



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: 112015-008

Project Number: 2015-08-037  
Installation ID: PORT-0725

Parent Company: Ray County Stone Producers, LLC

Parent Company Address: 9596 EE Hwy, Richmond, MO 64085

Installation Name: Ray County Stone Producers, LLC PORT-0725

Installation Address: 9596 EE Hwy, Richmond, MO 64085

Location Information: Ray County, S32 T54N R28W

Application for Authority to Construct was made for:  
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.

NOV 16 2015

EFFECTIVE DATE

*Kyra L Moore*  
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.	2015-08-037

**GENERAL 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."*

1. **Equipment Identification Requirement**  
Ray County Stone Producers, LLC PORT-0725 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. Ray County Stone Producers, LLC PORT-0725 shall not be operated at any location longer than 24 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**  
Ray County Stone Producers, LLC PORT-0725 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**  
Ray County Stone Producers, LLC PORT-0725 shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after any exceedances of the limitations imposed by this permit.

Page No.	4
Permit No.	
Project No.	2015-08-037

**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-0725

Site ID Number: 177-0047

Site Name: Ray County Stone - EE Quarry

Site Address: 9596 EE Hwy, Richmond, MO 64085

Site County: Ray S32 T54N R28W

1. Ambient Air Impact Limitation
  - A. Ray County Stone Producers, LLC PORT-0725 shall not cause an exceedance of the NAAQS for PM<sub>10</sub> of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  - B. Ray County Stone Producers, LLC PORT-0725 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 electronic forms. Ray County Stone Producers, LLC PORT-0725 shall account for the impacts from other sources of PM<sub>10</sub> as instructed in the attachments.
2. Moisture Content Testing Requirement
  - A. Ray County Stone Producers, LLC PORT-0725 shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
  - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
  - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
  - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
  - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Ray County Stone Producers, LLC PORT-0725 main office within 30 days of completion of the required test.

Page No.	5
Permit No.	
Project No.	2015-08-037

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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- 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 within 15 days of the noncompliant test. If the results of that test is less than the moisture content in Special Condition 2.A, Ray County Stone Producers, LLC PORT-0725 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, Ray County Stone Producers, LLC PORT-0725 may obtain test results that demonstrate compliance with the moisture content in Special Condition 2.A from the supplier of the aggregate.
3. **Minimum Distance to Property Boundary Requirement**  
The primary emission point shall be located at least 860 feet from the nearest property boundary.
4. **Primary Equipment Requirement**  
Ray County Stone Producers, LLC PORT-0725 shall process all rock through the primary crusher (EU-02). Bypassing the primary crusher is prohibited.
5. **Concurrent Operations**  
Ray County Stone Producers, LLC PORT-0725 is permitted to concurrently operate with other same owner plants located at this site. Ray County Stone Producers, LLC PORT-0725 shall show compliance with this special condition by recording the ambient air quality impacts of all same owner plants using the spaces provided in Attachment A, or an equivalent form, such as an electronic form, approved by the Air Pollution Control Program.
6. **Record Keeping Requirement**  
Ray County Stone Producers, LLC PORT-0725 shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
7. **Reporting Requirement**  
Ray County Stone Producers, LLC PORT-0725 shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after any exceedances of the limitations imposed by this permit.

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

Project Number: 2015-08-037

Installation ID Number: PORT-0725

Permit Number:

Ray County Stone Producers, LLC PORT-0725  
9596 EE Hwy  
Richmond, MO 64085

Complete: September 19, 2015

Parent Company:  
Ray County Stone Producers, LLC  
9596 EE Hwy  
Richmond, MO 64085  
Ray County, S32 T54N R28W

PROJECT DESCRIPTION

Ray County Stone Producers, LLC plans on operating a new portable rock crushing plant (PORT-0725) at Ray County Sone – EE Quarry in Richmond, Missouri. PORT-0725 will include a primary crusher, Eagle 1200-25, a secondary crusher, Cedarapids 2100 VSI, a two deck screen, and seven associated conveyors. The equipment will be powered by a 320 kw Caterpillar generator. The primary crusher will be located 860 feet from the property line and is capable of 200 tons per hour. Total storage pile will be 3.00 acres. There will be one haul road that is approximately 1,400 feet long. Ray County Stone Producers, LLC will not be using Best Management Practices for the construction industry to control particulate emissions. The equipment is listed in the following table.

Table 1: Equipment List for PORT-0725

Unit ID	Equipment	Make/Model	Combined Capacity (tons/ hour)
EU-01	Load in	N/A	200
EU-02	Primary Crusher	Eagle 1200-25	200
EU-03-EU-05	3 Conveyors discharging from crusher	Generic Conveyors	200
EU-06	Secondary Crushers	Cedarapids 2100 VSI	200
EU-07	1 Conveyor from screen output	Generic Conveyor	200
EU-08	2 Deck Screen	Simplicity 4x12 – 2 Deck Screen	200
EU-09-EU-11	Three discharge conveyors	Generic Conveyors	200
EU-12	Diesel Generator	CAT 320 kw generator	N/A

N/A = Not applicable

This installation is located in Ray County, a maintenance area for ozone and an attainment area for all other criteria pollutants.

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

## TABLES

The table 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. There are no existing actual emissions since this a new portable plant. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8,760 hours per year). Conditioned potential emissions account for the daily NAAQS limit.

**Table 2: Emissions Summary (tons per year)**

Air Pollutant	De Minimis Level/SMAL	Potential Emissions of Process Equipment <sup>a</sup>	<sup>b</sup> Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	43.23	296.85	106.18
PM <sub>10</sub>	15.0	18.70	96.48	34.51
PM <sub>2.5</sub>	10.0	5.49	13.71	4.90
SO <sub>x</sub>	40.0	3.73	3.73	1.33
NO <sub>x</sub>	40.0	56.67	56.67	20.27
VOC	40.0	4.63	4.63	1.65
CO	100.0	12.21	12.21	4.37
GHG (CO <sub>2</sub> e)	75,000 / 100,000	2,107	2,107	754
Total HAPs	25.0	0.005	0.05	0.02

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

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

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

**Table 3: Ambient Air Quality Impact Analysis**

Pollutant	NAAQS/RAL (µg/m <sup>3</sup> )	Averaging Time	<sup>a</sup> Maximum Modeled Impact (µg/m <sup>3</sup> )	Limited Impact (µg/m <sup>3</sup> )	Background (µg/m <sup>3</sup> )	<sup>b</sup> Daily Limit (tons/day)
<sup>c</sup> PM <sub>10</sub> (solitary)	150.0	24-hour	829.15	150.0	0.0	1,716
<sup>d</sup> PM <sub>10</sub> (same)	150.0	24-hour	N/D	150.0	0.0	N/D

N/D = Not determined

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

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

<sup>c</sup>Solitary operation

<sup>d</sup>Operation with other plants that are owned by Ray County Stone Producers, LLC

## EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the rock-crushing equipment 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.

Emissions from the diesel generator were calculated using emission factors from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines," October 1996.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006. 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 3. 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 NAAQS or 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.

## 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 Ray County Stone Producers, LLC PORT-0725 shall demonstrate compliance with the NAAQS.

- When no other plants are located at this site, Ray County Stone Producers, LLC must calculate the daily impact of PORT-0725 and limit the total impact below the NAAQS using Attachment A.

- When plants that are owned by Ray County Stone Producers, LLC, which are referred to as same owner plants, are located at the site, Ray County Stone Producers, LLC 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 plants that are not owned by Ray County Stone Producers, LLC, which are referred to as separate owner plants, are located at the site, Ray County Stone Producers, LLC is not permitted to operate.

#### 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 remain below the major source level.

#### APPLICABLE REQUIREMENTS

Ray County Stone Producers, LLC PORT-0725 shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

#### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- No Operating Permit is required for this installation because this 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

- 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 proposed 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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Chad Stephenson  
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 August 20, 2015, received August, 27, 2015, designating Ray County Stone Producers, LLC as the owner and operator of the installation.
- Email from Jeremy Greer, owner of Ray County Stone Producers, LLC, dated September 19, 2015.



Mr. Jeremy Greer  
Owner  
Ray County Stone Producers, LLC PORT-0725  
9596 EE Hwy  
Richmond, MO 64085

RE: New Source Review Permit - Project Number: 2015-08-037

Dear Mr. Greer:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, and your new source review permit application are necessary for continued compliance. 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office Building, P.O. Box 1557, Jefferson City, Missouri 65102, [www.oa.mo.gov/ahc](http://www.oa.mo.gov/ahc). If you have questions regarding this, please contact Chad Stephenson, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817.

Sincerely,

**AIR POLLUTION CONTROL PROGRAM**

Susan Heckenkamp  
New Source Review Unit Chief

SH:csl

Enclosures

c: Kansas City Regional Office  
PAMS File: 2015-08-037

Permit Number: