

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: 052017-008

Project Number: 2017-02-034
Installation Number: 113-0077

Parent Company: BMC Sand, LLC

Parent Company Address: P.O. Box 440459, St. Louis, MO 63144

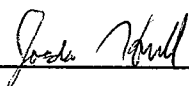
Installation Name: BMC Sand, LLC- Old Monroe Plant

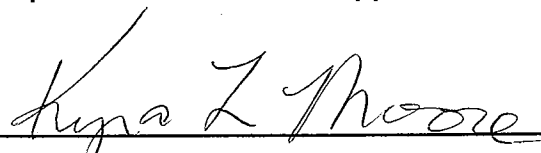
Installation Address: 213 East Sycamore, Old Monroe, MO 63369

Location Information: Lincoln County

Application for Authority to Construct was made for:
Sand and gravel plant. 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.


Prepared by
Jordan Hull
New Source Review Unit


Director or Designee
Department of Natural Resources
MAY 31 2017
Effective Date

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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of 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's 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 the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 using the contact information below.

Contact Information:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:

<http://dnr.mo.gov/regions/>

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."

**BMC Sand, LLC- Old Monroe Plant
Lincoln County**

1. **PM₁₀ Emission Limitation**
 - A. BMC Sand, LLC- Old Monroe Plant shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from the entire installation as described in Table 1 below
 - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.

Table 1: Emission Units

Emission Unit Number	Description
EU-1	Materials Transfer/Conveyors
EU-2	Stackers
EU-3	Screens
EU-4	Hopper
EU-5	Haul Road

2. **Undocumented Haul Road Watering**
 - A. BMC Sand, LLC- Old Monroe Plant shall water storage piles/haul roads whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.
 - B. Watering may 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.
3. **Record Keeping and Reporting Requirements**
 - A. BMC Sand, LLC- Old Monroe Plant shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

SPECIAL CONDITIONS:

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

- B. BMC Sand, LLC- Old Monroe Plant shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2017-02-034
Installation ID Number: 113-0077
Permit Number: 052017-008

Installation Address:

BMC Sand, LLC- Old Monroe Plant
213 East Sycamore
Old Monroe, MO 63369

Parent Company:

BMC Sand, LLC
P.O. Box 440459
St. Louis, MO 63144

Lincoln County

PROJECT DESCRIPTION

BMC Sand, LLC- Old Monroe Plant is a proposed sand and gravel operation at 213 East Sycamore, Old Monroe, MO 63630 in Lincoln County. The proposed facility consists of extracting sand and gravel from the adjacent pit using a dredge and pump at a production capacity of 400 tons/hour. The material is pumped through a three-deck screen to separate the sand and gravel. The remaining water flows out the bottom of the plant and is returned to the pit via gravity pipe. The sand is dewatered using a water wheel and dropped onto a conveyor where it is loaded onto the storage pile using a stacker. The sand processing equipment was assumed to have no emissions because of the moisture content associated with the process. The gravel drops onto a conveyor where it is dumped into a hopper. Gravel from the hopper drops onto another conveyor where it travels through a spray bar to be washed and is dropped through another three-deck screen. The sized gravel (1", pea gravel, and oversized) is then dropped onto associated stackers and loaded into storage piles. Gravel and sand are loaded into customer trucks from the piles via loader. The screens, conveyors, and stackers are all ran off power from the grid. The dredge and pump are to be run off generators on the boat. Since the generators are on a marine vessel they are not counted towards potential emissions. The haul roads are unpaved and will be watered.

No permits have been issued to BMC Sand, LLC- Old Monroe Plant from the Air Pollution Control Program.

EMISSIONS/CONTROLS EVALUATION

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 conveyor, feeder, and screen were calculated using emission factors from AP-42 Section 11.19.2 "Crushed Stone Processing and Pulverized Mineral

Processing," August 2004. Based on engineering judgement inherent moisture content equal or greater than 1.5% by weight was given to all the equipment processes because of the high water content of the material being dredged as well as the spray bar to wash the gravel at the hopper.

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 for PM and PM₁₀ and a 41% control efficiency for PM_{2.5} were applied to the emission calculations.

The following table provides an emissions summary for this project. Existing potential emissions were not applicable as this is a new plant. Existing actual emissions were not applicable as this is a new plant. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2016 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	N/A	N/A	294.04	48.45
PM ₁₀	15.0	N/A	N/A	91.03	<15.0
PM _{2.5}	10.0	N/A	N/A	10.61	1.75
SOx	40.0	N/A	N/A	N/A	N/A
NOx	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
GHG (CO ₂ e)	N/A	N/A	N/A	N/A	N/A
GHG (mass)	N/A	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are conditioned below de minimis levels. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

BMC Sand, LLC- Old Monroe Plant 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

- No Operating Permit is required for this installation
 - Potential Emissions of PM are above de minimis but PM is not used when determining if an Operating Permit is needed.
- *Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110*
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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 NSPS regulations apply to the installation. 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" does not apply to the equipment per §60.670(a)(2) because a crusher is not used with this plant.*
- None of the NESHAPS or MACT regulations 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*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 16, 2017, received February 16, 2017, designating BMC Sand, LLC as the owner and operator of the installation.

Attachment A – PM₁₀ Compliance Worksheet

BMC Sand, LLC- Old Monroe Plant
 Lincoln County, Old Monroe, MO
 Project Number: 2017-02-034
 Installation ID Number: 113-0077
 Permit Number: **052017-008**

This sheet covers the period from _____ to _____
 (month, year) (month, year)

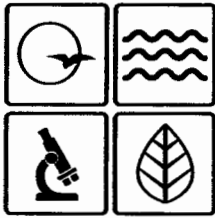
Month	Production (tons)	Emission Factor (lb/ton)	Monthly Emissions ¹ (lbs)	Monthly Emissions ² (tons)	12-Month Total Emissions ³ (tons)
<i>Example (June)</i>	<i>30,000</i>	<i>0.0520</i>	<i>1,560</i>	<i>0.780</i>	<i>6.5</i>
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			
		0.0520			

¹Multiply the monthly production by the emission factor.
²Divide the monthly emissions (lbs) by 2000.
³Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than **15.0** tons of PM₁₀ is necessary for compliance.

APPENDIX A

Abbreviations and Acronyms

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



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

MAY 31 2017

Mr. Ryan Ruckel
ESH Manager
BMC Sand, LLC- Old Monroe Plant
P.O. Box 440459
St. Louis, MO 63144

RE: New Source Review Permit - Project Number: 2017-02-034

Dear Mr. Ruckel:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

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, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.



Recycled paper

Mr. Ryan Ruckel
Page Two

If you have any questions regarding this permit, please do not hesitate to contact Jordan Hull, at the Department of Natural Resources' 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:jhj

Enclosures

c: St. Louis Regional Office
PAMS File: 2017-02-034

Permit Number: **05 2017 - 008**