

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: **072012-011**

Project Number: 2012-04-055
Installation ID: PORT-0632

Parent Company: Fischer Quarry and Hauling, LLC

Parent Company Address: 25501 Star Route Z, St. Mary, MO 63673

Installation Name: Fischer Quarry and Hauling, LLC PORT-0632

Installation Address: 13588 Brickey's Road, Bloomsdale, MO 63627

Location Information: St. Genevieve County, S13, T39N, R7E

Application for Authority to Construct was made for:
Construct a portable cage mill for the production of agriculture lime. 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 are applicable to this permit.

JUL 25 2012

EFFECTIVE DATE

Handwritten signature of Ryan Moore in cursive script.

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of startup of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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Project No.	2012-04-055

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**
Fischer Quarry and Hauling, LLC PORT-0632 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. Fischer Quarry and Hauling, LLC PORT-0632 shall not be operated at any location longer than 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. **Nonroad Engine Requirement**
 - A. Fischer Quarry and Hauling, LLC PORT-0632 shall construct and operate the plant's internal combustion engine such that it meets the definition of nonroad per 40 CFR 89.2.
 - B. Fischer Quarry and Hauling, LLC PORT-0632 shall keep records with the plant showing the date and reason for moving the plant.

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GENERAL SPECIAL CONDITIONS:

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

4. Record Keeping Requirement
Fischer Quarry and Hauling, LLC PORT-0632 shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request.

5. Reporting Requirement
Fischer Quarry and Hauling, LLC PORT-0632 shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

PORT ID Number: PORT-0632

Site ID Number: 186-0046

Site Name: Brickey's Quarry

Site Address: 13588 Brickey's Road Bloomsdale, MO 63627

Site County: St. Genevieve S13, T39N, R7E

1. **Best Management Practices Requirement**
Fischer Quarry and Hauling, LLC PORT-0632 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. **Wet Suppression Control System Requirement**
 - A. Fischer Quarry and Hauling, LLC PORT-0632 shall install and operate wet spray devices on conveyors EP2, EP4 and EP8 as listed in Table 1.
 - B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Fischer Quarry and Hauling, LLC PORT-0632 shall adjust the production rate to control emissions from these units. Fischer Quarry and Hauling, LLC PORT-0632 shall record a brief description of such events.
3. **Minimum Distance to Property Boundary Requirement**
The primary emission point, EP3 (Cage Mill) shall be located at least 1700 feet from the nearest property boundary.
4. **Primary Equipment Requirement**
Fischer Quarry and Hauling, LLC PORT-0632 shall process all rock through the Cage Mill crusher (EP3). Bypassing the Cage Mill crusher is prohibited.
5. **Record Keeping Requirement**
Fischer Quarry and Hauling, LLC PORT-0632 shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources personnel upon request.

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SITE SPECIFIC SPECIAL CONDITIONS:

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

6. Reporting Requirement

Fischer Quarry and Hauling, LLC PORT-0632 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 (5) REVIEW

Project Number: 2012-04-055

Installation ID Number: PORT-0632

Permit Number:

Fischer Quarry and Hauling, LLC PORT-0632
13588 Brickey's Road
Bloomsdale, MO 63627

Complete: April 16, 2012

Parent Company:
Fischer Quarry and Hauling, LLC
25501 Star Route Z
St. Mary, MO 63673

St. Genevieve County, S13, T39N, R7E

PROJECT DESCRIPTION

Fischer Quarry and Hauling, LLC has applied to construct their portable cage mill plant PORT-0632 to the APAC-Brickey Stone site (186-0046). The cage mill is a tertiary crusher that will crush aggregate to produce agricultural lime. PORT-0632 has a maximum hourly design rate of 90 tons per hour. Fischer Quarry and Hauling, LLC states that the engine (1983 Caterpillar 3412 890 HP S/N 81ZO2533) meets the definition of no-road engine as defined in 40 CFR 89.2 (1)(i). Therefore, the emissions of the engine were not included. PORT-0632 controls particulate matter using wet spray devices that are located on conveyors EP2, EP4, and EP8. The following table (Table 1) lists the equipment associated with PORT-0632.

Table 1: Equipment List

Emission Point	Description of Unit	MHDR	MHDR Units
EP1	Loading from pile	90.0	Tons
EP2	Conveyor	90.0	Tons
EP3	Cage Mill	90.0	Tons
EP4	Cage Mill auger to conveyor	90.0	Tons
EP5	Material transfer to stockpile	90.0	Tons
EP6a	Stockpile	0.25	Acres
EP6b	Vehicular activity	90.0	Tons
EP6c	Loading from stockpile	90.0	Tons
EP6d	Wind erosion	0.25	Acres
EP7a	Haul Road #1 from aggregate pile to Cage Mill	0.349	VMT
EP7b	Haul Road #2 exiting site with AG lime	1.5789	VMT
EP8	Screen (<3/16")	90.0	Tons
EP9	Conveyor	90.0	Tons

Currently at this site, APAC operates a stationary rock crushing plant. Of the 130 $\mu\text{g}/\text{m}^3$ of daily PM_{10} ambient impact available at this site, the APAC plant uses 100.0 $\mu\text{g}/\text{m}^3$. Because BMP's are used at this site, other portable plants located at this site are allowed up to 30 $\mu\text{g}/\text{m}^3$. Currently, Fred Weber, Inc. PORT-0479 uses 19.54 $\mu\text{g}/\text{m}^3$ of daily available PM_{10} ambient impact. This leaves 10.46 $\mu\text{g}/\text{m}^3$ of daily PM_{10} ambient impact available at this site. Fischer Quarry and Hauling, LLC PORT-0632's maximum daily impact at this site is 2.84 $\mu\text{g}/\text{m}^3$, therefore they will not cause the site to exceed the ambient air limit and record keeping is not required.

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 located in St. Genevieve County, an attainment area 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.

No permits have been issued to Fischer Quarry and Hauling, LLC PORT-0632 from the Air Pollution Control Program.

TABLES

The table below (Table 2) summarizes the emissions of this project. The potential emissions of the process equipment, which excluded emissions from haul roads and wind erosion, should not vary from site to site. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year).

Unconditioned potential emissions (without spray bars and BMPs) exceeded de minimis levels and thus a permit is required for this portable plant.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL (tons/yr)	^a Potential Emissions of Process Equipment (tons/yr)	Existing Actual Emissions (2011 EIQ)	^b Potential Emissions of the Application (tons/yr)	Conditioned Potential Emissions (tons/yr)
PM	25.0	2.07	N/A	21.63	N/A
PM ₁₀	15.0	1.14	N/A	8.87	N/A
PM _{2.5}	10.0	0.08	N/A	2.75	N/A
SO _x	40.0	N/D	N/A	N/D	N/A
NO _x	40.0	N/D	N/A	N/D	N/A
VOC	40.0	N/D	N/A	N/D	N/A
CO	100.0	N/D	N/A	N/D	N/A
Formaldehyde	10.0/2.0 ^c	N/D	N/A	N/D	N/A
2-methylnapthalene ^d	10.0/0.01 ^c	N/D	N/A	N/D	N/A
Lead Compounds	10.0/0.01 ^c	N/D	N/A	N/D	N/A
Total HAPs	25.0	N/D	N/A	N/D	N/A

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

^aExcludes site specific haul road and storage pile emissions

^bIncludes site specific haul road and storage pile emissions with BMPs and spray bars

^cScreening Model Action Level (SMAL)

^d2-methylnapthalene is a member of the Polycyclic Organic Matter (POM) HAP group.

Table 3 summarizes the ambient air quality impact analysis. The maximum modeled impact is the impact of each pollutant when the plant is operating 8,760 hours per year.

Table 3: Ambient Air Quality Impact Analysis

Pollutant	^a NAAQS/RAL (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 (separate)	150.0	24-hour	2.84	N/A	139.54	N/A

^aNational Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

^bModeled impact of PORT-0632 at maximum capacity with controls.

^cA daily limit for PORT-0632 is not needed since the maximum modeled impact is less than the 10.46 µg/m³ available impact.

^dOperation with other plants that are not owned by Fischer Quarry and Hauling, 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 equipment is control by water spray devices.

Emissions from the diesel engine were not calculated because the engines meets the definition of no-road engine as defined in 40 CFR 89.2 (1)(i).

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 is 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 0.7% 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 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 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/m³ of PM₁₀ in accordance with the Air Pollution Control Program's BMPs interim policy.

OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. Fischer Quarry and Hauling, LLC PORT-0632's maximum daily impact at this site is 2.84 µg/m³. When operating with other portable plants, APAC's stationary rock crushing plant is allowed up to 100.0 µg/m³. Because BMP's are used at this site, other portable plants located at this site are allowed up to 30 µg/m³. Currently, Fred Weber, Inc. PORT-0479 uses 19.54 µg/m³ of daily available PM₁₀ ambient impact. Since PORT-0632 will not cause an exceedance of the PM₁₀ ambient air levels by itself or operating with others as currently allowed, recordkeeping is not required.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Controlled potential emissions of PM₁₀ are below de minimis levels.

APPLICABLE REQUIREMENTS

Fischer Quarry and Hauling, LLC PORT-0632 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.
- 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 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 (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Kathy Kolb
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 6, 2012, received April 16, 2012, designating Fischer Quarry and Hauling, LLC 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 emissions¹ 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

¹For 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. Francis Fischer
Owner Partner
Fischer Quarry and Hauling, LLC PORT-0632
25501 Star Route Z
St. Mary, MO 63673

RE: New Source Review Permit - Project Number: 2012-04-055

Dear Mr. Fischer:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, 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 Kathy Kolb, 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

Susan Heckenkamp
New Source Review Unit Chief

SH:kk1

Enclosures

c: Southeast Regional Office
PAMS File: 2012-04-055

Permit Number: