

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: 062011-002

Project Number: 2011-05-041

Installation ID: 177-0041

Installation Name: Ray County Stone Producers, LLC

Installation Address: 17279 Maddux Rd, Rayville, MO 64084

Location Information: Ray County, S15, T53N, R28W

Application for Authority to Construct was made for:
Construction of rock-crushing and classifying equipment. 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.

JUN 7 2011

EFFECTIVE DATE

A handwritten signature in cursive script, reading "James L. Kavanaugh".

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

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 Departments' 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.

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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."

1. Superseding Condition
 - A. The conditions of this permit supersede all special conditions found in the previously issued construction permit 082009-002 from the Air Pollution Control Program.

2. Ambient Air Impact Limitation
 - A. Ray County Stone Producers, LLC shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM₁₀) of 150.0 µg/m³ 24-hour average in ambient air.

 - B. Ray County Stone Producers, LLC shall demonstrate compliance with special condition 2.A using Attachment A and Attachment B or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. Ray County Stone Producers, LLC shall account for the impacts from other sources of PM₁₀ as instructed in the attachments.

3. Annual Emission Limit
 - A. Ray County Stone Producers, LLC shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation as described in the Project Description Section (page 5).

 - B. Ray County Stone Producers, LLC shall demonstrate compliance with special condition 3.A using Attachment C or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.

4. Undocumented Watering Requirement
 - A. Ray County Stone Producers, LLC shall apply a water spray on all haul roads and vehicular activity areas whenever conditions exist that would allow visible emissions from these sources to leave the property.

5. Moisture Content Testing Requirement
 - A. Ray County Stone Producers, LLC shall verify that the moisture content of the processed rock is greater than or equal to 1.5% 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.

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SITE SPECIFIC SPECIAL CONDITIONS:

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 Ray County Stone Producers, LLC 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 5.A, another test may be performed within 15 days of the noncompliant test. If the results of that test also exceed the limit, Ray County Stone Producers, LLC 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 Air Pollution Control Program Compliance Assistance section within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.
 - G. In lieu of testing, Ray County Stone Producers, LLC may obtain test results that demonstrate compliance with the moisture content in special condition 5.A from the supplier of the aggregate.
6. **Minimum Distance to Property Boundary Requirement**
The primary emission point shall be located at least 875 feet from the nearest property boundary.
7. **Record Keeping Requirement**
Ray County Stone Producers, LLC 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.
8. **Reporting Requirement**
Ray County Stone Producers, LLC 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: 2011-05-041
Installation ID Number: 177-0041
Permit Number:

Ray County Stone Producers, LLC
17279 Maddux Rd
Rayville, MO 64084

Complete: May 17, 2011

Ray County, S15, T53N, R28W

PROJECT DESCRIPTION

Ray County Stone Producers, LLC has applied for authority to reconfigure their stationary rock-crushing plant. The plant will consist of one 300 ton per hour impact crusher, which will function as the primary crusher, one roll crusher, two 5x16 screens, and seven conveyors. The equipment is powered by electricity from the local provider. Some of this equipment is existing and some is new, however in an effort to reduce the complexity of record keeping for the facility, all the equipment will be permitted as new equipment. The installation is permitted to operate concurrently with other plants.

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

Ray County Stone Producers, LLC holds a basic operating permit that was issued on December 22, 2009. The following construction permits have been issued to Ray County Stone Producers, LLC from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
082009-002	New equipment
022009-001	Make portable stationary
092008-003	New portable plant
112006-010A	Allow colocation
112006-010	Remove concrete plant, update quarry production
112004-008	Amend quarry permit for concrete plant
092004-013	Concrete plant
072002-016A	Revise emission limits
072002-016	New rock-crushing plant

The table below summarizes the emissions of this project. The existing actual emissions were taken from the previous year's EIQ. 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 are based on an annual limit of PM₁₀ below the de minimis level of 15 tons per year to avoid the modeling requirements of Section (6). The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual emission limit and sources that operate continuously.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level	^a Existing Potential Emissions	Existing Actual Emissions (2009 EIQ)	^b Potential Emissions of the Application	New Installation Conditioned Potential Emissions
PM	25.0	134.42	N/D	134.63	43.99
PM ₁₀	15.0	45.34	6.59	45.44	< 15.0
PM _{2.5}	10.0	6.94	0.11	6.99	2.31

N/D = Not Determined

^aExisting Potential Emissions were taken from permit 082009-002

^bIncludes site specific haul road and storage pile emissions

Table 3: Ambient Air Quality Impact Analysis

Pollutant	^a NAAQS (µg/m ³)	Averaging Time	^b Maximum Modeled Impact (µg/m ³)	Limited Impact (µg/m ³)	Background (µg/m ³)	^c Daily Limit (tons/day)
^d PM ₁₀ (same)	150.0	24-hour	332.9	150.00	N/A	4,132
^e PM ₁₀ (separate)	150.0	24-hour	N/A	58.95	91.05	2,396

^aNational Ambient Air Quality Standards (NAAQS)

^bModeled impact at maximum capacity with controls

^cIndirect limit based on compliance with NAAQS.

^dSolitary operation or operation with other plants that are owned by Ray County Stone Producers, LLC

^eOperation with other plants that are not owned by Ray County Stone Producers, LLC

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% weight.

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 50% control efficiency is applied to the emission calculations for watering. 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% 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 PM₁₀ for all asphalt, concrete and rock-crushing plants regardless of the level of PM₁₀ emissions if a permit is required. An AAQIA is required for other pollutants if their emissions exceed their respective de minimis or screening model action level (SMAL). The AAQIA was performed using the Air Pollution Control Program's generic nomographs and when appropriate the EPA modeling software SCREEN3. 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. In cases where the plant is providing material for a highway project, the ambient impact is evaluated in accordance with a memorandum issued by the Air Pollution Control Program titled "Permitting Asphalt/Concrete Plants for Temporary Highway Projects," dated April 10, 2000. This memorandum states that air quality should be analyzed at the nearest residence or location where the public could reasonably be expected to be found instead of all ambient air. This practice generally allows for a less restrictive daily production level while protecting the public.

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 shall demonstrate compliance with the NAAQS.

- When no other plants are located at the site, Ray County Stone Producers, LLC must calculate the daily impact of their plant and limit its 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 below 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 must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by Ray County Stone Producers, LLC that are operating at the site. This total is limited below the NAAQS. Ray County Stone Producers, LLC will limit the total impact of all plants they own and operate at the site to $58.95 \mu\text{g}/\text{m}^3$ when any plants they do not own are located at the site. Ray County Stone Producers, LLC is not permitted to operate with any plant that is not owned by Ray County Stone Producers, LLC that has a separate owner background greater than $91.05 \mu\text{g}/\text{m}^3$. During this scenario, Ray County Stone Producers, LLC shall use Attachment B to demonstrate compliance with the NAAQS.

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 are above de minimis levels. Potential emissions of PM₁₀ are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Ray County Stone Producers, LLC 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *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.

Michael Mittermeyer
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 17, 2011, received May 17, 2011, designating Ray County Stone Producers, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Mr. Jeremy Greer
President
Ray County Stone Producers, LLC
17279 Maddux Rd
Rayville, MO 64084

RE: New Source Review Permit - Project Number: 2011-05-041

Dear Mr. Greer:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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 amended 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 Michael Mittermeyer, at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:mml

Enclosures

c: Kansas City Regional Office
PAMS File: 2011-05-041

Permit Number: