

**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: **082013-010**

Project Number: 2013-05-035  
Installation ID: PORT-0275

Parent Company: Magruder Limestone Co., Inc.

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

Installation Name: Magruder Limestone Co., Inc.

Installation Address: 330 Highway E, Silex, MO 63377

Location Information: Lincoln County, S2 & 11 T50N R1W

Application for Authority to Construct was made for:  
Replacement of primary jaw crusher, grizzly, unload conveyor, and diesel engine. 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.

**AUG 22 2013**

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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#### 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) 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 following construction permits issued by the Air Pollution Control Program.

- A. Permit # 0796-017 (PORT0275005)
- B. Permit # 0796-017A (EX199904087)
- C. Permit # 0796-017A (EX20012048)
- D. Permit # 0796-017A (AP2001040109)
- E. Permit # 122001-013 (AP200109085)
- F. Permit # 122001-013 (AP200412026)
- G. Permit # 122001-013 (AP200703023)
- H. Permit # 122001-013 (AP200707063)
- I. Permit # 122001-013 (AP200802058)
- J. Permit # 122001-013 (AP200805022)

#### 2. Equipment Identification Requirement

Magruder Limestone Co., Inc. 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. 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.

#### 3. Relocation of Portable Rock Crushing Plant

- A. Magruder Limestone Co., Inc. shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0275, contain a nonroad engine requirement limiting the portable plant at the site specific location to 12 consecutive months.
- 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 the circumstances at the site have not changed, 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 circumstances at the site have changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the

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**GENERAL SPECIAL CONDITIONS:**

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

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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.

4. Record Keeping Requirement

Magruder Limestone Co., Inc. 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.

5. Reporting Requirement

Magruder Limestone Co., Inc. 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:

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*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."*

PORT ID Number: PORT-0275

Site ID Number: 113-0060

Site Name: Silex Quarry

Site Address: 330 Highway E Silex, MO 63377

Site County: Lincoln S2 & 11 T50N R1W

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 Best Management Practices as defined in Attachment AA.
2. **Ambient Air Impact Limitation**
  - A. Magruder Limestone Co., Inc. shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  - B. Magruder Limestone Co., Inc. shall demonstrate compliance with Special Condition 2.A using Attachment A or other equivalent forms that have been approved by the Air Pollution Control Program, including an electronic forms. Magruder Limestone Co., Inc. shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachments.
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).

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**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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- 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 3.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 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. 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 (EP-02) shall be located at least 350 feet from the nearest property boundary when PORT- 0275 is operating at the Silex Quarry.
  - 5. **Primary Equipment Requirement**  
Magruder Limestone Co., Inc. shall process all rock through the primary crusher (EP002). Bypassing the primary crusher is prohibited.
  - 6. **Nonroad Engine Requirement**  
PORT-0275 cannot operate at this site longer than 12 consecutive months in order to avoid record keeping requirements to show that the 510 hp Cummins Model QSK19-P diesel engine, S/N 37196898 meets the definition of a nonroad engine as stated in 40 CFR 89.2.
  - 7. **Concurrent Operation Restriction**  
Magruder Limestone Co., Inc. PORT-0275 is only allowed to operate with other plants at this site whenever those plants are owned by Magruder Limestone Co.
  - 8. **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.

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**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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9. Reporting Requirement  
Magruder Limestone Co., Inc. 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:

*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."*

PORT ID Number: PORT-0275

Site ID Number: 113-0075

Site Name: Foley Quarry

Site Address: 399 Old Hwy 70, Foley, MO 63347

Site County: Lincoln S26 T50N R2E

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 Best Management Practices as defined in Attachment AA.
2. Ambient Air Impact Limitation
  - A. Magruder Limestone Co., Inc. shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  - B. Magruder Limestone Co., Inc. shall demonstrate compliance with Special Condition 2.A using Attachment B or other equivalent forms that have been approved by the Air Pollution Control Program, including an electronic forms. Magruder Limestone Co., Inc. shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachments.
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.

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**SITE SPECIFIC SPECIAL CONDITIONS:**

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

- 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.
  - 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 also exceed the limit, 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. 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 shall be located at least 500 feet from the nearest property boundary when PORT-0275 is operating at the Foley Quarry.
  5. **Primary Equipment Requirement**  
Magruder Limestone Co., Inc. shall process all rock through the primary crusher (EP002). Bypassing the primary crusher is prohibited.
  6. **Nonroad Engine Requirement**  
PORT-0275 cannot operate at this site longer than 12 consecutive months in order to avoid record keeping requirements to show that the 510 hp Cummins Model QSK19-P diesel engine, S/N 37196898 meets the definition of a nonroad engine as stated in 40 CFR 89.2.
  7. **Concurrent Operation Restriction**  
Magruder Limestone Co., Inc. PORT-0275 is only allowed to operate with other plants at this site whenever those plants are owned by Magruder Limestone Co.

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**SITE SPECIFIC SPECIAL CONDITIONS:**

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

8. **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.
  
9. **Reporting Requirement**  
Magruder Limestone Co., Inc. 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.

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

Project Number: 2013-05-035  
Installation ID Number: PORT-0275  
Permit Number:

Magruder Limestone Co., Inc.  
330 Highway E  
Silex, MO 63377

Complete: June 6, 2013

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

Lincoln County, S2 & 11 T50N R1W

PROJECT DESCRIPTION

Magruder Limestone Co., Inc. is replacing the PORT-0275 's Telsmith primary jaw crusher, grizzly, unload conveyor, and diesel engine with the following equipment listed in Table 1.

Table 1: Equipment Description

Emission Unit	Description	MHDR
EP001	57" x 16' Grizzly Model OF120C, S/N576	500 tph
EP002	Eagle Model 62D321, S/N 11423	500 tph
EP003	42" x 30' unload conveyor	500 tph
Non-road engine	Cummins Model QSK19-P, S/N 37196896	510 hp

This plant will have a MHDR of 500 tons per hour.

At the time of the application, the Magruder Limestone Co., Inc. proposed to operate PORT-0275 at Silex Quarry and Foley Quarry, both located in Lincoln County as indicated in the table below, and therefore requests that this PORT-0275 be permitted at both sites. After their initial visit to the Silex Quarry, Magruder Limestone Co. will need to get a seven day relocation permit to locate at Foley Quarry. To locate at any other site other than the Silex Quarry and Foley Quarry, a 21-day relocation permit is required since new equipment has been added and the MHDR has increased.

Table 2: Sites Approved by the Permit

County	Site ID Number	Site Address	Section, Township, Range
Lincoln	113-0060	330 Highway E Silex, MO 63377	S2 & 11, T50N, R1W
Lincoln	113-0075	399 Old Highway 79 Foley, MO 63347	S26, T50N, R2E

This permit will designate that the minimum distance to the property line for Silex Quarry will be 350 feet and for Foley Quarry will be 500 feet. The maximum length of the haul roads (shipping and receiving) (EP008) at Silex Quarry will be 1,500 feet and at Foley Quarry will be 1,200 feet with an additional pit road (EP029) of 50 feet.

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 at both locations.

The plant will be powered by a 510 hp Cummins diesel engine, however it meets the definition of non-road engine as defined in 40 CFR 89.2 . Therefore, the emissions of the engine were not included. Portable plants are allowed to operate at a site for 24 consecutive months. However, Magruder Limestone Co., Inc. has requested a voluntary 12 month operation limit at the site to ensure the non-road engine status of the diesel engine without record keeping.

This installation is located in Lincoln County, attainment status.

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 along with various Section (4) relocation amendments to these permits as listed in the General Special Condition 1.

Table 3: Permit History

Permit Number	Description
122001-013	Add cone crusher
0796-017	Rock crushing plant

Table 4 (Silex Quarry) and Table 5 (Foley Quarry) 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 the last full EIQ which was done in 2001. A full EIQ must be submitted for 2013 which will include an updated equipment list with associated emission factors. 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 ambient air limit to show compliance with NAAQS.

Table 4: Emissions Summary (tons per year) for Silex Quarry 113-0060

Air Pollutant	De Minimis Level/SMAL	Conditioned Potential Emissions of Existing Facility <sup>a</sup>	Existing Actual Emissions (2001 EIQ)	Potential Emissions of Process Equipment	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions
PM	25.0	N/D	N/D	32.95	179.34	96.14
PM <sub>10</sub>	15.0	11.96	6.03	12.03	75.11	40.34
PM <sub>2.5</sub>	10.0	N/D	N/D	1.70	15.46	8.28
SO <sub>x</sub>	40.0	6.31	N/D	N/A	N/A	N/A
NO <sub>x</sub>	40.0	<40.0	N/D	N/A	N/A	N/A
VOC	40.0	1.02	N/D	N/A	N/A	N/A
CO	100.0	10.63	N/D	N/A	N/A	N/A
GHG (CO <sub>2</sub> e)	75,000 / 100,000	N/A	N/D	N/A	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	N/A	N/D	N/A	N/A	N/A
Total HAPs	25.0	0.02	N/D	N/A	N/A	N/A

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

<sup>a</sup>According to 122001-013D

<sup>b</sup>Includes site specific haul road and storage pile emissions

<sup>c</sup>Indirect limit based on compliance with NAAQS

Table 5: Emissions Summary (tons per year) for Foley Quarry 113-0075

Air Pollutant	De Minimis Level/SMAL	Conditioned Potential Emissions of Existing Facility <sup>a</sup>	Existing Actual Emissions (2001 EIQ)	Potential Emissions of Process Equipment	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions
PM	25.0	N/D	N/D	32.95	173.85	85.93
PM <sub>10</sub>	15.0	11.96	6.03	12.03	73.39	36.30
PM <sub>2.5</sub>	10.0	N/D	N/D	1.70	14.61	7.22
SO <sub>x</sub>	40.0	6.31	N/D	N/A	N/A	N/A
NO <sub>x</sub>	40.0	<40.0	N/D	N/A	N/A	N/A
VOC	40.0	1.02	N/D	N/A	N/A	N/A
CO	100.0	10.63	N/D	N/A	N/A	N/A
GHG (CO <sub>2</sub> e)	75,000 / 100,000	N/A	N/D	N/A	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	N/A	N/D	N/A	N/A	N/A
Total HAPs	25.0	0.02	N/D	N/A	N/A	N/A

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

<sup>a</sup>According to 122001-013D

<sup>b</sup>Includes site specific haul road and storage pile emissions

<sup>c</sup>Indirect limit based on compliance with NAAQS

Table 6 (Silex Quarry) and Table 7 (Foley Quarry) summarizes the ambient air quality impact analysis. The maximum modeled impact is the impact of each pollutant when the plant is operating continuously. The 24-hour limited impacts and daily limit are based on compliance with the NAAQS for PM<sub>10</sub>, which will indirectly limits PM<sub>10</sub> to below the 50 tons per year for portable plants to avoid dispersion modeling requirements found in 10 CSR 10-6.060 Section (6).

Table 6: Ambient Air Quality Impact Analysis for Silex Quarry 113-0060

Pollutant	<sup>a</sup> NAAQS/RAL ( $\mu\text{g}/\text{m}^3$ )	Averaging Time	<sup>b</sup> Maximum Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	Limited Impact ( $\mu\text{g}/\text{m}^3$ )	Background ( $\mu\text{g}/\text{m}^3$ )	<sup>c</sup> Daily Limit (tons/day)
<sup>d</sup> PM <sub>10</sub> (solitary/same)	150.0	24-hour	317.08	130.0	20.0	6,359.2

<sup>a</sup>National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

<sup>b</sup>Modeled impact at maximum capacity with controls

<sup>c</sup>Indirect limit based on compliance with NAAQS.

<sup>d</sup>Solitary operation or operation with other plants that are owned by Magruder Limestone Co., Inc.

Table 7: Ambient Air Quality Impact Analysis for Foley Quarry 113-0075

Pollutant	<sup>a</sup> NAAQS/RAL ( $\mu\text{g}/\text{m}^3$ )	Averaging Time	<sup>b</sup> Maximum Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	Limited Impact ( $\mu\text{g}/\text{m}^3$ )	Background ( $\mu\text{g}/\text{m}^3$ )	<sup>c</sup> Daily Limit (tons/day)
<sup>d</sup> PM <sub>10</sub> (solitary/same)	150.0	24-hour	196.63	130.0	20.0	8,499.2

<sup>a</sup>National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

<sup>b</sup>Modeled impact at maximum capacity with controls

<sup>c</sup>Indirect limit based on compliance with NAAQS.

<sup>d</sup>Solitary operation or operation with other plants that are owned by Magruder Limestone Co., 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 greater than 1.5 percent (%) by weight.

The engine emissions were not evaluated for this review as the diesel engine at this site is classified as a non-road 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 engine for this portable 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 portable plant's engine is in one location for longer than 12 consecutive months.

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 PM<sub>10</sub> and a 40% control efficiency for PM<sub>2.5</sub> 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."

## AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 6 and 7. The Air Pollution Control Program requires an AAQIA of PM<sub>10</sub> for all asphalt, concrete and rock-crushing plants regardless of the level of PM<sub>10</sub> 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/m<sup>3</sup> of PM<sub>10</sub> in accordance with the Air Pollution Control Program's BMPs interim policy.

## OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Magruder Limestone Co., Inc. shall demonstrate compliance with the NAAQS.

- When no other plants are located at the Silex Quarry, Magruder Limestone Co., Inc. must calculate the daily PORT-0275 plant and limit the total impact of that plant to not exceed the NAAQS using Attachment A.
- When plants that are owned by Magruder Limestone Co., Inc., which are referred to as same owner plants, are located at the Silex Quarry, Magruder Limestone Co., Inc. must calculate the daily impact of each plant and limit the total impact of all plants to not exceed the NAAQS using Attachment A.
- When no other plants are located at the Foley Quarry, Magruder Limestone Co., Inc. must calculate the daily PORT-0275 plant and limit the total impact of that plant to not exceed the NAAQS using Attachment B.

- When plants that are owned by Magruder Limestone Co., Inc., which are referred to as same owner plants, are located at the Foley Quarry, Magruder Limestone Co., Inc. must calculate the daily impact of each plant and limit the total impact of all plants to not exceed the NAAQS using Attachment B.

#### 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 of PM and PM<sub>10</sub> are the above de minimis level but below the major source level.

#### 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.
- Operating Permit is not required because PORT-0275 is a portable 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 10-6.165

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

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Kathy Kolb  
New Source Review Unit

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Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 13, 2013, received May 17, 2013, designating Magruder Limestone Co., 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 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 emissions<sup>1</sup> 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.

<sup>1</sup>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.)

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

RE: New Source Review Permit - Project Number: 2013-05-035

Dear Mr. Bono:

Enclosed with this letter is your permit to construct. Please study it carefully. 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 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, 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 by telephone 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:kkk

Enclosures

c: St. Louis Regional Office  
PAMS File: 2013-05-035

Permit Number: