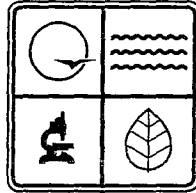


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK
PERMIT BOOK

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: 082007-015 Project Number: 2007-06-011
151-0028
Owner: Muenks Brothers Quarries
Owner's Address: 3717 Highway 50 West, Loose Creek, MO 65054
Installation Name: Muenks Brothers Quarries
Installation Address: 3857 Highway 50 West, Loose Creek, MO 65054
Location Information: Osage County, S10, T43N, R10W

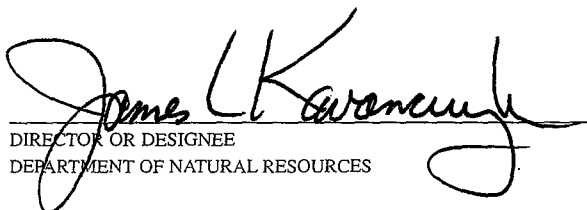
Application for Authority to Construct was made for:

The modification of an existing 400-ton-per-hour stationary rock crushing plant to add a crusher, add BMPs, and allow concurrent operations. Rock and/or lime are processed through 3 crushers, 2 screens, 9 conveyors, and no bins. This review was conducted in accordance with Section (5), 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 (listed as attachments starting on page 2) are applicable to this permit.

AUG 16 2007

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. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, 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 Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

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 Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

Page No.	2
Permit No.	
Project No.	2007-06-011

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); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.

1. **Best Management Practices**
Muenks Brothers Quarries shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing *Best Management Practices*, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.
2. **National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM₁₀)**
 - A. Muenks Brothers Quarries's rock crushing plant shall ensure, while operating at this site, that the ambient impact of PM₁₀ at or beyond the nearest property boundary does not exceed 150 µg/m³ in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
 - B. Muenks Brothers Quarries is permitted to operate under the following scenarios:
 - *Solitary (Attachment A-1)* – Operations when the plant is located at this site by itself. Muenks Brothers Quarries does not need to track the daily PM₁₀ ambient impact of this installation to ensure compliance with NAAQS because it can run for 24 hours a day without exceeding the NAAQS.
 - *Concurrent, Same Owners (Attachment A-1)* – Operations when other asphalt, concrete, rock-crushing, or rock-screening plants owned by Muenks Brothers Quarries are located at this site. This installation shall track the daily PM₁₀ ambient impact of all plants at the site to ensure compliance with NAAQS.
 - *Concurrent, Separate Owners (Attachment A-2)* – Operations when other asphalt, concrete, rock-crushing, or rock-screening plants owned by other companies are located at this site. Plants owned by Muenks Brothers Quarries are allowed 50.0 µg/m³ of PM₁₀, plants owned by other companies are allowed 80.0 µg/m³ of PM₁₀, and 20.0 µg/m³ of PM₁₀ is from haul roads and stock piles from using Best Management Practices.
 - *Concurrent, Same and Separate Owners (Attachment A-2)* – Operations when other asphalt, concrete, rock-crushing, or rock-screening plants owned by other companies are located at this site at the same time as such plants owned by Muenks Brothers Quarries. Plants owned by Muenks Brothers Quarries are allowed 50.0 µg/m³ of PM₁₀, plants owned by other companies are allowed 80.0 µg/m³ of PM₁₀, and 20.0 µg/m³ of PM₁₀ is from Best Management Practices.
 - C. To demonstrate compliance, Muenks Brothers Quarries shall maintain a daily record of material processed. Attachments A-1 and A-2, *Daily Ambient PM₁₀ Impact Tracking Record*, or other equivalent forms, will be used for this purpose.
3. **Annual Emission Limit of Particulate Matter Less Than Ten Microns in Diameter (PM₁₀)**
 - A. The operator(s) shall ensure that Muenks Brothers Quarries's rock crushing plant emits less than 15 tons of PM₁₀ into the atmosphere in any 12-month period.
 - B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed and PM₁₀. Attachment B, *Monthly PM₁₀ Emissions Tracking Record*, or other equivalent form(s), will be used for this purpose.
4. **Moisture Content Testing and Record Keeping Requirements for Inherent Moisture Content**
 - A. Muenks Brothers Quarries claimed the inherent moisture content of the processed rock to be greater than or equal to 1.5 wt.%, which must be verified by testing that adheres to the following methodology.
 - B. Testing shall be conducted according to approved methods, such as those prescribed by the American Society for Testing Materials (ASTM D-2216 or C-566), EPA AP-42 Appendix C.2, or other

Page No.	3
Permit No.	
Project No.	2007-06-011

SPECIAL CONDITIONS:

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

- method(s) approved by the Director. The testing shall be performed no later than 45 days after startup.
- C. The testing shall be done at least once every two years after the initial test, during the months of June through September.
 - D. Test samples shall be obtained from all processing lines claiming higher moisture content, which includes the lime line, and these samples are to be taken only from process points after all crushing has been completed. During the sample processing run only, all spray devices shall be turned off at the process point from which test samples are obtained, as well as anywhere in the process prior to the sampling point.
 - E. The documentation shall include the points from which the rock samples were taken, the weights of samples before and after drying, the calculated moisture content (wt.%) of each sample, the test date, and the original signature of the individual performing the test.
 - F. If the moisture content result of the first test is less than 1.5 wt.%, a second test must be performed within 30 days. If the result of the second test is less than 1.5 wt %, Muenks Brothers Quarries shall apply for a new construction permit to account for the revised information or install wet spray devices on the affected units.
5. Performance Testing for New Source Performance Standards (NSPS)
- A. Muenks Brothers Quarries shall submit the enclosed testing plan to the Enforcement section of the Air Pollution Control Program for all equipment applicable to NSPS Subpart "OOO". Muenks Brothers Quarries shall contact the Enforcement section to obtain all requirements for testing, and the plan must be submitted to the Enforcement section at least 30 days prior to the proposed test date.
 - B. Testing must be performed no later than 60 days after achieving the maximum production rate of the process, and in any case no later than 180 days after initial startup. The performance test results shall be submitted to the Enforcement section no later than 30 days after completion of any required testing.
6. Restriction on Process Configuration of Primary Emission Point(s)
- The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Muenks Brothers Quarries has designated the following unit(s) as the primary emission point(s) of the rock crushing plant: primary crusher (EP 07). Bypassing the primary emission point(s) for processing is prohibited.
7. Restriction on Minimum Distance to Nearest Property Boundary
- The primary emission point of the rock crushing plant, which is the primary crusher (EP 07), shall be located at least 700 feet from the nearest property boundary whenever it is operating at this site.
8. Record Keeping Requirement
- The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
9. Reporting Requirement
- The operator(s) shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.
10. Superseding Condition
- The conditions of this permit supersede all special conditions found in the previously issued construction permit(s) (1189-015) from the Air Pollution Control Program.
11. Power Generation
- The installation is powered by two diesel engines whose maximum, combined fuel consumption shall not exceed 29.0 gallons per hour.

TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

INSTALLATION DESCRIPTION

This is an existing installation that produces crushed limestone and agricultural lime.

The emission points are listed in the attached spreadsheet summary.

This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

The installation is located in Osage County, an attainment area for all criteria air pollutants.

Other important considerations:

1. This installation produces lime and claimed high inherent moisture content for all lines at the installation. The higher moisture content of the lime line must also be verified.
2. There is one fines screens listed for this plant. All other screens must have mesh size of 3/16 inch or greater.
3. There are no storage piles for the shot rock, so no accumulation of shot rock is permitted.

The following table shows the other permits issued for this installation.

Table 1. Other Permits Issued for Installation 151-0028

Permit Number	Completed	Description
1189-015	1989	Sect. 5/6

Enforcement action was taken after permit 118-015 was issued to address the fact that spray bar control was claimed on a line that processes lime. Since agricultural lime cannot be processed in a wet state, the condition for spray bar control was removed.

PROJECT DESCRIPTION

The following is a list of objectives of this project.

1. Add BMPs.
2. Allow concurrent operations with any rock-crushing, asphalt, or ready mixed concrete plant that has been appropriately permitted and limited in their daily NAAQS for PM₁₀.
3. Add a tertiary crusher.

EMISSIONS EVALUATION

Criteria air pollutants will be emitted from this operation. The main air pollutant of concern is PM₁₀. The potential emissions were calculated from the maximum hourly design rate (MHDR) of the equipment, appropriate emission factors, control device efficiencies, and the limiting operating hours at MHDR. The sources of the emission factors and control efficiencies are listed in the section "Permit Documents". Based on the conditioned potential emissions, the operation is considered a *de minimis* source under 10 CSR 10-6.060 section (5).

The rock crushing plant has an annual emission limit of less than 15 tons of PM₁₀ in any 12-month period. A composite PM₁₀ emission factor is incorporated into the monthly record keeping table, Attachment B. If the conditioned potential emissions of PM₁₀ were 15 tons per year or greater, then the owner would be required to comply with increment analysis.

Muenks Brothers Quarries is permitted to operate under the following four scenarios:

1. *Solitary (Attachment A-1)* – Operations when the plant is located at this site by itself. Muenks Brothers Quarries does not need to track the daily PM₁₀ ambient impact of this installation under this scenario.
2. *Concurrent, Same Owners (Attachment A-1)* – Operations when other asphalt, concrete, rock-crushing, or rock-screening plants owned by Muenks Brothers Quarries are located at this site. This installation shall track the daily PM₁₀ ambient impact of all plants at the site to ensure compliance with NAAQS.
3. *Concurrent, Separate Owners (Attachment A-2)* – Operations when other asphalt, concrete, rock-crushing, or rock-screening plants owned by other companies are located at this site. Plants owned by Muenks Brothers

Quarries are allowed 80.0 µg/m³ of PM₁₀, plants owned by other companies are allowed 50.0 µg/m³ of PM₁₀, and 20.00 µg/m³ of PM₁₀ is from haul roads and stock piles from using Best Management Practices.

4. *Concurrent, Same and Separate Owners (Attachment A-2)* – Operations when other asphalt, concrete, rock-crushing, or rock-screening plants owned by other companies are located at this site at the same time as such plants owned by Capital Quarries. Plants owned by Muenks Brothers Quarries are allowed 80.0 µg/m³ of PM₁₀, plants owned by other companies are allowed 50.0 µg/m³ of PM₁₀, and 20.00 µg/m³ of PM₁₀ is from haul roads and stock piles from using Best Management Practices.

The existing actual emissions from the 2006 Emissions Inventory Questionnaire (EIQ) show non-PM₁₀ emissions, however no equipment to generate such emissions has been listed on the application for this project. The potential emissions are summarized in the following table.

Table 2: Emissions Summary (tons per year)

Air Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	**New Installation Conditioned Potential	Emission Factor (lb/ton)
PM ₁₀	15.0	N/A	3.9	68.3	<15.0	0.0390
SO _x	40.0	N/A	0.5	5.0	N/A	N/A
NO _x	40.0	N/A	1.6	76.7	N/A	N/A
VOC	40.0	N/A	0.0	6.3	N/A	N/A
CO	100.0	N/A	0.4	16.5	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	0.1	N/A	N/A

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

** Conditioned potential based on de minimis limit. Other pollutants proportionately reduced.

AMBIENT AIR QUALITY IMPACT ANALYSIS

The ambient impact was evaluated at a distance of 700 feet to the nearest property boundary. The ambient impact at this site shall not exceed the National Ambient Air Quality Standard (NAAQS) of 150 µg/m³ of PM₁₀ at or beyond the nearest property boundary in any single 24-hour period. The screening tools were used to develop an ambient impact factor for the rock crushing plant. This ambient impact factor is incorporated into the daily record keeping tables, Attachments A-1 and A-2. An ambient background level of PM₁₀ from other operation is included in Attachments A-1 and A-2.

For sources agreeing to use Best Management Practices (BMPs), as defined in Attachment AA, haul roads and stockpiles are not modeled with screening tools. Instead, they are addressed as a background level of 20 µg/m³ of PM₁₀. To ensure conformity with NAAQS, the remaining process emissions are limited to an impact of less than 130 µg/m³ of PM₁₀ at or beyond the nearest property boundary.

The ambient impact analysis is summarized in the following table.

Table 3: Ambient Air Quality Impact Analysis of PM₁₀, 24-Hour Averaging Time

Operation	Ambient Impact Factor (µg/m ³ /ton)	Modeled Impact (µg/m ³)	*Background (µg/m ³)	NAAQS (µg/m ³)	Daily Production Limit (tons)
1. Solitary	0.01584	129.9	20.00	150.00	N/A
2. Concurrent, Same Owner	0.01584	129.9	20.00	150.00	**
3. Concurrent, Separate Owners	0.01070	50.0	100.00	150.00	4673
4. Concurrent, Same and Separate Owners	0.01070	50.0	100.00	150.00	4673

* Background PM₁₀ level from haul roads, stockpiles and other operations.

** The operator(s) must balance production among concurrently operating plants, with the ambient impact factors for each, such that NAAQS is not exceeded. Other ambient impact factors are listed in Attachments A-1 and A-2.

APPLICABLE REQUIREMENTS

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- An 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 Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- 40 CFR Part 60 Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the New Source Performance Standards (NSPS)
- The National Emission Standards for Hazardous Air Pollutants (NESHAPs) and the currently promulgated Maximum Achievable Control Technology (MACT) regulations do not apply to the proposed equipment.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Jeannie Kozak
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, designating Muenks Brothers Quarries as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition*.
- Noyes Data Corp., Orlemann, et al.1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- Northeast Regional Office Site Survey.
- Best Management Practices

**Attachment A-1: Daily Ambient PM₁₀ Impact Tracking Record
Muenks Brothers Quarries, 151-0028 – Rock Crushing Plant**

Use this form only for Concurrent Operation, Same Owners.

Project Number: 2007-06-011
 County, CSTR: Osage County (S10, T43N, R10W)
 Primary Unit Size: 400 tph
 Distance to Nearest Property Boundary: 700 feet

This sheet covers the period from _____ to _____ (Month, Day, Year) *(Copy this sheet as needed.)*

Date	Muenks Brothers Quarries 151-0028 Project # 2007-06-011			Muenks Brothers Quarries Plant ID: Permit #:			Muenks Brothers Quarries Plant ID: Permit #:			Muenks Brothers Quarries Plant ID: Permit #:			² Back-ground PM ₁₀ Level (µg/m ³)	³ TOTAL PM ₁₀ Level (µg/m ³)
	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)	Daily Production (tons)	Ambient Impact Factor (µg/m ³ /ton)	¹ Daily PM ₁₀ Impact (µg/m ³)		
<i>Example</i>	1,200	0.0321	38.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	58.52
		0.01584											20.00	
		0.01584											20.00	
		0.01584											20.00	
		0.01584											20.00	
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		0.01584											20.00	
		0.01584											20.00	
		0.01584											20.00	
		0.01584											20.00	

Note 1: The Daily PM₁₀ Impact (µg/m³) for each plant is calculated by multiplying the Daily Production (tons) by the matching Ambient Impact Factor.
 Note 2: Background PM₁₀ Level (µg/m³) is from Haul Roads and Stockpiles.
 Note 3: The TOTAL PM₁₀ Level (µg/m³) is calculated by summing the Daily PM₁₀ Ambient Impact(s) and the Background PM₁₀ Level. A TOTAL PM₁₀ Level of less than 150 µg/m³ in any 24-hour period indicates compliance.

**Attachment A-2: Daily Ambient PM₁₀ Impact Tracking Record
Muenks Brothers Quarries, 151-0028 – Rock Crushing Plant**

Use this form only for Concurrent Operation, Separate Owners and for Concurrent Same and Separate Owners.

Project Number: 2007-06-011
 County, CSTR: Osage County (S10, T43N, R10W)
 Primary Unit Size: 400 tph
 Distance to Nearest Property Boundary: 700 feet

This sheet covers the period from _____ to _____ (Month, Day, Year) *(Copy this sheet as needed.)*

Date	Muenks Brothers Quarries 151-0028 Project # 2007-06-011			Muenks Brothers Quarries Plant ID: Permit #:			Muenks Brothers Quarries Plant ID: Permit #:			Muenks Brothers Quarries Plant ID: Permit #:			² Back-ground PM ₁₀ Level ($\mu\text{g}/\text{m}^3$)	³ TOTAL PM ₁₀ Level ($\mu\text{g}/\text{m}^3$)
	Daily Production (tons)	Ambient Impact Factor ($\mu\text{g}/\text{m}^3/\text{ton}$)	¹ Daily PM ₁₀ Impact ($\mu\text{g}/\text{m}^3$)	Daily Production (tons)	Ambient Impact Factor ($\mu\text{g}/\text{m}^3/\text{ton}$)	¹ Daily PM ₁₀ Impact ($\mu\text{g}/\text{m}^3$)	Daily Production (tons)	Ambient Impact Factor ($\mu\text{g}/\text{m}^3/\text{ton}$)	¹ Daily PM ₁₀ Impact ($\mu\text{g}/\text{m}^3$)	Daily Production (tons)	Ambient Impact Factor ($\mu\text{g}/\text{m}^3/\text{ton}$)	¹ Daily PM ₁₀ Impact ($\mu\text{g}/\text{m}^3$)		
<i>Example</i>	1,200	0.0321	38.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.00	58.52
		0.01070											103.25	
		0.01070											103.25	
		0.01070											103.25	
		0.01070											103.25	
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		0.01070											103.25	
		0.01070											103.25	
		0.01070											103.25	

Note 1: The Daily PM₁₀ Impact ($\mu\text{g}/\text{m}^3$) for each plant is calculated by multiplying the Daily Production (tons) by the matching Ambient Impact Factor.
 Note 2: Background PM₁₀ Level ($\mu\text{g}/\text{m}^3$) is from other installation, Haul Roads and Stockpiles.
 Note 3: The TOTAL PM₁₀ Level ($\mu\text{g}/\text{m}^3$) is calculated by summing the Daily PM₁₀ Ambient Impact(s) and the Background PM₁₀ Level. A TOTAL PM₁₀ Level of less than 150 $\mu\text{g}/\text{m}^3$ in any 24-hour period indicates compliance.

**Attachment B: Monthly PM₁₀ Emissions Tracking Record
Muenks Brothers Quarries, 151-0028 – Rock Crushing Plant**

Project Number: 2007-06-011
 County, CSTR: Osage County (S10, T43N, R10W)
 Primary Unit Size: 400 tph
 Distance to Nearest Property Boundary: 700 feet

This sheet covers the period from _____ to _____ (Month, Day, Year)
 (Copy this sheet as needed.)

Month	Monthly Production (tons)	Composite PM ₁₀ Emission Factor (lbs/ton)	¹ Monthly PM ₁₀ Emissions (lbs)	² Monthly PM ₁₀ Emissions (tons)	³ 12-Month PM ₁₀ Emissions (tons/year)
Example	44,000	0.0302	1328.8	0.66	14.9
		0.0390			
		0.0390			
		0.0390			
		0.0390			
		0.0390			
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		0.0390			
		0.0390			

Note 1: The Monthly Emissions (lbs) are calculated by multiplying the Monthly Production (tons) by the Composite Emission Factor (lbs/ton).
 Note 2: The Monthly Emissions (tons) are calculated by dividing the Monthly Emissions (lbs) by 2,000.
 Note 3: The 12-Month Emissions (tons/year) are a rolling total calculated by adding the Month's Emissions (tons) to the Monthly Emissions (tons) of the previous eleven (11) months. A total of less than 15.0 tons in any consecutive 12-month period indicates compliance.

Attachment AA: Best Management Practices (BMPs)- Construction Industry Fugitive Emissions

Construction Industry Sites covered by the Interim Relief Policy shall maintain Best Management Control Practices (BMPs) for fugitive emission areas at their installations when in operation. Options for BMPs are at least one of the following:

For Haul Roads:

1. Pavement of Road Surfaces –
 - A. The operator(s) may pave all or any portion of the haul roads with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve “Control of Fugitive Emissions¹” while the plant is operating.
 - B. Maintenance and/or 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(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road(s) as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Usage of Chemical Dust Suppressants –
 - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the unpaved portions of the haul roads. The suppressant will be applied in accordance with the manufacturer’s suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
 - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator(s) 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(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

3. Usage of Documented Watering –
 - A. The operator(s) shall control the fugitive emissions from all the unpaved portions of the haul roads at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating. For example, the operator(s) shall calculate the total square feet of unpaved vehicle activity area requiring control on any particular day, divide that product by 1,000, and multiply the quotient by 100 gallons for that day.
 - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operation (e.g., meteorological situations, precipitation events, freezing, etc.)
 - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
 - D. 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. The operator(s) shall record a brief description of such events in the same log as the documented watering.
 - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

¹ For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

For Vehicle Activity Areas around Open Storage Piles:

1. Pavement of Stockpile Vehicle Activity Surfaces –
 - A. The operator(s) may pave all or any portion of the vehicle activity areas around the storage piles with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.
 - B. Maintenance and/or 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(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Usage of Chemical Dust Suppressants –
 - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the vehicle activity areas around the open storage piles. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
 - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator(s) 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(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

3. Usage of Documented Watering –
 - A. The operator(s) shall control the fugitive emissions from all the vehicle activity areas around the storage piles at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating. (Refer to example for documented watering of haul roads.)
 - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operations (e.g., meteorological situations, precipitation events, freezing, etc.)
 - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
 - D. 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. The operator(s) shall record a brief description of such events in the same log as the documented watering.
 - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

Mr. Chris Boeckmann
Compliance Coordinator
Muenks Brothers Quarries
3717 Highway 50 West
Loose Creek, MO 65054

RE: New Source Review Permit - Project Number: 2007-06-011

Dear Mr. Boeckmann:

Enclosed with this letter is your New Source Review permit. Please review your permit carefully and note the special conditions, if any, and the requirements in your permit.

Operation in accordance with the conditions and requirements in your permit, the New Source Review application submitted for project 2007-06-011, and your amended operating permit, if required, is necessary for continued compliance. Please review your amended operating permit, as it will contain all applicable requirements for your rock crushing plant, including any special conditions from your New Source Review permit.

The section of the permit entitled "Technical Review of Application for Authority to Construct" should not be separated from the main portion of your permit. The entire permit must be retained in your files. 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 me at (573) 751-4817, or you may write to the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale, P.E.
New Source Review Unit Chief

KBH:jkl

Enclosures

c: Northeast Regional Office
PAMS File: 2007-06-011
Permit Number: