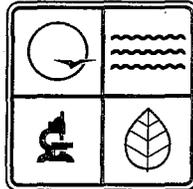


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION

PERMIT BOOK



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: 022008-007 Project Number: 2007-12-026
PORT-0607
Owner: Magruder Limestone Company, Inc.
Owner's Address: 255 Watson Road, Troy, MO 63379
Installation Name: Magruder Limestone Company, Inc.
Installation Address: 255 Watson Road, Troy, MO 63379
Location Information: Lincoln County, S12, T49N, R1W

Application for Authority to Construct was made for:

The installation of a new portable rock-crushing plant. The portable rock-crushing plant has a maximum hourly design rate (MHDR) of 25 tons per hour (tph). 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 (listed as attachments starting on page 2) are applicable to this permit.

FEB 11 2008

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. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 start up 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 as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, 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 Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

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 Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

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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); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.

1. **Portable Equipment Identification Requirement**
To assure that each component is properly identified as being a part of this portable rock-crushing plant, PORT-0607, Magruder Limestone Company, Inc. shall provide and maintain suitable, 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.
2. **Relocation of Portable Rock-Crushing Plant**
 - A. The portable rock-crushing plant shall not be operated at any site location longer than 24 consecutive months without an intervening relocation.
 - 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 there are no other new plants at the site, 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 there are other plants or equipment at the site that have not been evaluated for concurrent operation, then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Recordkeeping Requirement**
The operator(s) shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.
4. **Reporting Requirement**
The operator(s) shall report to the Air Pollution 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.

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SITE-SPECIFIC SPECIAL CONDITIONS:

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

Site ID No.: PORT-0607
Site Name: Magruder Limestone Company, Inc.
Site Address: 255 Watson Road, Troy, MO 63379
Site County: Lincoln County, S12, T49N, R1W

1. National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM₁₀)
 - A. The operator(s) for Magruder Limestone Company, Inc.'s portable rock-crushing plant (PORT-0607) shall ensure, while operating at this site, that the ambient impact of PM₁₀ at or beyond the nearest property boundary does not exceed 150 µg/m³ in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
 - B. The portable plant is permitted to operate under solitary and concurrent (same owner) operations. The total daily ambient impact of PM₁₀ at this site shall include the combined impact of the portable rock-crushing plant and any ambient background concentration from installations or equipment located on the same site as the portable rock crushing plant.
 - C. To demonstrate compliance during concurrent (same owner) operations, the operator(s) shall maintain a daily record of material processed. Attachment A, *Daily Ambient PM₁₀ Impact Tracking Record*, or other equivalent form(s), shall be used for this purpose.
2. Annual Emission Limit of Nitrogen Oxides (NO_x)
 - A. The operator(s) shall ensure that Magruder Limestone Company, Inc.'s portable rock-crushing plant emits less than 40 tons of NO_x into the atmosphere in any 12-month period.
 - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed and NO_x. Attachment B, *Monthly NO_x Emissions Tracking Record*, or other equivalent form(s), shall be used for this purpose.
3. Usage of Wet Suppression Control System on Equipment
 - A. Magruder Limestone Company, Inc. shall install and operate wet spray devices to restrict the emission of particulate matter. These wet spray devices must be used to control fugitive emissions whenever these units are in operation. The wet spray devices shall be installed on the following units: The primary crusher (EP-1)
 - B. Watering may be suspended during periods of freezing conditions, when use of the wet spray devices may damage the equipment. During these conditions, the operator(s) shall adjust the production rate to control fugitive emissions from these units. The operator shall record a brief description of such events in a daily log.
4. Usage of Documented Watering on Haul Road(s)
 - A. The operator(s) shall control the fugitive emissions from the specified unpaved portions of the haul roads at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating. For example, the operator shall calculate the total sq. ft. of unpaved vehicle activity area requiring control on any particular day, divide that product by 1000, and multiply the quotient by 100 gallons for that day. Documented watering is to be used on the following haul road(s): Product haul road.
 - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volume of water applied (e.g., number of tanker applications and/or total gallons used). The log shall also record rationale for not applying water applications on days of operation (e.g., meteorological situations, precipitation events, freezing, etc.)
 - C. Meteorological precipitation of any kind, (e.g., a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) that is sufficient in amount or condition to achieve control of particulate matter from these areas while the plant is operating, may be substituted for documented water application until such time as conditions warrant applying documented watering.

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SITE-SPECIFIC SPECIAL CONDITIONS:

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

- D. 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. The operator shall record a brief description of such events in the same log as the documented watering.
- 5. Performance Testing for New Source Performance Standards (NSPS)
 - A. Magruder Limestone Company, Inc. shall submit the enclosed testing plan to the Enforcement section of the Air Pollution Control Program for all equipment applicable to NSPS Subpart "OOO". Magruder Limestone Company, Inc. shall contact the Enforcement section to obtain all requirements for testing, and the plan must be submitted to the Enforcement section at least 30 days prior to the proposed test date.
 - B. Testing must be performed no later than 60 days after achieving the maximum production rate of the process, and in any case no later than 180 days after initial startup. The performance test results shall be submitted to the Enforcement section no later than 30 days after completion of any required testing.
 - 6. Restriction on Process Configuration of Primary Emission Point(s)

The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Magruder Limestone Company, Inc. has designated the following unit(s) as the primary emission point(s) of the portable rock crushing plant: Primary crusher (EP-1). Bypassing the primary emission point(s) for processing is prohibited.
 - 7. Restriction on Minimum Distance to Nearest Property Boundary

The primary emission point of the portable rock-crushing plant, which is the primary crusher (EP-1), shall be located at least 900 feet from the nearest property boundary whenever it is operating at this site.

TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

PROJECT DESCRIPTION

Magruder Limestone Company, Inc. has applied for authority to construct a portable rock-crushing plant. This plant will be used to grind shingles down to a top size of 0.5 inches so it can be used in an asphalt plant that is not located at this site. The shingles will be processed through a primary crusher (EP-1) and two conveyors (EP-3, EP-4). The final product will be shipped offsite to the asphalt plant. The emissions from the product haul road shall be controlled by documented watering. Processing equipment is powered with a 500 horsepower diesel engine. The emission points are listed in the attached spreadsheet summary. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is located in Lincoln County, an attainment area for all criteria air pollutants.

The portable plant is permitted to operate under two scenarios: Solitary operations and concurrent (same owner) operations. During solitary operations, the portable plant is permitted to operate by itself at the site. During concurrent (same owner) operations, the portable plant is permitted to operate at the site when other plants owned by Magruder Limestone Company, Inc. are located at the site. Currently, there is a stationary rock-crushing plant (Plant ID #113-0031, Permit #032003-032) owned by Magruder Limestone Company, Inc. located at this site, so the plant will be operating under concurrent (same owner) operations.

EMISSIONS EVALUATION

Criteria air pollutants will be emitted from this operation. The main air pollutant of concern is Nitrogen Oxides (NO_x). The potential emissions were calculated from the maximum hourly design rate (MHDR) of the equipment, appropriate emission factors, control device efficiencies, and the limiting operating hours at MHDR. The sources of the emission factors and control efficiencies are listed in the section "Permit Documents". Based on the conditioned potential emissions, the operation is considered a *de minimis* source under 10 CSR 10-6.060 Section (5).

The main source of NO_x emissions is a 500 horsepower diesel engine. This diesel engine shall only be used to power equipment for the plant. The unconditioned potential emissions of NO_x is 70.19 tons per year. For any combustion source with NO_x emissions greater than the *de minimis* level of 40 tons per year, the installation can either submit stack parameters for the combustion source so an ambient impact analysis can be performed on NO_x or take a 40 tons per year limit. The rock-crushing plant has decided to take a 40 tons per year limit on NO_x.

Table 1: Emissions Summary (tons per year)

Air Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application	*New Installation Conditioned Potential	Emission Factor (lb/ton)
PM ₁₀	15.0	N/A	N/A	6.98	4.03	N/A
SO _x	40.0	N/A	N/A	4.62	2.63	N/A
NO _x	40.0	N/A	N/A	70.19	<40.00	0.6410
VOC	40.0	N/A	N/A	5.73	3.27	N/A
CO	100.0	N/A	N/A	15.12	8.62	N/A
HAPs	10.0/25.0	N/A	N/A	0.06	0.04	N/A

Note: N/A = Not Applicable

*Conditioned potential based on limit in permit conditions. Other pollutants proportionately reduced.

AMBIENT AIR QUALITY IMPACT ANALYSIS

Screening tools were used to evaluate the ambient air impact of the hourly emissions from this operation. The ambient impact was evaluated at a distance of 400 feet to the nearest property boundary. The ambient impact at this site shall not exceed the NAAQS of 150 µg/m³ of PM₁₀ at or beyond the nearest property boundary in any single 24-hour period. The screening tools were used to develop an ambient impact factor for the portable rock-crushing plant. This ambient impact factor is incorporated into the daily record keeping table, Attachment A. During solitary operations, the portable plant can operate for 24 hours per day without violating the NAAQS and does not need to keep a record of its daily PM₁₀ ambient impact. During concurrent (same owner) operations, the portable plant shall record its own daily PM₁₀ ambient impact **and** the daily PM₁₀ ambient impact of all other plants at the site to ensure that the combined daily PM₁₀ ambient impact from all plants does not exceed 150 µg/m³.

Table 2: Ambient Air Quality Impact Analysis of PM₁₀, 24-Hour Averaging Time

Operation	Ambient Impact Factor (µg/m ³ /ton)	Modeled Impact (µg/m ³)	NAAQS (µg/m ³)	Daily Production Limit (tons)
1. Solitary	0.07518	45.11	150.00	600
2. Concurrent, Same Owner	0.07518	**	150.00	**

**The operator(s) must balance production among concurrently operating plants, with the ambient impacts for each, such that NAAQS is not exceeded. Ambient Impact of other plants owned by Magruder Limestone Company, Inc. can be obtained from the operators of these plants.

APPLICABLE REQUIREMENTS

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- No Operating Permit is required for this portable rock-crushing plant.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- 40 CFR Part 60 Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the NSPS
- The National Emission Standards for Hazardous Air Pollutants (NESHAPs) and the currently promulgated Maximum Achievable Control Technology (MACT) regulations do not apply to the proposed equipment.

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*, I recommend this permit be granted with special conditions.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, designating Magruder Limestone Company, Inc. as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition*.
- Noyes Data Corporation book, Orlemann, et al.1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- St. Louis Regional Office Site Survey.
- Best Management Practices.

Mr. Dean McDonald
V.P.
Magruder Limestone Company, Inc.
255 Watson Road
Troy, MO 63379

RE: New Source Review Permit - Project Number: 2007-12-026

Dear Mr. McDonald:

Enclosed with this letter is your New Source Review permit. Please review your permit carefully and note the special conditions, if any, and the requirements in your permit.

Operation in accordance with the conditions and requirements in your permit and the New Source Review application submitted for project 2007-12-026 is necessary for continued compliance. The section of the permit entitled "Technical Review of Application for Authority to Construct" should not be separated from the main portion of your permit. The entire permit must be retained in your files. 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 Mr. Chia-Wei Young 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 attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:cwyn

Enclosure

c: St. Louis Regional Office
PAMS File: 2007-12-026
Permit Number: