.57%	PM	0.003	Tons	3.50E-02	1.53E-01	7.03E-02
						Process		100%	95.00%	PM ₁₀	0.0011	Tons	1.16E-02	0.04E-02	2.30E-03
						Process		100%	95.00%	PM _{2.5}	0.00031087	Tons	3.26E-03	1.42E-02	8.55E-04
E	EP-04	screen 6x20	Screen, (D10" or Greater) 3030202	250.00	Tons	Process	Mistblow ** 1.5%	100%	91.20%	PM	0.0025	Tons	8.90E-01	2.41E+00	1.11E-01
						Process		100%	91.00%	PM ₁₀	0.0007	Tons	1.80E-01	0.10E-01	3.75E-02
						Process		100%	91.00%	PM _{2.5}	0.00007938	Tons	1.20E-02	0.48E-02	2.52E-03
E	EP-05	conveyor plus 3-30' conveyors	Conveyor 3030208	250.00	Tons	Process	Moisture ** 1.5%	100%	95.57%	PM	0.003	Tons	3.50E-02	1.53E-01	7.03E-02
						Process		100%	95.00%	PM ₁₀	0.0011	Tons	1.16E-02	0.04E-02	2.30E-03
						Process		100%	95.00%	PM _{2.5}	0.00031087	Tons	3.26E-03	1.42E-02	8.55E-04
R	EP-06	center apron roll crusher Model 4025 818	Crusher-Secondary, (Diameter 1-4) 3030202	250.00	Tons	Process	Mistblow ** 1.5%	100%	77.75%	PM	0.0054	Tons	3.50E-01	1.31E+00	6.60E-02
						Process		100%	77.00%	PM ₁₀	0.0024	Tons	1.30E-01	6.91E-01	3.77E-02
						Process		100%	77.00%	PM _{2.5}	0.000444444	Tons	2.60E-02	1.10E-01	6.04E-03
E	EP-07	conveyor	Conveyor 3030208	250.00	Tons	Process	Moisture ** 1.5%	100%	95.57%	PM	0.003	Tons	3.50E-02	1.53E-01	7.03E-02
						Process		100%	95.00%	PM ₁₀	0.0011	Tons	1.16E-02	0.04E-02	2.30E-03
						Process		100%	95.00%	PM _{2.5}	0.00031087	Tons	3.26E-03	1.42E-02	8.55E-04
E	EP-08	three deck screen	Screen, (D10" or Greater) 3030202	250.00	Tons	Process	Mistblow ** 1.5%	100%	91.20%	PM	0.0025	Tons	8.90E-01	2.41E+00	1.11E-01
						Process		100%	91.00%	PM ₁₀	0.0007	Tons	1.80E-01	0.10E-01	3.75E-02
						Process		100%	91.00%	PM _{2.5}	0.00007938	Tons	1.20E-02	0.48E-02	2.52E-03
H	EP-09	conveyors (3)	Conveyor 3030208	250.00	Tons	Process	Moisture ** 1.5%	100%	95.57%	PM	0.003	Tons	3.50E-02	1.53E-01	7.03E-02
						Process		100%	95.00%	PM ₁₀	0.0011	Tons	1.16E-02	0.04E-02	2.30E-03
						Process		100%	95.00%	PM _{2.5}	0.00031087	Tons	3.26E-03	1.42E-02	8.55E-04

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. EE Quarry-Richmond, MO 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	227.3
Hours per year	1818.4

For Multiple Plant Operation

Hours per day	8.0
Days per year	227.3
Hours per year	1818.4

Pollutant	Justification for Limit
PM10	De Minimis

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 1818 hours per year (tons/yr)	De minimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	8.06	230.16	47.78	25	0.2102
PM ₁₀	3.00	72.26	15.00	15	0.0660
PM _{2.5}	0.39	8.89	1.85	10	0.0081
SO ₂	-	-	-	40	0.0000
NO ₂	-	-	-	40	0.0000
VOC	-	-	-	40	0.0000
CO	-	-	-	100	0.0000
CH ₂ O	-	-	-	2.00	0.0000
Pb	-	-	-	0.01	0.0000
HAPs	-	-	-	10	0.0000
CO ₂	-	-	-	100	0.0000
N ₂ O	-	-	-	100	0.0000
CH ₄	-	-	-	100	0.0000
GHG _{mass}	-	-	-	100	0.0000
CO ₂ eq	-	-	-	100,000	0.0000

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

Maximum hourly design rate (tons/hr)	250
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Tons of product per day	2,000.0
Tons of product per year	454,599.3

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General Plant Information
Primary Unit Size (tons per hour) 250 It is important that you read all the comments (cells marked with a red triangle in the upper right corner) because they may direct you to make changes to the data entry cells.

Emission Point Information

Emission Point	Stack Height (feet)	Stack Inside Diameter (feet)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp. (°F)

Storage Pile Information

Storage Pile ID No.	Pile #1	Pile #2	Pile #3	Pile #4
Maximum Area of Storage Pile (Acres)	3			
Type of Material Stored	Crushed limestone			
Moisture Content %	1.5			
Silt Content %	1.8			
Method of Load In to Storage Pile	Conveyor/Stacker			
Method of Load Out from Storage Pile	Loader			
Distance Loader Travels (feet)	50			
Unloaded Loader Weight (tons)	31.00			
Loaded Loader Weight (tons)	38.00			
Rate (tons/hour)	250.00			
max VMT per hour	0.6704			
Surface Treatment	Unpaved			
Vehicular Area Control	Watering			

Haul Road Information

Haul Road ID No.	Road #1	Road #2	Road #3	Road #4	Road #5	Road #6
Length of Haul Road (feet) <small>Enter the length of each roadway in feet. The plant layout diagram (drawn to scale) should document and support the value entered. Note: Twice this distance is used, one trip in and one out.</small>	1400					
Unloaded Truck Weight (tons)	12					
Loaded Truck Weight (tons)	28					
Rate Hauled (tons/hour)	250					
max VMT per hour	8.2860					
Surface Treatment	Unpaved					
Haul Road Control	Watering					

Engine Set Information

	#1	#2	#3
Type of Fuel			
Brake Horsepower (bhp)			
Engine kilowatt rating (KW)			
gallons per hour			
Engine MHR (mmBtu per hour, input)			
Is this a generator-set engine?			
Model Year (yyyy)			
Fuel Sulfur Content (% weight sulfur)			

Combustion Sources

Combustion ID - Description	Combustion #1	Combustion #2	Combustion #3
Hest Rate	mmBtu/hour	mmBtu/hour	mmBtu/hour
	mgal/hour	mgal/hour	mgal/hour
	mmscf/hour	mmscf/hour	mmscf/hour
	In regards to AP-42 Chapter 1	In regards to 40 CFR Part 98	In regards to AP-42 Chapter 1
		In regards to 40 CFR Part 98	In regards to AP-42 Chapter 1
Fuel Type			
Fuel Sulfur Content (% weight sulfur, for oil; grains of sulfur/100 cuft gas vapor for Butane and Propane; not used for Natural gas)	% weight sulfur		% weight sulfur

Liquid Storage Tanks

Tank ID	Tank #1	Tank #2	Tank #3	Tank #4	Tank #5	Tank #6
Annual VOC (pounds)						
Annual VOC (tons)						

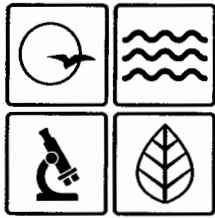


Emission Point Number	Emission Unit Number	Description	SCC	Maximum Hourly	Units of Measure	Control Device Number	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (Ref:JEM)	Emission Rate (t/yr)	Potential Emissions (ton/yr)	Allowable Emissions (ton/yr)
		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 ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₂ O HAPs CO ₂ H ₂ O GHG _{sum} CH ₄	mmBtu mmBtu Gallon 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 ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₂ O HAPs CO ₂ H ₂ O GHG _{sum} CH ₄	mmBtu mmBtu Gallon 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 ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₂ O HAPs CO ₂ H ₂ O GHG _{sum} CH ₄	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
		Pile #1 Load in		250.00	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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	0.0067 ton 0.0041 ton 0.0006 ton 0.0067 ton 0.0041 ton 0.0006 ton 0.0067 ton 0.0041 ton 0.0006 ton 0.0067 ton 0.0041 ton	2.18E+00 1.03E+00 1.56E-01 2.18E+00 1.03E+00 1.56E-01 2.18E+00 1.03E+00 1.56E-01 2.18E+00 1.03E+00	9.55 4.52 0.89 9.55 4.52 0.89 9.55 4.52 0.89 9.55 4.52	1.98 0.94 0.14 1.98 0.94 0.14 1.98 0.94 0.14 1.98 0.94	
		Load out		250.00	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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	0.0067 ton 0.0041 ton 0.0006 ton 0.0067 ton 0.0041 ton 0.0006 ton 0.0067 ton 0.0041 ton 0.0006 ton 0.0067 ton 0.0041 ton	2.18E+00 1.03E+00 1.56E-01 2.18E+00 1.03E+00 1.56E-01 2.18E+00 1.03E+00 1.56E-01 2.18E+00 1.03E+00	9.55 4.52 0.89 9.55 4.52 0.89 9.55 4.52 0.89 9.55 4.52	1.98 0.94 0.14 1.98 0.94 0.14 1.98 0.94 0.14 1.98 0.94	
		Vehicular Activity		0.68	VMT per hour		Unpaved, Watering	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	50% 50% 41% 50% 50% 41% 50% 50% 41% 50% 50%	PM PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	11.3616 VMT 3.2308 VMT 0.3231 VMT 11.3616 VMT 3.2308 VMT 0.3231 VMT 11.3616 VMT 3.2308 VMT 0.3231 VMT 11.3616 VMT 3.2308 VMT	3.84E+00 1.09E+00 1.29E-01 3.84E+00 1.09E+00 1.29E-01 3.84E+00 1.09E+00 1.29E-01 3.84E+00 1.09E+00	16.83 4.79 0.50 16.83 4.79 0.50 16.83 4.79 0.50 16.83 4.79	3.49 0.99 0.12 3.49 0.99 0.12 3.49 0.99 0.12 3.49 0.99	
		Wind Erosion		3.00	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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	0.1785 acre-hr 0.0862 acre-hr 0.0134 acre-hr 0.1785 acre-hr 0.0862 acre-hr 0.0134 acre-hr 0.1785 acre-hr 0.0862 acre-hr 0.0134 acre-hr 0.1785 acre-hr 0.0862 acre-hr	5.35E-01 2.97E-01 4.01E-02 5.35E-01 2.97E-01 4.01E-02 5.35E-01 2.97E-01 4.01E-02 5.35E-01 2.97E-01	2.34 1.17 0.18 2.34 1.17 0.18 2.34 1.17 0.18 2.34 1.17	0.49 0.24 0.04 0.49 0.24 0.04 0.49 0.24 0.04 0.49 0.24	
		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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	ton ton ton ton ton ton ton ton 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	ton ton ton ton ton ton ton ton 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	VMT VMT VMT VMT VMT VMT VMT VMT 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr				
		Pile #3 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	ton ton ton ton ton ton ton ton 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	ton ton ton ton ton ton ton ton 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	VMT VMT VMT VMT VMT VMT VMT VMT 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr				
		Pile #4 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	ton ton ton ton ton ton ton ton 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	ton ton ton ton ton ton ton ton 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	VMT VMT VMT VMT VMT VMT VMT VMT 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 ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr acre-hr				
		Road #1		8.29	VMT per hour		Unpaved, Watering	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	50% 50% 41% 50% 50% 41% 50% 50% 41% 50% 50%	PM PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5} PM ₁₀ PM _{2.5}	10.1201 VMT 2.9694 VMT 0.2969 VMT 10.1201 VMT 2.9694 VMT 0.2969 VMT 10.1201 VMT 2.9694 VMT 0.2969 VMT 10.1201 VMT 2.9694 VMT	4.20E+01 1.24E+01 1.46E+00 4.20E+01 1.24E+01 1.46E+00 4.20E+01 1.24E+01 1.46E+00 4.20E+01 1.24E+01	183.70 54.26 6.39 183.70 54.26 6.39 183.70 54.26 6.39 183.70 54.26	38.16 11.26 1.33 38.16 11.26 1.33 38.16 11.26 1.33 38.16 11.26	

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/Lom)	Emission Rate (lbs)	Potential Emissions (tons/yr)	Allowable Emissions (tons/yr)
		Road #2			VMT per hour			N/A	N/A	PM		VMT			
		Road #3			VMT per hour			N/A	N/A	PM ₁₀		VMT			
		Road #4			VMT per hour			N/A	N/A	PM _{2.5}		VMT			
		Road #5			VMT per hour			N/A	N/A	PM ₁₀		VMT			
		Road #6			VMT per hour			N/A	N/A	PM _{2.5}		VMT			

Equipment	Unit ID	Description of Unit	Equipment Description/SCC	Heat Rate	Uom per hour	Emission Factor (lbs/Lom)
		Combustion #1		mmBtu mgal mmacf		100% N/A PM 100% N/A PM ₁₀ 100% N/A PM _{2.5} 100% N/A SO ₂ 100% N/A NO _x 100% N/A VOC 100% N/A CO 100% N/A CH ₄ 100% N/A Pb 100% N/A HAPs 100% N/A CO ₂ 100% N/A H ₂ O 100% N/A GHG _{non} 100% N/A CH ₄
		Combustion #2		mmBtu mgal mmacf		100% N/A PM 100% N/A PM ₁₀ 100% N/A PM _{2.5} 100% N/A SO ₂ 100% N/A NO _x 100% N/A VOC 100% N/A CO 100% N/A CH ₄ 100% N/A Pb 100% N/A HAPs 100% N/A CO ₂ 100% N/A H ₂ O 100% N/A GHG _{non} 100% N/A CH ₄
		Combustion #3		mmBtu mgal mmacf		100% N/A PM 100% N/A PM ₁₀ 100% N/A PM _{2.5} 100% N/A SO ₂ 100% N/A NO _x 100% N/A VOC 100% N/A CO 100% N/A CH ₄ 100% N/A Pb 100% N/A HAPs 100% N/A CO ₂ 100% N/A H ₂ O 100% N/A GHG _{non} 100% N/A CH ₄

Equipment Operational Status	Emission Unit Number	Description of Unit	Equipment/SCC Description	MHTP	Units	Equip Type	Control Type	Emission Factor (lbs/Lom)
E	EP-01	loading into crusher/grizzly	Truck Unloading - Fragmented Stone EF 30502031	250.00	Tons	Fugitive	Moisture => 1.5%	100% 0.00% PM 100% 0.00% PM ₁₀ 100% 0.00% PM _{2.5}
R	EP-02	primary crusher Eagle 1400	Crusher-Primary, (Diameter 3-12') 30502001	250.00	Tons	Fugitive	Moisture => 1.5%	100% 0.00% PM 100% 77.78% PM ₁₀ 100% 77.50% PM _{2.5}
E	EP-03	conveyor 42" Eagle	Conveyor 30502006	250.00	Tons	Process	Moisture => 1.5%	100% 55.33% PM 100% 55.82% PM ₁₀ 100% 55.82% PM _{2.5}
E	EP-04	Screen 6x20	Screens, (3/16" or Greater) 30502002	250.00	Tons	Process	Moisture => 1.5%	100% 91.20% PM 100% 91.49% PM ₁₀ 100% 91.49% PM _{2.5}
E	EP-05	conveyor plus 3-30' conveyors	Conveyor 30502008	250.00	Tons	Process	Moisture => 1.5%	100% 55.33% PM 100% 55.82% PM ₁₀ 100% 55.82% PM _{2.5}
R	EP-06	Cedar rapids roll crusher Model 4028 919	Crusher-Secondary, (Diameter 1-4') 30502002	250.00	Tons	Process	Moisture => 1.5%	100% 77.78% PM 100% 77.50% PM ₁₀ 100% 77.50% PM _{2.5}
E	EP-07	conveyor	Conveyor 30502006	250.00	Tons	Process	Moisture => 1.5%	100% 55.33% PM 100% 55.82% PM ₁₀ 100% 55.82% PM _{2.5}
E	EP-08	three deck screen	Screens, (3/16" or Greater) 30502002	250.00	Tons	Process	Moisture => 1.5%	100% 91.20% PM 100% 91.49% PM ₁₀ 100% 91.49% PM _{2.5}
N	#REF!	Conveyors (4)	Conveyor 30502006	250.00	Tons	Process	Moisture => 1.5%	100% 55.33% PM 100% 55.82% PM ₁₀ 100% 55.82% PM _{2.5}



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

DEC 06 2017

Mr. Jeremy Greer
Owner
Ray County Stone Producers, LLC-PORT-0725
9596 EE Hwy
Richmond, MO 64085

RE: New Source Review - Permit Number:
Project Number: 2017-08-044; Installation Number: PORT-0752

Dear Mr. Greer:

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. In addition, please note that Ray County Stone Producers, LLC-PORT-0725 cannot operate with any other plants that have ambient impact limits based on the Air Pollution Control Program's nomographs. Please refer to the permits of any plant that you are operating with to see if their respective permits contain an ambient impact limit. 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.

Mr. Jeremy Greer
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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:shj

Enclosures

c: Kansas City Regional Office
PAMS File: 2017-08-044

Permit Number: 122017-002