



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

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PERMIT BOOK

APR 20 2015

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

RE: New Source Review Temporary Permit Request - Project Number: 2015-03-084

Installation ID Number: 113-0060

Temporary Permit Number: **042015-004**

Expiration Date: July 5, 2015

Dear Mr. Bono:

The Missouri Department of Natural Resources' Air Pollution Control Program has completed a review of your request to construct a temporary rock-crushing plant, at the Silex Quarry, located in Silex, Missouri. The Air Pollution Control Program is hereby granting your request to conduct this temporary operation at this location in accordance with Missouri State Rule 10 CSR 10-6.060(3).

Due to an urgent need for rock in Lincoln County and Pike County, Magruder Limestone Co., Inc. plans to construct a temporary McCloskey rock-crushing plant, rated at 300 tons per hour, at the Silex Quarry. The equipment will consist of a primary crusher, primary and secondary screens, and associated conveyors. The crusher and screens will be powered by diesel engines, but each meets the definition of a nonroad engine according to 40 CFR 89.2; therefore, the engines were not evaluated for this review. Haul roads were included in the calculations, and Best Management Practices (BMPs) will be used for the duration of this project.

Magruder Limestone Co., Inc. is authorized to construct and operate subject to the following conditions:

1. BMPs Requirement

- A. Magruder Limestone Co., Inc. 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.

2. Moisture Content Testing Requirement

- A. Magruder Limestone Co., Inc. shall verify through testing 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. each 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.
- F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 2.A, another test may be performed with 15 days of the noncompliant test. If the results of that test are also less than 1.5% by weight, Magruder Limestone Co., Inc. shall either:
 - i. Apply for a new permit to account for the revised information, or
 - ii. Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program section 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 Co., Inc. may obtain test results from the supplier of the aggregate that demonstrate compliance with the moisture content in Special Condition 2.A.

3. Operating Requirements

- A. Magruder Limestone Co., Inc. is not permitted to operate this McCloskey portable rock-crushing plant with any other plants while located at this site.
- B. Magruder Limestone Co., Inc. shall remove this McCloskey portable rock-crushing plant from the site no later than July 5, 2015.

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). Emissions from haul roads were calculated using the predictive equation from AP-42 Section 13.2.2 *Unpaved Roads* (November 2006).

Permission to operate the McCloskey portable rock-crushing plant at this site is granted for the time period between April 6, 2015 and July 5, 2015. Potential emissions and the PM₁₀ ambient impact were calculated assuming continuous operation of 24 hours a day for 90 days. Potential emissions for the project are summarized in Table 1 below:

Table 1. Emissions Summary (tons)

PM	PM ₁₀	PM _{2.5}
14.72	5.38	0.84

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of PM₁₀. 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 or nearest residence 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.

The PM₁₀ ambient impact was calculated to be 29.84 µg/m³ with an additional 20.0 µg/m³ background from haul roads and vehicular activity areas.

Given that the potential emissions are well below 100 tons for each pollutant and ambient air quality standards are expected to be maintained, the proposed temporary permit is granted according to the provisions of Missouri State Rule 10 CSR 10-6.060(3). Subsequent notification should be made to the Air Pollution Control Program within two weeks once the McCloskey portable crusher is no longer located at the facility.

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You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable federal, state, or local agency regulations. Specifically, you should avoid violating 10 CSR 10-6.045 *Open Burning Requirements*, 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.165 *Restriction of Emission of Odors*, and 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*.

A copy of this letter should be kept with the unit and be made available to Department of Natural Resources' personnel upon verbal request. If you have any questions regarding this determination, please do not hesitate to contact Ryan Schott at the departments' 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



Kyra L. Moore
Director

KLM:rs1

c: PAMS File: 2015-03-084
St. Louis Regional Office

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 portable 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 and volume of water application 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.

¹ For 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.)

		Follow-up	Justification for Limit	Limit Hours per Day	Limit Hours per Day w/ 365 days
Hours per day	24.0				
Days per year	90.0	N/A	N/A		
Hours per year	2160.0		De Minimis	Limit Hours per Year	Limit Hours per Year w/ 24 hr day

Pollutant	Potential Emissions of Process Equipment (tons/yr)	Potential Emissions 8760 hr/yr basis (tons/yr)	Potential Emissions 2160 hr/yr basis (tons/yr)	Plant-wide Composite Emission Factor (lb/ton)	Ambient Impact 24-hr average Solitary Operation ($\mu\text{g}/\text{m}^3$)	Solitary Operation Impact Factor 24-hr average ($\mu\text{g}/\text{m}^3/\text{ton}$)	Ambient Impact Annual Average ($\mu\text{g}/\text{m}^3$)	Ambient Impact 24-hr average Concurrent Operation ($\mu\text{g}/\text{m}^3$)	Concurrent Operation Impact Factor 24-hr average ($\mu\text{g}/\text{m}^3/\text{ton}$)
PM	59.70	59.70	14.72	0.05					
PM ₁₀	21.83	21.83	5.38	0.0166	29.84	0.0041		29.84	0.00
PM _{2.5}	3.41	3.41	0.84	0.0026		0.0026			
SO ₂	0.00	0.00	0.00	0.0000					
NO ₂	0.00	0.00	0.00	0.0000					
VOC	0.00	0.00	0.00	0.0000					
CO	0.00	0.00	0.00	0.0000					
HAPs	0.00	0.00	0.00	0.0000					

Maximum hourly design rate (tons/hr)	300.00
Distance to property boundary (ft)	2640

Tons of product per day	7200.0
Tons of product per year	648,000.0