

STATE OF 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: 032014 - 011

Project Number: 2014-02-015

Installation ID: 131-0039

Parent Company: Magruder Limestone Company, Inc.

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

Installation Name: Magruder Limestone Company, Inc. - Vaughn Quarry

Installation Address: 14 Highway V, Eldon, MO 65026

Location Information: Miller County, S8 T40N R15W

Application for Authority to Construct was made for:
adding a screen to the existing rock crushing plant and making the plant generic. 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.

MAR 3 1 2014

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

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 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 Department's Air Pollution Control Program of the anticipated date of startup 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 of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' 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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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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."

1. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permit 092013-010A from the Air Pollution Control Program.
2. **Best Management Practices Requirement**
Magruder Limestone Company, Inc. - Vaughn Quarry shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing Best Management Practices as defined in Attachment AA.
3. **Ambient Air Impact Limitation**
 - A. Magruder Limestone Company, Inc. - Vaughn Quarry shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.
 - B. Magruder Limestone Company, Inc. - Vaughn Quarry shall demonstrate compliance with Special Condition 3.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form. Magruder Limestone Company, Inc. - Vaughn Quarry shall account for the impacts from other Magruder Limestone Company Inc. owned sources of PM₁₀ as instructed in the attachment.
 - C. Magruder Limestone Company, Inc. - Vaughn Quarry is exempt from the requirements of Special Condition 3.B when no other plants are operating at this site.
4. **Annual Emission Limit**
 - A. Magruder Limestone Company, Inc. - Vaughn Quarry shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation.
 - B. Magruder Limestone Company, Inc. - Vaughn Quarry shall demonstrate compliance with Special Condition 4.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

5. Moisture Content Testing Requirement
 - A. Magruder Limestone Company, Inc. - Vaughn Quarry shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
 - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
 - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
 - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
 - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Magruder Limestone Company, Inc. - Vaughn Quarry 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 5.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also exceed the limit, Magruder Limestone Company, Inc. - Vaughn Quarry shall either:
 - 1) Apply for a new permit to account for the revised information, or
 - 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
 - G. In lieu of testing, Magruder Limestone Company, Inc. - Vaughn Quarry may obtain test results that demonstrate compliance with the moisture content in Special Condition 5.A from the supplier of the aggregate.
6. Primary Equipment Requirement
Magruder Limestone Company, Inc. - Vaughn Quarry shall process all rock through the primary grizzly screen (EU-3). Bypassing the primary grizzly screen is prohibited.
7. Minimum Distance to Property Boundary Requirement
The primary emission (EU-3) point shall be located at least 500 feet from the nearest

SITE SPECIFIC SPECIAL CONDITIONS:

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

property boundary.

8. **Concurrent Operation Restriction**
Magruder Limestone Company, Inc. - Vaughn Quarry is prohibited from operating whenever other plants not owned by Magruder Limestone Company Inc. are located at the site.
9. **Nonroad Engine Requirement**
 - A. To meet the definition of a nonroad engine as stated in 40 CFR 89.2, any engine at Magruder Limestone Company, Inc. - Vaughn Quarry cannot remain in one physical location for longer than 12 consecutive months.
 - B. Magruder Limestone Company, Inc. - Vaughn Quarry shall keep records of the relocation within the site of all engines using Attachment C or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms.
 - C. If any engines remain in the same physical location for longer than 12 months, they will be subject to 40 CFR 60 Subpart IIII, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" and 40 CFR Part 63, Subpart ZZZZ, "National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" and Magruder Limestone Company, Inc. - Vaughn Quarry shall apply for a new permit to account for the engine's revised status.
10. **Generic Plant Designation and Maximum Combined Hourly Design Rate**
Magruder Limestone Company, Inc. - Vaughn Quarry has been designated to be a Generic Plant Operation. The combined Maximum Hourly Design Rate (MHDR) of each of the following generic equipment types shall not exceed the rates and numbers listed in Table 1.

Table 1: Generic Equipment

Equipment Type	Maximum Combined Hourly Design Rate	Maximum Number of Units
Primary Unit (Grizzly)	300 tons per hour	1
Grizzly	300 tons per hour	1
Crushers including primary crusher	300 tons per hour	3
Conveyors	300 tons per hour	14
Screens	300 tons per hour	4
Storage Bins	300 tons per hour	3

11. **Generic Plant Equipment Identification Requirement**
 - A. Magruder Limestone Company, Inc. - Vaughn Quarry shall submit the following

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SITE SPECIFIC SPECIAL CONDITIONS:

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

information to the Air Pollution Control Program's Permitting Section and the Southwest Regional Office within 15 days of actual startup.

- 1) A master list of all equipment that will be permitted for use with the generic plant. This master list shall include at minimum the following information for each piece of equipment:
 - a) Manufacturer's name
 - b) Model number
 - c) Serial number
 - d) Actual MHDR
 - e) Date of manufacture
 - f) Any other additional information that is necessary to uniquely identify the equipment.
- 2) A list of the core equipment that will always be utilized with the generic plant. The core equipment associated with the generic plant shall include at least one primary unit that controls the rate of the process flow (e.g., a primary crusher or primary screen).
- 3) A determination of the applicability of 40 CFR Part 60, Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" for each piece of equipment indicating whether each piece of equipment is subject to Subpart OOO and justification for this determination.
- 4) Magruder Limestone Company, Inc. - Vaughn Quarry shall notify the Air Pollution Control Program's Permitting Section and the Southwest Regional Office when new equipment is added to the master list and when core equipment is changed within 30 days of the change.

B. Magruder Limestone Company, Inc. - Vaughn Quarry shall maintain a list of the specific equipment currently being utilized with the generic plant. Any arrangement of the generic plant's equipment must be such that the core equipment is not bypassed in the process flow.

12. Equipment Identification Requirement

Magruder Limestone Company, Inc. - Vaughn Quarry shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component.

13. Record Keeping Requirement

Magruder Limestone Company, Inc. - Vaughn Quarry shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.

14. Reporting Requirement

Magruder Limestone Company, Inc. - Vaughn Quarry shall report to the Air Pollution

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SITE SPECIFIC SPECIAL CONDITIONS:

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

Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten 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: 2014-02-015
Installation ID Number: 131-0039
Permit Number:

Magruder Limestone Company, Inc. - Vaughn Quarry Complete: February 13, 2014
14 Highway V
Eldon, MO 65026

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

Miller County, S8 T40N R15W

PROJECT DESCRIPTION

Magruder Limestone Company, Inc. is adding a screen to the entire rock crushing plant at Vaughn Quarry and requesting a generic permit for the plant. The equipment will continue to operate at an MHDR of 300 tons per hour. The equipment permitted to be at Vaughn Quarry is listed in the table below.

Table 1: Master equipment list for Vaughn Quarry

Permitted Equipment
Nordberg Jaw Crusher (SS# P3240VF-M-509)
Grizzly Screen
Allis Chalmers 2 Deck Screen (SS#C57-346)
JCI Cone Crusher (SS# 99C0701400 LS)
JCI 3 Deck Screen (SS# 98H-12F-32)
Canica VSI Impact Crusher (SS# 074-084) 460 hp Diesel Engine
Astec Screen (SS# 072737) 115 hp Diesel Engine
Pioneer Roll Crusher (SS# TRT-1109) 325 hp Diesel Engine
Eagle Impactor Crusher (SS# 11423) 510 hp Diesel Engine
Astec Pro Sizer Crusher/Screen (SS# 072836) 145 hp Diesel Engine
Lima 600kW Generator (SS# AC92055FD) 825 hp Diesel Engine
2500 Gallon Diesel Tank (SS# 820-29)
1000 Gallon Diesel Tank
225 Gallon Diesel Tank (SS# R47-007)
500 Gallon Diesel Tank (SS# 84807)

Other plants may be located at Vaughn Quarry, but these other plants will also be owned by Magruder Limestone Company, Inc.

The minimum distance to the property line is 500 feet. The length of the pit haul road (EP8-1) is 250 feet and the length of the customer haul road (EP8-2) is 600 feet. The storage pile (EP10 through EP13) covers a maximum of two acres. Haul roads and vehicular activity areas are unpaved.

The only engines allowed to power the plant are those listed in Table 1. Magruder Limestone Company Inc. – Vaughn Quarry is required to move the rock crushing plant at least once a year in order to keep it close to the quarry rock face. Thus, the engines meet the definition of nonroad engine in 40 CFR 89.2. This permit requires Magruder Limestone Company Inc – Vaughn Quarry to document the engines’ movements and to obtain a new permit if any of the engines remain in one physical location for more than 12 months. Therefore, the emissions of the engines were not included.

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. The moisture content of the aggregate is 1.5% or greater as required by Special Condition 5.

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

This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

A Basic Operating Permit amendment is required for this installation within 30 days of issuance of this permit.

TABLES

The following permits have been issued to Magruder Limestone Company, Inc. - Vaughn Quarry from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
092013-005	New recycled asphalt pavement section 5 permit
092013-010	Make rock crusher PORT – 0149 stationary section 6 permit

No Notices of Excess Emissions or Notices of Violations have been issued for Magruder Limestone Company Inc. PORT-0149 in the last five years.

The table below summarizes the emissions of this project. The existing actual emissions were taken from the previous year’s EIQ. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The conditioned potential emissions account for a voluntary limit of 15.0 tons per year of PM₁₀ to avoid dispersion modeling requirements found in 10 CSR 10-6.060 Section (6).

Table 3: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Potential Emissions of Process Equipment	Existing Actual Emissions (2013 EIQ)	^a Potential Emissions of the Application	^b Conditioned the Potential Emissions
PM	25.0	14.92	N/D	55.86	38.14
PM ₁₀	15.0	5.55	1.082	21.97	<15.00
PM _{2.5}	10.0	0.74	0.130	5.37	3.67
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
Total HAPs	10.0/25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable; N/D = Not Determined

^aIncludes site specific haul road and storage pile emissions

^bAccounts for voluntary limit of 15.0 tons per year of PM₁₀.

Table 4: Ambient Air Quality Impact Analysis

Pollutant	^a NAAQS (µg/m ³)	Averaging Time	^b Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	^c Daily Limit (tons/day)
^d PM ₁₀ (same)	150.0	24-hour	89.20	N/A	20.0	N/A

N/A = Not Applicable

^aNational Ambient Air Quality Standards (NAAQS)

^bModeled impact at maximum capacity with controls

^cIndirect limit based on compliance with NAAQS.

^dSolitary operation or operation with other plants that are owned by Magruder Limestone Company, Inc.

EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (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 were 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 at least 1.5 percent (%) by weight.

Emissions from haul roads and vehicular activity areas were 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 40% control efficiency for PM_{2.5} are applied to the emission calculations for the use of BMPs. Emissions from 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.”

The engine emissions were not evaluated for this review as the engines at this site are classified as a nonroad engine. 40 CFR 63 Subpart ZZZZ, “National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” and 40 CFR 60 Subpart IIII, “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” do not apply. However, if the plant were to remain in one location for longer than 12 consecutive months, it would not be in compliance with this permit because engine emissions were not evaluated. It may also not be in compliance with MACT ZZZZ. NSPS IIII does not apply unless the engine is modified or reconstructed and the plant is in one location for longer than 12 consecutive months. The nonroad engine is subject to further applicable requirements in 40 CFR 89 and 40 CFR 1039 which are outside the purview of this program.

AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 4. The Air Pollution Control Program requires an AAQIA of PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program’s generic nomographs and when appropriate the EPA modeling software AERSCREEN. For each pollutant that was modeled, the maximum concentration that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) or Risk Assessment Level (RAL) for the pollutant. If during continuous operation the modeled concentration of a pollutant is greater than the applicable NAAQS or RAL, the plant’s production is limited to ensure compliance with the standard.

This plant uses BMPs to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m³ of PM₁₀ in accordance with the Air Pollution Control Program’s BMPs interim policy.

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 voluntarily conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Magruder Limestone Company, Inc. - Vaughn Quarry shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- A Basic Operating Permit amendment is required for this installation within 30 days of issuance of this permit.
- *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 New Source Performance Standards (NSPS) apply to the installation.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*, I recommend this permit be granted with special conditions.

Bryce Mihalevich
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 11, 2014, received February 11, 2014, designating Magruder Limestone Company, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

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 emissions¹ 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.

¹For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

APPENDIX A

Abbreviations and Acronym

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	
CFR	Code of Federal Regulations	National Emissions Standards for Hazardous Air Pollutants
CO	carbon monoxide	NO_x	nitrogen oxides
CO₂	carbon dioxide	NSPS	New Source Performance Standards
CO_{2e}	carbon dioxide equivalent	NSR	New Source Review
COMS	Continuous Opacity Monitoring System	PM	particulate matter
CSR	Code of State Regulations	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
dscf	dry standard cubic feet	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
EQ	Emission Inventory Questionnaire	ppm	parts per million
EP	Emission Point	PSD	Prevention of Significant Deterioration
EPA	Environmental Protection Agency	PTE	potential to emit
EU	Emission Unit	RACT	Reasonable Available Control Technology
fps	feet per second	RAL	Risk Assessment Level
ft	feet	SCC	Source Classification Code
GACT	Generally Available Control Technology	scfm	standard cubic feet per minute
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Dan Niederhelm
Safety Manager
Magruder Limestone Company, Inc. - Vaughn Quarry
255 Watson Road
Troy, MO 63379

RE: New Source Review Permit - Project Number: 2014-02-015

Dear Mr. Niederhelm:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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 and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

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

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:bmK

Enclosures

c: Southwest Regional Office
PAMS File: 2014-02-015

Permit Number: