

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: 042020-015 Project Number: 2019-10-014
Installation ID: 029-0050

Parent Company: Magruder Limestone Co., Inc.

Parent Company Address: 255 Watson Rd., Troy, MO 63379

Installation Name: Magruder Limestone Co., Inc.

Installation Address: Hwy 5 & Eddie Avenue, Sunrise Beach, MO 65079

Location Information: Camden County, S9, T49N, R17W

Application for Authority to Construct was made for:
Make PORT-0386 a stationary plant at Sunrise Beach Quarry. This review was conducted in accordance with Section (5), 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.



Director or Designee
Department of Natural Resources

April 30, 2020
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/>

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 (3)(E). "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. **Daily Production Limit**
Magruder Limestone Co., Inc. shall limit its daily production based on Table 1 using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including electronic forms.

Table 1: Summary of Daily Production Limits (tons per day)

Type of Operation	Daily Production Limit
Solitary Operation	No limit
^a Concurrent and Same Owners	2,500

^aOperation with plants that are owned by Magruder Limestone Co., Inc.

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.

SITE SPECIFIC 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 4.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 4.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.
- G. In lieu of testing, Magruder Limestone Co., Inc. may obtain test results that demonstrate compliance with the moisture content in Special Condition 3.A from the supplier of the aggregate.
4. **Minimum Distance to Property Boundary Requirement**
The primary emission point, which is the grizzly feeder (EP-01), shall be located at least 300 feet from the nearest property boundary.
5. **Diesel Engine Operational Restrictions**
Magruder Limestone Co., Inc. shall only operate its diesel engine to power equipment while sizing rip rap product.
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.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2019-10-014
Installation ID Number: 029-0050
Permit Number: 042020-015

Magruder Limestone Co., Inc.:
Hwy 5 & Eddie Avenue
Sunrise Beach, MO 65079

Complete: October 7, 2019

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

Camden County, S9, T49N, R17W

PROJECT DESCRIPTION

Magruder Limestone Co., Inc. has requested to make the portable rip rap plant PORT-0386 at Sunrise Beach Quarry (Permit #1299-010, Installation ID #029-0050) a stationary plant. The stationary plant will consist of the same equipment previously permitted as a portable plant, as shown below in Table 2. The maximum hourly design rate (MHDR) of the primary emission unit (the grizzly feeder EP-2B2-1) is 1,000 tons per hour and it is powered by an 84 hp diesel engine. There will be two haul roads (one pit to plant 250 ft haul road and one plant to gate 600 ft haul road) and one 0.25 acre rock storage pile.

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.

Table 2: Emission Point List

Emission Point No.	Description	MHDR	Unit
EP2J-1	Haul Road from pit to plant	4.73	VMT
EP2L-2	Unloading into hopper	1000	Tons
EP2B2-1	Grizzly feeder	1000	Tons
EP2F2-1	Conveyor	1000	Tons
EP2K	Stockpile (loadout)	1000	Tons
EP2K	Stockpile (Vehicular Activity)	1.89	VMT
EP2K	Stockpile (Wind Erosion)	0.25	Acres
EP2J-2	Haul Road from plant to gate	11.36	VMT
EP2M-1	Diesel Generator	85	bhp

According to construction permit #1299-010D, for the facility's portable permit involving this equipment, it was determined that the NAAQS maximum daily PM₁₀ ambient impact for this portable was 16.56 µg/m³. Therefore, being that 16.56 µg/m³ is less than 130 µg/m³, there is no daily limit when operating solitarily. When operating with plants owned by separate owners, due to limits placed on those plants, it has been determined that a daily production limit is not needed.

When operating with other plants owned by Magruder Limestone Co., Inc., they have chosen to limit their other plants such that this plant can operate up to 2,500 tons per day.

This installation is located in Camden County, an attainment/unclassified area for all other criteria pollutants.

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

TABLES

Magruder Limestone Co., Inc. has previously received multiple construction permits from the Air Pollution Control Program for various plants to operate at Sunrise Beach Quarry.

The table below summarizes the emissions of this project. The potential emissions of the process equipment excludes emissions from haul roads and wind erosion. The existing actual emissions were taken from the previous year's EIQ for PORT-0386. 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 include emissions from sources that will limit their production to ensure compliance with the annual PM₁₀ emission limit.

Table 3: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Existing Actual Emissions (2018 EIQ)	^a Potential Emissions of the Application	^a Same and Concurrent Operation Conditioned Potential Emissions
PM	25.0	N/D	N/D	16.18
PM ₁₀	15.0	0.03	37.02	6.23
PM _{2.5}	10.0	0.01	N/D	1.27
SO _x	40.0	N/A	N/D	0.00
NO _x	40.0	N/A	N/D	1.17
VOC	40.0	N/A	N/D	0.10
CO	100.0	N/A	N/D	0.25
GHG (CO ₂ e)	N/A	N/D	N/D	N/A
GHG (mass)	N/A	N/D	N/D	N/A
Total HAPs	25.0	N/A	N/D	1.0 x 10 ⁻³

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

^aEmissions listed are from permit #1299-010D

^bConditioned Potential Emissions account for a Daily Production Limit of 2,500 tons when operating with another plant on site owned by Magruder Limestone Co., Inc.

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 1.5% by weight.

Emissions from the diesel engine:

- Calculated using emission factors from AP-42 Section 3.3 “Gasoline and Diesel Industrial Engines,” October 1996.

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 “Aggregate Handling and Storage Piles,” November 2006.
- 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 (5) 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. Potential emissions of PM are above de minimis levels, but below major levels.

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 for this installation.
- *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.
- 40 CFR 63, Subpart ZZZZ – *National Emission Standards 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* are applicable to the installation's 85 HP diesel generator.
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), 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 September 27, 2019, received October 7, 2019, 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.

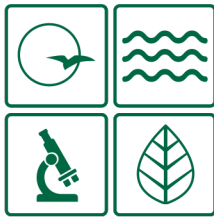
2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the 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
°F degrees Fahrenheit	MMCFmillion cubic feet
acfm actual cubic feet per minute	MSDSMaterial Safety Data Sheet
BACT Best Available Control Technology	NAAQSNational Ambient Air Quality Standards
BMPs Best Management Practices	NESHAPs ..National Emissions Standards for Hazardous Air Pollutants
Btu British thermal unit	NO_xnitrogen oxides
CAM Compliance Assurance Monitoring	NSPSNew Source Performance Standards
CAS Chemical Abstracts Service	NSRNew Source Review
CEMS Continuous Emission Monitor System	PMparticulate matter
CFR Code of Federal Regulations	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
CO carbon monoxide	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CO₂ carbon dioxide	ppmparts per million
CO_{2e} carbon dioxide equivalent	PSD Prevention of Significant Deterioration
COMS Continuous Opacity Monitoring System	PTEpotential to emit
CSR Code of State Regulations	RACTReasonable Available Control Technology
dscf dry standard cubic feet	RALRisk Assessment Level
EQ Emission Inventory Questionnaire	SCCSource Classification Code
EP Emission Point	scfmstandard cubic feet per minute
EPA Environmental Protection Agency	SDS Safety Data Sheet
EU Emission Unit	SICStandard Industrial Classification
fps feet per second	SIPState Implementation Plan
ft feet	SMAL Screening Model Action Levels
GACT Generally Available Control Technology	SO_xsulfur oxides
GHG Greenhouse Gas	SO₂sulfur dioxide
gpm gallons per minute	SSMstartup, shutdown, & malfunction
gr grains	tphtons per hour
GWP Global Warming Potential	tpytons per year
HAP Hazardous Air Pollutant	VMTvehicle miles traveled
hr hour	VOC Volatile Organic Compound
hp horsepower	
lb pound	
lbs/hr pounds per hour	
MACT Maximum Achievable Control Technology	
µg/m³ micrograms per cubic meter	
m/s meters per second	
Mgal 1,000 gallons	
MW megawatt	
MHDR maximum hourly design rate	



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

April 30, 2020

Harold Bono
Secretary/Treasurer
Magruder Limestone Co., Inc.
255 Watson Rd.
Troy, MO 63379

RE: New Source Review Permit - Project Number: 2019-10-014

Dear Harold Bono:

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 and your new source review permit application are 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,



Harold Bono
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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.aa.mo.gov/ahc.

If you have any questions regarding this permit, please do not hesitate to contact Dakota Fox 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:dfa

Enclosures

c: Southwest Regional Office
PAMS File: 2019-10-014

Permit Number: 042020-015