

STATE OF MISSOURI

PERMIT BOOK



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: 012016-006

Project Number: 2015-11-039
Installation ID: PORT-0729

Parent Company: Blackwater Quarry

Parent Company Address: 21137 Oakwood Rd., Blackwater, MO 65322

Installation Name: Blackwater Quarry PORT-0729

Installation Address: 18460 Imhoff Dr, Blackwater, MO 65322

Location Information: Cooper County, S2 T48N R19W

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.

JAN 19 2016

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

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

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

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

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

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

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

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

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| Page No. | 3 |
| Permit No. | |
| Project No. | 2015-11-039 |

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**
Blackwater Quarry PORT-0729 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. Blackwater Quarry PORT-0729 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**
Blackwater Quarry PORT-0729 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**
Blackwater Quarry PORT-0729 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.

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| Page No. | 4 |
| Permit No. | |
| Project No. | 2015-11-039 |

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-0729

Site ID Number: 053-0039

Site Name: Blackwater Quarry

Site Address: 18460 Imhoff Dr, Blackwater, MO 65322

Site County: Cooper S2 T48N R19W

1. Ambient Air Impact Limitation
 - A. Blackwater Quarry PORT-0729 shall not cause an exceedance of the NAAQS for PM₁₀ of 150.0 µg/m³ 24-hour average in ambient air.
 - B. Blackwater Quarry PORT-0729 shall demonstrate compliance with Special Condition 1.A using Attachment A or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. Blackwater Quarry PORT-0729 shall account for the impacts from other sources of PM₁₀ as instructed in the attachments.
2. Minimum Distance to Property Boundary Requirement
The primary emission point (EP-03) shall be located at least 1,000 feet from the nearest property boundary.
3. Concurrent Operation Restriction
Blackwater Quarry PORT-0729 is prohibited from operating whenever other plants are located at the site.
4. Primary Equipment Requirement
Blackwater Quarry PORT-0729 shall process all rock through the primary crusher (EP-03). Bypassing the primary crusher is prohibited.
5. Record Keeping Requirement
Blackwater Quarry PORT-0729 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.
6. Reporting Requirement
Blackwater Quarry PORT-0729 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: 2015-11-039

Installation ID Number: PORT-0729

Permit Number:

Blackwater Quarry PORT-0729
18460 Imhoff Dr
Blackwater, MO 65322

Complete: November 30, 2015

Parent Company:
Blackwater Quarry
21137 Oakwood Rd.
Blackwater, MO 65322

Cooper County, S2 T48N R19W

PROJECT DESCRIPTION

Blackwater Quarry plans on operating a new portable rock crushing plant (PORT-0729) in Blackwater, Missouri. PORT-0729 will include a primary crusher, Rebel TCD2012L06 2V and three associated conveyors. The primary crusher will be located at least 1,000 feet from the property line and is capable of 140 tons per hour. Total storage pile will be 2.00 acres. There will be one haul road that is approximately 2,000 feet long. Blackwater Quarry will not be using Best Management Practices for the construction industry to control particulate emissions. The equipment is listed in the Table 1.

Table 1: Equipment List for PORT-0723

| Unit ID | Equipment | Make/Model | Capacity (tons/hour) | MFG Year |
|---------------|--|---------------------|----------------------|----------|
| EP-01 | Load in | N/A | 140 | |
| EP-02 | Feeder | Rebel TCD2012L06 2V | 140 | 2012 |
| EP-03 | Primary Crusher | Rebel TCD2012L06 2V | 140 | 2012 |
| EP-04a-EP-04c | Three Conveyors discharging from crusher | Rebel TCD2012L06 2V | 140 | 2012 |
| | Non-road Engine | Deutz Engine | 174 HP | 2012 |

The engine to power the portable plant will be a Tier 3 Deutz 174HP engine. The portable plant is track mounted and the engine serves a dual purpose by propelling the portable plant and supplying power to the crusher and conveyors. Therefore they meets the definition of a nonroad engine as stated in 40 CFR 89.2 *Nonroad Engine* (1)(i).

This installation is located in Cooper 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 Blackwater Quarry PORT-0729 from the Air Pollution Control Program.

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 project is for a new portable plant. 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 represent the emissions after taking into account the reduction of annual emissions due to adhering to the 24-hour NAAQS for PM₁₀

Table 2: Emissions Summary (tons per year)

| Air Pollutant | De Minimis Level/SMAL | ^a Potential Emission of Process Equipment (tons/yr) | Existing Actual Emissions | ^b Potential Emissions of the Application | Conditioned Potential Emissions |
|-------------------|-----------------------|--|---------------------------|---|---------------------------------|
| PM | 25.0 | 5.15 | N/A | 91.46 | 72.79 |
| PM ₁₀ | 15.0 | 2.15 | N/A | 34.75 | 27.66 |
| PM _{2.5} | 10.0 | 0.25 | N/A | 11.20 | 8.91 |
| SO _x | 40.0 | N/A | N/A | N/A | N/A |
| NO _x | 40.0 | N/A | N/A | N/A | N/A |
| VOC | 40.0 | N/A | N/A | N/A | N/A |
| CO | 100.0 | N/A | N/A | N/A | N/A |

N/A = Not Applicable

^aExcludes haul road and storage pile emissions

^bIncludes site specific haul road and storage pile emissions

Table 3: Ambient Air Quality Impact Analysis

| Pollutant | NAAQS/RAL (µg/m ³) | Averaging Time | ^a Maximum Modeled Impact (µg/m ³) | Limited Impact (µg/m ³) | Background (µg/m ³) | ^b Daily Limit (tons/day) |
|--|--------------------------------|----------------|--|-------------------------------------|---------------------------------|-------------------------------------|
| ^c PM ₁₀ (solitary) | 150.0 | 24-hour | 197.75 | 150.0 | 20.0 | 2,674 |

^aModeled impact at maximum capacity with controls

^bIndirect limit based on compliance with NAAQS.

^cSolitary operation

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 uncontrolled emission factors were used.

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

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 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 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.

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 PM₁₀ are above de minimis levels but below major source levels.

APPLICABLE REQUIREMENTS

Blackwater Quarry PORT-0729 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

- *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 installation.
- 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.

Chad Stephenson
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 9, 2015, received November 16, 2015, designating Blackwater Quarry as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

| | | | |
|-------------------------------|--|-------------------------------|--|
| % | percent | MMBtu | Million British thermal units |
| °F | degrees Fahrenheit | MMCF | million cubic feet |
| acfm | actual cubic feet per minute | MSDS | Material Safety Data Sheet |
| BACT | Best Available Control Technology | NAAQS ... | National Ambient Air Quality Standards |
| BMPs | Best Management Practices | NESHAPs .. | National Emissions Standards for Hazardous Air Pollutants |
| Btu | British thermal unit | NO_x | nitrogen oxides |
| CAM | Compliance Assurance Monitoring | NSPS | New Source Performance Standards |
| CAS | Chemical Abstracts Service | NSR | New Source Review |
| CEMS | Continuous Emission Monitor System | PM | particulate matter |
| CFR | Code of Federal Regulations | PM_{2.5} | particulate matter less than 2.5 microns in aerodynamic diameter |
| CO | carbon monoxide | PM₁₀ | particulate matter less than 10 microns in aerodynamic diameter |
| CO₂ | carbon dioxide | ppm | parts per million |
| CO_{2e} | carbon dioxide equivalent | PSD | Prevention of Significant Deterioration |
| COMS | Continuous Opacity Monitoring System | PTE | potential to emit |
| CSR | Code of State Regulations | RACT | Reasonable Available Control Technology |
| dscf | dry standard cubic feet | RAL | Risk Assessment Level |
| EQ | Emission Inventory Questionnaire | SCC | Source Classification Code |
| EP | Emission Point | scfm | standard cubic feet per minute |
| EPA | Environmental Protection Agency | SDS | Safety Data Sheet |
| EU | Emission Unit | SIC | Standard Industrial Classification |
| fps | feet per second | SIP | State Implementation Plan |
| ft | feet | SMAL | Screening Model Action Levels |
| GACT | Generally Available Control Technology | SO_x | sulfur oxides |
| GHG | Greenhouse Gas | SO₂ | sulfur dioxide |
| gpm | gallons per minute | tph | tons per hour |
| gr | grains | tpy | tons per year |
| GWP | Global Warming Potential | VMT | vehicle miles traveled |
| HAP | Hazardous Air Pollutant | VOC | Volatile Organic Compound |
| hr | hour | | |
| hp | horsepower | | |
| lb | pound | | |
| lbs/hr | pounds per hour | | |
| MACT | Maximum Achievable Control Technology | | |
| µg/m³ | micrograms per cubic meter | | |
| m/s | meters per second | | |
| Mgal | 1,000 gallons | | |
| MW | megawatt | | |
| MHDR | maximum hourly design rate | | |

Ms. Phoebe Bergeson
Blackwater Quarry PORT-0729
5700 State Highway M
Blackwater, MO 65322

RE: New Source Review Permit - Project Number: 2015-11-039

Dear Ms. Bergeson:

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, 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 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 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, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc. If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:csl

Enclosures

c: Northeast Regional Office
PAMS File: 2015-11-039
Permit Number: