

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: **032018-010**

Project Number: 2017-12-004
Installation ID: 113-0075

Parent Company: Magruder Limestone Co., Inc.

Parent Company Address: 255 Watson Road, Troy, MO 63379

Installation Name: Magruder Limestone Co., Inc.

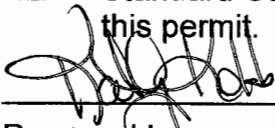
Installation Address: 399 Old Highway 79, Foley, MO 63347

Location Information: Lincoln County, S26 T50N R2E

Application for Authority to Construct was made for:
Changing the portable plant to a stationary 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

MAR 20 2018

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/>

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. **Best Management Practices Requirement**
Magruder Limestone Co., Inc. 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. Magruder Limestone Co., Inc. 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 2. 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. Magruder Limestone Co., Inc. 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. Magruder Limestone Co., Inc. 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 Magruder Limestone Co., Inc. main office within 30 days of completion of the required test.

SPECIAL CONDITIONS:

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

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, Magruder Limestone Co., Inc. 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

Magruder Limestone Co., Inc. shall process all rock through the primary crusher (EU-02). Bypassing the primary crusher is prohibited.

5. Nonroad Engine Requirement

Magruder Limestone Co., Inc.'s engine shall not remain at one location within this site longer than 12 consecutive months in order for the 510 HP Cummins 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

Magruder Limestone Co., Inc. 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

Magruder Limestone Co., Inc. 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.

8. Superseding Condition

The conditions of this permit supersede all special conditions found in the previously issued Construction Permit #062015-014 from the Air Pollution Control Program.

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

Project Number: 2017-12-004

Installation ID Number: 113-0075

Permit Number: **032018-010**

Magruder Limestone Co., Inc.:
399 Old Highway 79
Foley, MO 63347

Complete: December 19, 2017

Parent Company:
Magruder Limestone Co., Inc.
255 Watson Road
Troy, MO 63379

Lincoln County, S26 T50N R2E

PROJECT DESCRIPTION

Magruder Limestone Co., Inc. is changing PORT-0275 status as a portable plant to a stationary plant at the Old Foley Quarry in Lincoln County. Magruder Limestone Co. will continue to move their 510 HP Cummins diesel engine within the quarry at least once every 12 months when the crusher is moved closer to the quarry face. Therefore it meets the definition of a nonroad engine as stated in 40 CFR 89.2 and the engine emissions were not included in the calculations.

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 Lincoln 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 Magruder Limestone Co., Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
062015-014	Switch crusher and permit operation at two quarries
082013-010	Replace equipment
122001-013	Add cone crusher
0796-017	Permit rock crushing plant

Table 2: Equipment List

Emission Unit	Equipment Description	MHDR tph
EU-01	Grizzly Feeder	350
EU-02	Primary Crusher Telesmith	350
EU-03	12 Conveyors	4200
EU-04	Secondary Crusher	350
EU-05	3 Screening Units	1050
EU-06	2 Tertiary Crushers	700
EU-07	5 Storage Bins	1750
EU-08a	Load-in Storage Pile	350
EU-08b	Load-out Storage Pile	350
EU-08c	Vehicular Activity	1.47 VMT per hour
EU-08d	Wind Erosion	2.0 Acres
EU-09	Haul Roads	5.30 VMT per hour

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 2017 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 a voluntary annual PM₁₀ emission limit of 15.0 tons per year in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3.

Table 3: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions of Process Equipment	Existing Actual Emissions (2016 EIQ)	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	21.12	N/A	123.07	42.92
PM ₁₀	15.0	7.91	0.7285	43.01	<15.0
PM _{2.5}	10.0	1.18	0.1997	8.85	3.09
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
GHG (CO ₂ e)	N/A	N/A	N/A	N/A	N/A
GHG (mass)	N/A	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable

^aExcludes haul road and storage pile emissions

^bIncludes 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 90% control efficiency for PM and PM₁₀ and a 74% control efficiency for PM_{2.5} 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 greater than 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*. The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual PM₁₀ emission limit of 15.0 tons per year for stationary plants in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

Magruder Limestone Co., Inc. 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 all criteria pollutants are de minimis.
- *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

- 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.
- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the 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 December 7, 2017, received December 19, 2017, designating Magruder Limestone Co., Inc. 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

%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
CAMCompliance Assurance Monitoring	NSPSNew Source Performance Standards
CASChemical Abstracts Service	NSRNew Source Review
CEMSContinuous 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
CO_{2e}carbon dioxide equivalent	PSD Prevention of Significant Deterioration
COMSContinuous 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
GACTGenerally 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	

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	24.0
Days per year	127.3
Hours per year	3055.0

For Multiple Plant Operation

Hours per day	24.0
Days per year	127.3
Hours per year	3055.0

Pollutant	Justification for Limit
PM10	De Minimis

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions including fugitives (tons/yr)	Allowable Emissions for 3055 hours per year (tons/yr)	De minimis Thresholds	Plant-wide Composite Emission Factor (lb/ton)
PM	21.12	123.07	42.92	25	0.0803
PM ₁₀	7.91	43.01	15.00	15	0.0281
PM _{2.5}	1.18	8.85	3.09	10	0.0058
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)	350
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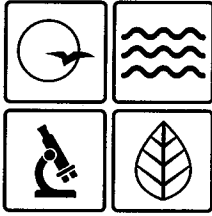
Tons of product per day	8,400.0
Tons of product per year	1,069,240.5

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 (BaseUnit)	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 N/A N/A	PM PM ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₂ O HAPs CO ₂ N ₂ O GHG _{sum} CH ₄	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 N/A N/A	PM PM ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₂ O HAPs CO ₂ N ₂ O GHG _{sum} CH ₄	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 N/A N/A	PM PM ₁₀ PM _{2.5} SO ₂ NO _x CO VOC CH ₂ O HAPs CO ₂ N ₂ O GHG _{sum} CH ₄	mmBtu mmBtu Gallon mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu mmBtu				
	8a	Pile #1 Load in		350.00	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 N/A N/A	PM PM ₁₀ PM _{2.5}	0.0067 ton 0.0041 ton 0.0006 ton	3.05E+00 1.44E+00 2.19E-01	13.37 6.32 0.96	4.66 2.21 0.33	
	8b	Load out		350.00	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 N/A N/A	PM PM ₁₀ PM _{2.5}	0.0067 ton 0.0041 ton 0.0006 ton	3.05E+00 1.44E+00 2.19E-01	13.37 6.32 0.96	4.66 2.21 0.33	
	8c	Vehicular Activity		1.10	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 N/A	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}	14.0851 VMT 4.1753 VMT 0.4175 VMT	1.82E+00 4.81E-01 1.20E-01	7.11 2.02 0.53	2.46 0.70 0.18	
	8d	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 N/A N/A	PM PM ₁₀ PM _{2.5}	0.1763 acre-hr 0.0862 acre-hr 0.0134 acre-hr	3.57E-01 1.78E-01 2.67E-02	1.56 0.78 0.12	0.54 0.27 0.04	
		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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	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 N/A N/A	PM PM ₁₀ PM _{2.5}	acre-hr acre-hr acre-hr				
	9	Road #1		5.30	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 N/A	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}	11.1679 VMT 3.3052 VMT 0.3305 VMT	5.84E+00 1.75E+00 4.66E-01	26.01 7.88 2.00	9.07 2.68 0.70	

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/Unit)	Emission Rate (t/yr)	Potential Emissions (ton/yr)	Allowable Emissions (ton/yr)
		Road #2		5.52	VMt per hour		Unpaved, Documented Watering	N/A	90%	PM	18.7287 VMt		9.24E+00	40.48	14.12
		Road #3			VMt per hour			N/A	74%	PM ₁₀	4.6377 VMt		2.73E+00	11.95	4.17
		Road #4			VMt per hour			N/A	N/A	PM _{2.5}	0.4020 VMt		7.09E-01	3.11	1.08
		Road #5			VMt per hour			N/A	N/A	PM ₁₀					
		Road #6			VMt per hour			N/A	N/A	PM _{2.5}					

Equipment	Unit ID	Description of Unit	Equipment/SCC	Heat Rate	Unit per hour	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lbs/Unit)	Emission Rate (t/yr)	Potential Emissions (ton/yr)	Allowable Emissions (ton/yr)
		Combustion #1			mmBtu mgal mmacf		100%	N/A	PM		mgal			
		Combustion #2			mmBtu mgal mmacf		100%	N/A	PM		mgal			
		Combustion #3			mmBtu mgal mmacf		100%	N/A	PM		mgal			

Equipment Operational Status	Emission Unit Number	Description of Unit	Equipment/SCC Description	M/HTP	Units	Equip Type	Control Type	Capture Efficiency (%)	Control Efficiency (%)	Pollutant	Emission Factor	Emission Factor (lbs/Unit)	Emission Rate (t/yr)	Potential Emissions (ton/yr)	Allowable Emissions (ton/yr)
E	EP-01	loading into crusher/grizzly	Truck Unloading - Fragmented Stone EP 30502001	350.00	Tons	Fugitive	Moisture => 1.5%	100%	0.00%	PM	0.000032	Tons	1.12E-02	4.91E-02	1.71E-02
E	EP-02	primary crusher/telemith	Crusher-Primary, (Diameter 3-12') 30502001	350.00	Tons	Fugitive	Moisture => 1.5%	100%	0.00%	PM ₁₀	0.000018	Tons	6.60E-03	2.45E-02	8.55E-03
E	EP-03	12 conveyors	Conveyor 30502006	4200.00	Tons	Process	Moisture => 1.5%	100%	77.78%	PM _{2.5}	0.00044444	Tons	3.50E-02	1.53E-01	5.35E-02
E	EP-04	Secondary Crusher	Crusher-Secondary, (Diameter 1-4') 30502002	350.00	Tons	Process	Moisture => 1.5%	100%	77.78%	PM	0.0054	Tons	4.22E-01	1.84E+00	6.42E-01
E	EP-05	3 Primary screening units	Screens, (3/16" or Greater) 30502002	1050.00	Tons	Process	Moisture => 1.5%	100%	77.50%	PM ₁₀	0.00044444	Tons	3.50E-02	1.53E-01	5.35E-02
E	EP-06	2 Tertiary crushers	Crusher-Tertiary, (Diameter 3/16-1") 30502003	700.00	tons	Process	Moisture => 1.5%	100%	77.78%	PM _{2.5}	0.00057838	Tons	5.25E-02	2.30E-01	8.02E-02
E	EP-07	5 Storage bins	Storage Bin 30502006	1750.00	tons	Process	Moisture => 1.5%	100%	77.50%	PM ₁₀	0.00044444	tons	3.50E-02	1.53E-01	5.35E-02



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

MAR 20 2018

Mr. Duane Mueller
Safety/Environmental Manager
Magruder Limestone Co., Inc.
255 Watson Road
Troy, MO 63379

RE: Project Number: 2017-12-004; Installation Number: 113-0075

New Source Review - Permit Number: **032018-010**

Dear Mr. Mueller:

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 Magruder Limestone Co., Inc. 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,



Recycled paper

Mr. Duane Mueller
Page Two

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.

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: St. Louis Regional Office
PAMS File: 2017-12-004

Permit Number: 032018-010