

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: 092013-011 Project Number: 2013-05-036  
Installation ID: PORT-0697

Parent Company: Magruder Limestone Co., Inc.

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

Installation Name: Magruder Limestone Co., Inc. PORT-0697

Installation Addresses: South of County Rd 334 & County Rd 347 Intersection  
Shelbyville, MO 63469

Location Information: Shelby County, NW 1/4 of SE 1/4 of S9, T57N, 10W

Application for Authority to Construct was made for:  
a new portable rock crushing plant. 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.

SEP 16 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 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 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 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.

Page No.	3
Permit No.	
Project No.	2013-05-036

**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. **Equipment Identification Requirement**  
Magruder Limestone Co., Inc. PORT-0697 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.
2. **Relocation of Portable Rock Crushing Plant**
  - A. Magruder Limestone Co., Inc. PORT-0697 shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0697, 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 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. **Record Keeping Requirement**  
Magruder Limestone Co., Inc. PORT-0697 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**  
Magruder Limestone Co., Inc. PORT-0697 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.

Page No.	4
Permit No.	
Project No.	2013-05-036

**SITE SPECIFIC SPECIAL CONDITIONS FOR SHELBYNA QUARRY:**

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-0697

Site ID Number: 205-0029

Site Name: Shelbina Quarry

Site Address: South of County Rd 334 & County Rd. 347 intersection, Shelbyville, MO 63469

Site County: Shelby County, NW 1/4 of SE 1/4 of S9, T57N, 10W

1. **Best Management Practices Requirement**  
Magruder Limestone Co., Inc. PORT-0697 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. PORT-0697 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. When another plant owned by Magruder Limestone Co., Inc. is located at the site, Magruder Limestone Co., Inc. PORT-0697 shall demonstrate compliance with Special Condition 2.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form. Magruder Limestone Co., Inc. PORT-0697 shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachment.
  - C. Magruder Limestone Co., Inc. is exempt from the requirements of Special Condition 2.B when no other plants are operating at this site.
3. **Moisture Content Testing Requirement**
  - A. Magruder Limestone Co., Inc. PORT-0697 shall verify that the moisture content of the processed rock is greater than or equal to 1.5% 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.

Page No.	5
Permit No.	
Project No.	2013-05-036

**SITE SPECIFIC SPECIAL CONDITIONS FOR SHELBINA QUARRY:**

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

---

- 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.
  - 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. PORT-0697 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. PORT-0697 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, the primary crusher (EP-4), shall be located at least 400 feet from the nearest property boundary.
5. **Primary Equipment Requirement**  
Magruder Limestone Co., Inc. PORT-0697 shall process all rock through the primary crusher (EP-4). Bypassing the primary crusher is prohibited.
6. **Nonroad Engine Requirement**  
Magruder Limestone Co., Inc. PORT-0697 cannot operate at this site longer than 12 consecutive months in order to avoid record keeping requirements to show that the 510 horsepower engine meets the definition of a nonroad engine as stated in 40 CFR 89.2.
7. **Concurrent Operation Restriction**  
Magruder Limestone Co., Inc. PORT-0697 is prohibited from operating whenever other plants not owned by Magruder Limestone Co., Inc. are located at the site.

Page No.	6
Permit No.	
Project No.	2013-05-036

**SITE SPECIFIC SPECIAL CONDITIONS FOR SILEX QUARRY:**

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-0697

Site ID Number: 113-0060

Site Name: Silex Quarry

Site Address: 330 Highway E, Silex, MO 63377

Site County: Lincoln County, S2 and 11, T50N, R1W

1. **Best Management Practices Requirement**  
Magruder Limestone Co., Inc. PORT-0697 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. PORT-0697 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. PORT-0697 shall demonstrate compliance with Special Condition 2.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form. Magruder Limestone Co., Inc. PORT-0697 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. PORT-0697 shall verify that the moisture content of the processed rock is greater than or equal to 1.5% 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).

Page No.	7
Permit No.	
Project No.	2013-05-036

**SITE SPECIFIC SPECIAL CONDITIONS FOR SILEX QUARRY:**

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

---

- 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. PORT-0697 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 ten 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. PORT-0697 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, the primary crusher (EP-4), shall be located at least 350 feet from the nearest property boundary.
  - 5. **Primary Equipment Requirement**  
Magruder Limestone Co., Inc. PORT-0697 shall process all rock through the primary crusher (EP-4). Bypassing the primary crusher is prohibited.
  - 6. **Nonroad Engine Requirement**  
Magruder Limestone Co., Inc. PORT-0697 cannot operate at this site longer than 12 consecutive months in order to avoid record keeping requirements to show that the 510 horsepower engine meets the definition of a nonroad engine as stated in 40 CFR 89.2.
  - 7. **Concurrent Operation Restriction**  
Magruder Limestone Co., Inc. PORT-0697 is prohibited from operating whenever other plants not owned by Magruder Limestone Co., Inc. are located at the site.

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

Project Number: 2013-05-036

Installation ID Number: PORT-0697

Permit Number:

Magruder Limestone Co., Inc. PORT-0697

Complete: June 19, 2013

Shelbina Quarry

South of County Rd 334 & County Rd. 347 Intersection

Shelbyville, MO 63469

Parent Company:

Magruder Limestone Co., Inc.

255 Watson Road

Troy, MO 63379

Shelbina Quarry

Shelby County

NW 1/4 of SE 1/4 of S9, T57N, 10W

#### PROJECT DESCRIPTION

Magruder Limestone Co., Inc. is removing the following equipment from the portable rock crushing plant PORT-0275:

- A Telsmith Model 30 X 42 jaw crusher, serial number 7085, with a maximum hourly design rate (MHDR) of 350 tons per hour;
- An attached grizzly feeder;
- An attached underconveyor; and
- A generator set mounted in an enclosed trailer with a 1985, 510 horsepower, Caterpillar Model 3306 engine, serial number 85Z10665, and an exhaust stack that is 4 feet above the ground and has a 7-inch diameter.

This removed equipment will constitute new portable rock crushing plant PORT-0697. Project 2013-05-035 will add equipment to PORT-0275 to compensate for the removal of this equipment.

Magruder Limestone Co., Inc. proposes to operate PORT-0697 at both the Shelbina Quarry in Shelby County and at the Silex Quarry in Lincoln County as indicated in Table 1, and therefore requests that PORT-0697 be permitted at both sites. Before moving this portable rock crushing plant from the Shelbina Quarry to the Silex Quarry or vice versa, Magruder Limestone Co., Inc. is required to obtain a 7-day relocation permit. Before moving it to any site other than the Shelbina Quarry or the Silex Quarry, Magruder Limestone Co., Inc. is required to obtain a 21-day relocation permit.

Table 1:: Sites Approved by this Permit

County	Site ID #	Site Address	Section, Township, Range
Shelby	205-0029	South of County Rd 334 & County Rd. 347 Intersection Shelbina, MO 63469	NW 1/4 of SE 1/4 of S9, T57N, 10W
Lincoln	113-0060	330 Highway E Silex, MO 63377	S2 & 11, T50N, R1W

Other plants may be located at either Shelbina Quarry or Silex Quarry, but these other plants will also be owned by Magruder Limestone Co., Inc. Emission calculations and ambient air quality impact analysis (AAQIA) were done separately for the two different sites.

At Shelbina Quarry, the minimum distance to the property line is 400 feet, and at Silex Quarry it is 350 feet. At Shelbina Quarry, the length of the pit haul road (EP-7) is 150 feet and the length of the customer haul road (EP-8) is 800 feet. At Silex Quarry, the length of the pit and customer haul road (EP-7) is 1,500 feet. At both quarries, the storage pile (EP-6) covers a maximum of 1 acre.

The plant will be powered by a 510 horsepower engine; however it meets the definition of nonroad engine as defined in 40 CFR 89.2. Therefore, the emissions of the engine were not included. Although a portable plant is allowed to operate at a site for 24 consecutive months, this rock crushing portable plant is only allowed to operate at this site for 12 consecutive months to avoid recordkeeping requirements.

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.

This installation is to be located first in Shelby County and then in Lincoln County. Both counties are attainment areas for all criteria pollutants.

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

Since this is a new portable plant, no permits have been issued to Magruder Limestone Co., Inc. PORT-0697 from the Air Pollution Control Program.

## TABLES

Table 2 (for the Shelbina Quarry) and Table 3 (for the Silex Quarry) summarize the emissions of this project at the two separate sites. 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. Since this is a new portable, there are no existing actual emissions. The potential emissions of the application represent

the emissions of all equipment and activities assuming continuous operation (8760 hours per year). The conditioned potential emissions account for a mandatory limit to meet National Ambient Air Quality Standards (NAAQS).

Table 2: Shelbina Quarry Emissions Summary (tons per year)

Air Pollutant	De Minimis Level	<sup>a</sup> Potential Emissions of the Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions
PM	25.0	12.93	N/A	57.85	N/A
PM <sub>10</sub>	15.0	5.39	N/A	23.56	N/A
PM <sub>2.5</sub>	10.0	1.17	N/A	6.21	N/A
SO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
NO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
Single HAP	10.0	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A	N/A
GHG (CO <sub>2</sub> e)	100,000	N/A	N/A	N/A	N/A

N/A = Not Applicable

<sup>a</sup>Excludes haul road and storage pile emissions

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

<sup>c</sup>Conditioned potential emissions are not applicable because PM<sub>10</sub> maximum ambient air impact is already below NAAQS limit of 130.0 µg/m<sup>3</sup> PM<sub>10</sub>.

Table 3: Silex Quarry Emissions Summary (tons per year)

Air Pollutant	De Minimis Level	<sup>a</sup> Potential Emissions of the Process Equipment	Existing Actual Emissions	<sup>b</sup> Potential Emissions of the Application	<sup>c</sup> Conditioned Potential Emissions
PM	25.0	12.93	N/A	63.80	58.27
PM <sub>10</sub>	15.0	5.39	N/A	25.12	22.95
PM <sub>2.5</sub>	10.0	1.17	N/A	7.15	6.53
SO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
NO <sub>x</sub>	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
Single HAP	10.0	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A	N/A
GHG (CO <sub>2</sub> e)	100,000	N/A	N/A	N/A	N/A

N/A = Not Applicable

<sup>a</sup>Excludes haul road and storage pile emissions

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

<sup>c</sup>Conditioned potential emissions account for a NAAQS limit of 130.0 µg/m<sup>3</sup> PM<sub>10</sub>. Annual potential emissions of all pollutants are proportionally reduced.

Table 4 (for the Shelbina Quarry) and Table 5 (for the Silex Quarry) summarize the ambient air quality impact analyses at the two separate sites. The maximum modeled impact is the impact of each pollutant when the plant is operating continuously. The 24-hour limited impact and daily limit are based on compliance with the NAAQS for PM<sub>10</sub>.

Table 4: Shelbina Quarry Ambient Air Quality Impact Analysis

Pollutant	<sup>a</sup> NAAQS (µg/m <sup>3</sup> )	Averaging Time	<sup>b</sup> Maximum Modeled Impact (µg/m <sup>3</sup> )	Limited Impact (µg/m <sup>3</sup> )	Background (µg/m <sup>3</sup> )	Daily Limit (tons/day)
<sup>c</sup> PM <sub>10</sub> (solitary or same)	150.0	24-hour	123.46	N/A	20.0	N/A

<sup>a</sup>National Ambient Air Quality Standards (NAAQS)

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

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

Table 5: Silex Quarry Ambient Air Quality Impact Analysis

Pollutant	<sup>a</sup> NAAQS (µg/m <sup>3</sup> )	Averaging Time	<sup>b</sup> Maximum Modeled Impact (µg/m <sup>3</sup> )	Limited Impact (µg/m <sup>3</sup> )	Background (µg/m <sup>3</sup> )	<sup>c</sup> Daily Limit (tons/day)
<sup>d</sup> PM <sub>10</sub> (solitary or same)	150.0	24-hour	147.83	130.00	20.0	7,663

<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 % by weight.

The engine emissions were not evaluated for this review as the engine at this site is classified as a nonroad engine. 40 CFR 63 Subpart ZZZZ, “National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” and 40 CFR 60 Subpart IIII, “Standards of Performance for Stationary Compression Ignition Internal Combustion Engines” do not apply. However, if the self-contained 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 self-contained plant 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

Ambient air quality impact analyses (AAQIA) were performed to determine the impact of the pollutants listed in Tables 1 and 2. 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 owned by Magruder Limestone Co., Inc. located at the site as long as the NAAQS is not exceeded. The plant is prohibited from operating at these sites with plants under separate ownership. The following scenarios explain how Magruder Limestone Co., Inc. PORT-0697 shall demonstrate compliance with the NAAQS.

- When no other plants are located at the Shelbina Quarry site, Magruder Limestone Co., Inc. PORT-0697 is in compliance with the NAAQS, and there is no requirement to calculate a daily impact for it.
- When plants that are owned by Magruder Limestone Co., Inc., which are referred to as same owner plants, are located at the Shelbina Quarry site, Magruder Limestone Co., Inc. PORT-0697 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 Silex Quarry site, Magruder Limestone Co., Inc. PORT-0697 must calculate its daily impact 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 Silex Quarry site, Magruder Limestone Co., Inc. PORT-0697 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*. Potential emissions of PM and PM<sub>10</sub> are above de minimis levels but below major source levels.

#### APPLICABLE REQUIREMENTS

Magruder Limestone Co., Inc. PORT-0697 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

- A Basic Operating Permit application is not required for this installation. Portable rock crushing plants are exempt per 10 CSR 10-6.065((1)(C)20.
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *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

#### SPECIFIC REQUIREMENTS

- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the 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.

---

Cheryl Steffan  
New Source Review Unit

---

Date

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 14, 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  
Magruder Limestone Co., Inc. PORT-0697  
255 Watson Road  
Troy, MO 63379

RE: New Source Review Permit - Project Number: 2013-05-036

Dear Mr. Bono:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special condition on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Cheryl Steffan, 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:csk

Enclosures

c: Northeast Regional Office  
St. Louis Regional Office  
PAMS File: 2013-05-036

Permit Number: