

Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

SEP 28 2017

Mr. Rick Miller
Superintendent
Beyer Crushed Rock Company
408 High Grove Road
Grandview, MO 64030

RE: New Source Review - Project Number: 2017-04-034
Project Number: 2017-04-034; Installation Number: 037-0053

Dear Mr. Miller:

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 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.



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Mr. Rick Miller
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If you have any questions, 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

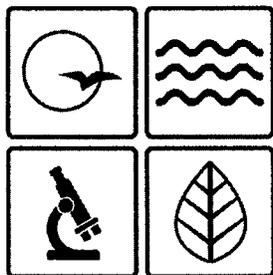
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Enclosures

c: Kansas City Regional Office
PAMS File: 2017-04-034

Permit Number:

09 2017 - 014



**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: 092017-014

Project Number: 2017-04-034
Installation ID: 037-0053

Parent Company: Beyer Crushed Rock Company

Parent Company Address: 408 High Grove Road, Grandview, MO 64030

Installation Name: Beyer Crushed Rock Company

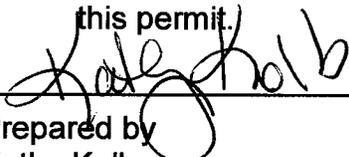
Installation Address: South Cleveland Ave. & State Route Y,
Cleveland, MO 64734

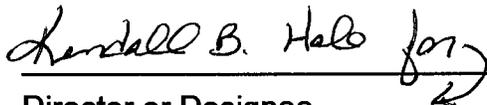
Location Information: Cass County, S26 T45N R33W

Application for Authority to Construct was made for:
Replacement of rock crushing equipment. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.


Prepared by
Kathy Kolb
New Source Review Unit


Director or Designee
Department of Natural Resources

SEP 28 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."

Site ID Number: 037-0053

Site Name: Beyer Crushed Rock Company

Site Address: South Cleveland Ave. & State Route Y, Cleveland, MO 64734

Site County: Cass S26 T45N R33W

1. **Superseding Condition**
 - A. The conditions of this permit all special conditions found in the previously issued Construction Permits 042011-005A, 052012-010 and 082014-021 issued by the Air Pollution Control Program.
2. **Equipment Identification Requirement**

Beyer Crushed Rock Company 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.
3. **Best Management Practices Requirement**

Beyer Crushed Rock Company shall control fugitive emissions from all of the haul roads and vehicular activity areas at this site by performing BMPs as defined in Attachment AA.
4. **Annual Emission Limit**
 - A. Beyer Crushed Rock Company shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the equipment of this project (See Table 1 labeled New Eagle 1400 Plant for the list of equipment associated with the limit).
 - B. Beyer Crushed Rock Company shall demonstrate compliance with Special Condition 4.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
5. **Annual Emission Limit**
 - A. Beyer Crushed Rock Company shall emit less than 40.0 tons of NO_x in any 12-month period from the four engines/gensets operating at installation They are:
 - 1) 2010 C32 Caterpillar 1475 HP genset (12A)
 - 2) 2013 C15 Caterpillar 540 HP genset (12B)
 - 3) 2010 John Deere 237 HP genset (12D)
 - 4) 2008 Cummins 800 kW genset (12C)

SPECIAL CONDITIONS:

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

- B. Beyer Crushed Rock Company shall demonstrate compliance with Special Condition 5.A using Attachment B or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
6. Fuel Requirement-Engine(s)
- A. Beyer Crushed Rock Company shall burn exclusively low sulfur diesel fuel in its engines (EP-8) with a sulfur content less than or equal to 15 parts per million by weight (0.0015 percent by weight).
 - B. Beyer Crushed Rock Company shall demonstrate compliance with Special Condition 6.A by obtaining records of the fuel's sulfur content from the vendor for each shipment of fuel received or by testing each shipment of fuel for the sulfur content in accordance with the method described in 10 CSR 10-6.040 Reference Methods.
 - C. Beyer Crushed Rock Company shall keep the records required by Special Condition 6.B with the unit and make them available for Department of Natural Resources' employees upon request.
7. Moisture Content Testing Requirement
- A. Beyer Crushed Rock Company shall verify that the moisture content of the processed rock is greater than or equal to 1.5 percent by weight.
 - B. Testing shall be conducted according to the method prescribed by the American Society for Testing Materials (ASTM) D-2216, C-566 or another method approved by the Director.
 - C. The initial test shall be conducted no later than 45 days after the start of operation. A second test shall be performed the calendar year following the initial test during the months of July or August.
 - D. The test samples shall be taken from rock that has been processed by the plant or from each source of aggregate (e.g. quarry).
 - E. The written analytical report shall include the raw data and moisture content of each sample, the test date and the original signature of the individual performing the test. The report shall be filed on-site or at the Beyer Crushed Rock Company main office within 30 days of completion of the required test.
 - F. If the moisture content of either of the two tests is less than the moisture content in Special Condition 7.A, another test may be performed within 15 days of the noncompliant test. If the results of that test is less than the moisture content in Special Condition 7.A, Beyer Crushed Rock Company shall either:

SPECIAL CONDITIONS:

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

- 1) Apply for a new permit to account for the revised information, or
- 2) Submit a plan for the installation of wet spray devices to the Compliance/Enforcement Section of the Air Pollution Control Program within 10 days of the second noncompliant test. The wet spray devices shall be installed and operational within 40 days of the second noncompliant test.

G. In lieu of testing, Beyer Crushed Rock Company may obtain test results that demonstrate compliance with the moisture content in Special Condition 4.A from the supplier of the aggregate.

8. Primary Equipment Requirement

Beyer Crushed Rock Company shall process all rock through either primary crushers (EU-3A [Hewitt-Robbins] or EU-3B [Eagle 1400]). Bypassing either primary crusher is prohibited.

9. Daily Production Requirement for Primary Plant

Beyer Crushed Rock Company shall limit its daily production to 3,733 tons per day for the Primary Plant (Hewitt-Robbins crusher with a MHDR rated at 300 tph). Beyer Crushed Rock Company shall develop a form to record daily production tonnage in order to demonstrate compliance with this requirement.

10. Wet Suppression Control System Requirement

A. Beyer Crushed Rock Co. shall install and operate wet spray devices on the following emission sources: primary crusher Hewitt-Robbins (EP-3A), Pioneer screen (EP-5D), and JCI screen (EP-5E).

B. Watering may be suspended during freezing conditions, when the use of the wet spray devices may damage the equipment. During these conditions, Beyer Crushed Rock Co. shall adjust the production rate to control emissions from these units. Beyer Crushed Rock Co. shall record a brief description of such events.

11. Record Keeping Requirement

Beyer Crushed Rock Company 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.

12. Reporting Requirement

Beyer Crushed Rock Company 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: 2017-04-034

Installation ID Number: 037-0053

Permit Number: 092017-014

Beyer Crushed Rock Company
South Cleveland Ave. & State Route Y
Cleveland, MO 64734

Complete: April 17, 2017

Parent Company:
Beyer Crushed Rock Company
408 High Grove Road
Grandview, MO 64030

Cass County, S26 T45N R33W

PROJECT DESCRIPTION

Beyer Crushed Rock is replacing their existing Eagle 1200 rock crusher with all new equipment (Eagle 1400) manufactured in 2017. The new Eagle 1400 plant's MHDR is 360 tons per hour, and increase from their existing plant which was 200 tph as stated in Permit #042011-005/042011-005A. The new crusher, screen and conveyors are listed as 1400 Eagle in Table 1. The existing Primary Plant and the new Eagle 1400 will operate in parallel (independently) to each other. An existing the 2010 Detroit 425 hp diesel genset is being replaced by a 2008 800 kW Cummins Engine Model QST 30-G5, Serial # 37235506.

The existing Primary Plant maintains a 50 tons per year limit of PM₁₀ as stated in Construction Permit 122005-009A. The ambient impact for the Primary Plant from the Permit No. 042011-005A is being converted to a daily production limit of 3,733 tons per day. This change reflects the Air Pollution Control Program's updated construction industry policy for the cessation of the use of the program's nomographs to estimate the plant's ambient impact.

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.

Beyer Crushed Rock will have a total of four engines operating at this site including the new Cummins Engine. They are a 2010 John Deere 237 HP genset (Permit # 042011-005/042011-005A), a 2010 C32 Caterpillar 1475 HP genset (Permit # 052012-010), and a 2013 C15 Caterpillar 540 HP genset (Permit # 082014-021). As part of this

project, the emissions from these engines have been evaluated and limited to 40 tons of NOx per year. All PM, PM₁₀, and PM_{2.5} emissions from the facility are fugitive except from the engines and therefore not counted toward Operating Permit applicability. No operating permit is required since all criteria pollutants are below de minimis levels.

This installation is located in Cass County, a maintenance area for ozone and an attainment area for all other criteria pollutants.

This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

TABLES

This project consists of only the equipment listed under 1400 Eagle in Table 1. The project is limited to 15 tpy PM₁₀ limit.

The following Table 1 lists all of the equipment at the installation.

Unit #	Description	Make	Model #	Year	MHDR	Plant
3A	Primary Crusher	Hewitt-Robbins	3654	1976	300	Primary
3B	Primary Crusher	Eagle	1400	2017	360	1400 Eagle
5C	Screen	JCI	8203	2017	360	1400 Eagle
5D	Screen	Pioneer	620E3	2010	300	Primary
5E	Screen	JCI	6203-32LP	2010	300	Primary
12A	Generator Engine	Caterpillar	C32	2010	1475 HP	Primary
12B	Generator Engine	Caterpillar	C15 DITA	2013	540 HP	Primary
12C	Generator Engine	Cummins	QST 30-G5	2008	1007 HP /800 kW	1400 Eagle
12D	Generator Engine	John Deere		2010	237 HP	Primary
15	Secondary Crusher	Allis Hydro Cone	H4000	1996	300	Primary
4A	Primary crusher underconveyor	Hewitt-Robbins	36"	1976	300	Primary
4C	Screen feed conveyor	Peerless	36"	1988	300	Primary
4E	Secondary crusher feed conveyor	Grace Machinery	36"	1996	300	Primary
4F	Secondary crusher under conveyor	Allis	42"	1996	300	Primary
4G	Return Conveyor	Grace Machinery	36"	1996	300	Primary
4H	Conveyor	Peerless	30"	1988	300	Primary
4I	Conveyor	Peerless	30"	1988	300	Primary
4J	Conveyor	Peerless	24"	1988	300	Primary
4K	Conveyor	Peerless	24"	1988	300	Primary
4L	Conveyor	Peerless	24"	1988	300	Primary
4M (EP13)	Pugmill	Peerless		1988	300	Primary
4N	Pugmill	Peerless	30"	1988	300	Primary

4O	Eagle Crusher Underconveyor	Eagle	42"	2017	360	1400 Eagle
4P	JCI Screen underconveyor	JCI	60"	2017	360	1400 Eagle
4Q	JCI Screen cross conveyor 1	JCI	30"	2017	360	1400 Eagle
4R	JCI Screen cross conveyor 2	JCI	30"	2017	360	1400 Eagle
4S	Return conveyor 1 at Eagle plant	Kolberg	30"	2017	360	1400 Eagle
4T	Return conveyor 2 at Eagle Plant	Kolberg	30"	2017	360	1400 Eagle
4U	Conveyor	Kolberg	30"	2017	360	1400 Eagle
4V	Scalping screen underconveyor	Pioneer	60"	2011	300	Primary
4W	Scalping screen cross conveyor	Pioneer	24"	2011	300	Primary
4X	Screen feed conveyor	Shopmade	36"	2011	300	Primary
4Y	Stacker to pugmill or bin	Masaba	30"	2011	300	Primary
4Z	Screen underconveyor	JCI	36"	2011	300	Primary
4AA	Screen cross conveyor 1	JCI	24"	2011	300	Primary
4BB	Screen cross conveyor 2	JCI	24"	2011	300	Primary
4CC	Surge bin	Peerless	60-ton	2011	300	Primary
4DD	Surge bin conveyor	Peerless	42"	2011	300	Primary
4EE	Surge bin	Peerless	60-ton	2011	300	Primary
4FF	Surge bin conveyor	Peerless	42"	2011	300	Primary
4GG	Surge bin	Peerless	60-ton	2011	300	Primary
4HH	Surge bin conveyor	Peerless	42"	2011	300	Primary
4II	Surge bin	Peerless	60-ton	2011	300	Primary
4JJ	Surge bin conveyor	Peerless	42"	2011	300	Primary
4PP	Screen feed conveyor	Peerless	42"	2017	360	1400 Eagle
4QQ	Stacking conveyor	Kolberg	30"	2017	360	1400 Eagle
4RR	Stacking conveyor	Kolberg	30"	2017	360	1400 Eagle
4SS	Stacking conveyor	Kolberg	30"	2017	360	1400 Eagle
4TT	Conveyor	Eagle	30"	2010	360	1400 Eagle/Primary
4UU	Conveyor	Eagle	30"	2010	360	1400 Eagle/Primary
4VV	Conveyor	Peerless	24"	1989	360	1400 Eagle/Primary

The following permits have been issued to Beyer Crushed Rock Company from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
0689-008	Construction of a portable rock crushing plant
0694-011	Request to increase production
0796-010	Replacement of secondary crusher and three conveyors
0399-026	Installation of one 972 horsepower (hp) generator to replace one 460 hp generator and one 575 hp generator
102005-009	Apply Best Management Practices to control fugitive emissions from all haul roads and stockpiles
102005-009A	Allow colocation and change nearest property boundary distance
042011-005	Installation of additional 200 ton per hour rock crushing plant known as the Eagle Plant
042011-005A	Removal of duplicate attachment
052012-010	Addition of two screens, eleven conveyors, four bins, and one diesel generator
082014-021	Replacement of a generator with Caterpillar Model C15 540 HP 2013

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. The existing actual emissions were taken from the previous year's EIQ. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). Conditioned potential emissions account for the voluntary PM₁₀ and NO_x annual emissions limit to avoid dispersion modeling requirements.

Table 3: Emissions Summary (tons per year) for the 1400 Eagle Plant

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions of Process Equipment	Existing Actual Emissions (2016 EIQ)	^b Potential Emissions of the Project	Project Conditioned Potential Emissions
PM	25.0	9.11	N/D	166.22	44.19
PM ₁₀	15.0	4.22	4.9	56.42	<15.0
PM _{2.5}	10.0	1.88	1.51	13.78	3.66
SO _x	40.0	0.05	0.6	0.05	0.01
NO _x	40.0	49.44	14.9	49.44	13.20
VOC	40.0	2.46	0.89	2.46	0.66
CO	100.0	27.04	3.5	27.04	7.22
GHG (CO ₂ e)	75,000 / 100,000	4,973.16	N/D	4,973.16	1,327.39
GHG (mass)	0.0 / 100.0 / 250.0	4,955.53	N/D	4,955.53	1,322.68
Total HAPs	25.0	0.05	0.0	0.05	0.01

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

^aExcludes haul roads and storage pile emissions

^bIncludes haul road and storage pile emissions

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 controlled emission factors were used because the inherent moisture content of the crushed rock is greater than 1.5 % by weight.

Emissions from the diesel engines/generators were calculated using emission factors from AP-42 Section 3.3 Gasoline and Diesel Industrial Engines," October 1996 and Section 3.4 "Large Stationary Diesel and All Stationary Dual-fuel Engines," October 1996 for VOC, HAPs, and PM condensable. PM filterable, NOx, and CO emissions were calculated using emission factors from 40 CFR 89 (Tier 1-3) and 40 CFR 1039 (Tier 4). SO₂ emissions were calculated using a mass balance equation. Greenhouse gasses were calculated using equations from 40 CFR 98, Tables C-1 & C-2, November 29, 2013.

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 for PM and PM₁₀ and a 40% control efficiency for PM_{2.5} were 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 1.5% 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."

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The PM₁₀ potential emissions are limited to de minimis levels. Potential emissions of PM are above de minimis but below major source levels.

APPLICABLE REQUIREMENTS

Beyer Crushed Rock Company 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

- *Operating Permits*, 10 CSR 10-6.065, no operating permit is required because of the NO_x de minimis limit.
- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *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
- 40 CFR 60 Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" applies to the equipment.
- 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines applies to the engines.
- 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary reciprocating Internal Combustion Engines applies to the engines.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) applies to the proposed equipment.
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261, the facility complies with this rule because of the usage of Ultra Low Diesel (15 ppm).

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*, 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 April 12, 2017, received April 17, 2017, designating Beyer Crushed Rock Company as the owner and operator of the installation.

Attachment B: NO_x Annual Emissions Tracking Sheet

Beyer Crushed Rock Company 037-0053

Project Number: 2017-04-034

Permit Number: **092017-014**

Beyer Crushed Rock Company
 Cass County, S26 T45N R33W
 Project Number: 2017-04-034
 Installation ID Number: 077-0190
 Permit Number:

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

A	B	C	D	E	F	G	H	I	J	K
Month, Year	Emission Unit, Description	Current month's hour meter reading	Previous month's hour meter reading	Hours of operation for current month	NO _x Emissions factor	Current Month's NO _x Emissions (tons/month)	Current Month's Total NO _x emissions (tons)	12-month NO _x Emissions from Previous Month (tons)	Monthly NO _x Emissions from This Month Last Year (tons)	12-month NO _x Emissions (tons)
<i>example</i>	12A CAT C32	1,000	950	50	15.5	0.39	1.28	39.6	4.8	36.08
	12B CAT C15	2,000	1,900	100	0.035	0.0002				
	12C Cummins	3,000	2,850	150	11.3	0.85				
	12E John Deere	5,000	4,950	50	1.6	0.04				
	12A CAT C32				15.5					
	12B CAT C15				0.035					
	12C Cummins				11.3					
	12E John Deere				1.6					
	12A CAT C32				15.5					
	12B CAT C15				0.035					
	12C Cummins				11.3					
	12E John Deere				1.6					
	12A CAT C32				15.5					
	12B CAT C15				0.035					
	12C Cummins				11.3					
	12E John Deere				1.6					
	12A CAT C32				15.5					
	12B CAT C15				0.035					
	12C Cummins				11.3					

Attachment B: NOx Annual Emissions Tracking Sheet

Beyer Crushed Rock Company 037-0053

Project Number: 2017-04-034

Permit Number: 092017-014

	12E John Deere			1.6					
	12A CAT C32			15.5					
	12B CAT C15			0.035					
	12C Cummins			11.3					
	12E John Deere			1.6					
	12A CAT C32			15.5					
	12B CAT C15			0.035					
	12C Cummins			11.3					
	12E John Deere			1.6					
	12A CAT C32			15.5					
	12B CAT C15			0.035					
	12C Cummins			11.3					
	12E John Deere			1.6					
	12A CAT C32			15.5					
	12B CAT C15			0.035					
	12C Cummins			11.3					
	12E John Deere			1.6					
	12A CAT C32			15.5					
	12B CAT C15			0.035					
	12C Cummins			11.3					
	12E John Deere			1.6					
	12A CAT C32			15.5					
	12B CAT C15			0.035					
	12C Cummins			11.3					
	12E John Deere			1.6					

A. Record the current month and year.

B. Emission unit and description.

C. Record the hour meter reading at the beginning of the current month.

D. Record the hour meter reading at the end of the current month.

E. Calculate the hours of operation. $E = D - C$

F. NOx emission factors (lb/hr) as stated in Excel Spreadsheet "Engine Calculation for Beyer.xlsx", Emission Calculation Tab

G. Calculate engine's monthly emissions $G = E \times F / 2000$

H. Add all four engine's emissions for that month $H = G_1 + G_2 + G_3 + G_4$

I. Record the 12-month NOx emissions (K) from the previous month.

J. Record the monthly NOx emissions (H) from this month last year.

K. Calculate the current month's NOx emissions. $K = H + I - J$. A value less than 40.0 tons indicates compliance.

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 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 emissions 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.

APPENDIX A

Abbreviations and Acronyms

%percent	MMBtuMillion British thermal units
°Fdegrees Fahrenheit	MMCFmillion cubic feet
acfmactual cubic feet per minute	MSDSMaterial Safety Data Sheet
BACTBest Available Control Technology	NAAQSNational Ambient Air Quality Standards
BMPsBest Management Practices	NESHAPs ..National Emissions Standards for Hazardous Air Pollutants
BtuBritish thermal unit	NO_xnitrogen oxides
CAMCompliance Assurance Monitoring	NSPSNew Source Performance Standards
CASChemical Abstracts Service	NSRNew Source Review
CEMSContinuous Emission Monitor System	PMparticulate matter
CFRCode of Federal Regulations	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COcarbon monoxide	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CO₂carbon dioxide	ppmparts per million
CO₂ecarbon dioxide equivalent	PSD Prevention of Significant Deterioration
COMSContinuous Opacity Monitoring System	PTEpotential to emit
CSRCode of State Regulations	RACTReasonable Available Control Technology
dscfdry standard cubic feet	RALRisk Assessment Level
EIQEmission Inventory Questionnaire	SCCSource Classification Code
EPEmission Point	scfmstandard cubic feet per minute
EPAEnvironmental Protection Agency	SDSSafety Data Sheet
EUEmission Unit	SICStandard Industrial Classification
fpsfeet per second	SIPState Implementation Plan
ftfeet	SMALScreening Model Action Levels
GACTGenerally Available Control Technology	SO_xsulfur oxides
GHGGreenhouse Gas	SO₂sulfur dioxide
gpmgallons per minute	tphtons per hour
grgrains	tpytons per year
GWPGlobal Warming Potential	VMTvehicle miles traveled
HAPHazardous Air Pollutant	VOCVolatile Organic Compound
hrhour	
hphorsepower	
lbpound	
lbs/hrpounds per hour	
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	
Mgal1,000 gallons	
MWmegawatt	
MHDRmaximum hourly design rate	