

**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:

072016-006

Project Number: 2016-06-050

Installation ID: 145-0068

Parent Company: Anchor Stone Company

Parent Company Address: 4124 S. Rockford Avenue, Suite 201, Tulsa, OK 74105

Installation Name: Anchor Stone Company - Howe Quarry

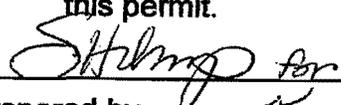
Installation Address: 18248 Iris Road, Neosho, MO 64850

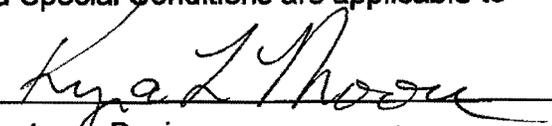
Location Information: Newton County, S34 T26N R31W

Application for Authority to Construct was made for:
Installation of a stationary 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.


Prepared by
Kathy Kolb
New Source Review Unit


Director or Designee
Department of Natural Resources

JUL 18 2016

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/>

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."

1. **Best Management Practices Requirement**
Anchor Stone Company - Howe Quarry 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.
2. **Annual Emission Limit**
 - A. Anchor Stone Company - Howe Quarry shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation as described in Table 1.
 - B. Anchor Stone Company - Howe Quarry shall demonstrate compliance with Special Condition 2.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. **Moisture Content Testing Requirement**
 - A. Anchor Stone Company - Howe Quarry 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 Anchor Stone Company - Howe Quarry 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 3.A, another test may be performed within 15 days of the

SITE SPECIFIC SPECIAL CONDITIONS:

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

noncompliant test. If the results of that test is less than the moisture content in Special Condition 3.A, Anchor Stone Company - Howe Quarry shall either:

- 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.

4. Primary Equipment Requirement

Anchor Stone Company - Howe Quarry shall process all rock through the primary crusher (EU3). Bypassing the primary crusher (EU3) is prohibited.

5. Record Keeping Requirement

Anchor Stone Company - Howe Quarry 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

Anchor Stone Company - Howe Quarry 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: 2016-06-050
Installation ID Number: 145-0068
Permit Number:

Anchor Stone Company - Howe Quarry
18248 Iris Road
Neosho, MO 64850

Complete: July 6, 2016

Parent Company:
Anchor Stone Company
4124 S. Rockford Avenue, Suite 201
Tulsa, OK 74105

Newton County, S34 T26N R31W

PROJECT DESCRIPTION

Anchor Stone Company is constructing a stationary rock crushing plant at their property known as Howe Quarry located approximately five miles northeast of Neosho, Missouri in central Newton County. The plant will consist of the processing equipment currently designated as PORT-0680, as well as additional crushing, screening and handling equipment. Anchor Stone received Permit Number 112012-010 for PORT-0680 and replaced the primary crusher (Project Number 2013-01-037) that was considered as a like-kind replacement. The original crusher had a design capacity of 350 tons per hour (tph) and was replaced with a 250 tph Lippman 3048 LP Jaw Crusher manufactured in 2005. The equipment of PORT-0680 will make up the primary portion of the new stationary plant at Howe Quarry. However, the non-road engine previously permitted (EU11) will no longer be used. The plant will be operated on line power. The maximum anticipated stock pile area will be five acres. The rate of activity at the stock piles will match the operation of the crushing plant at 250 tph.

A wheel loader will transport shot rock from the quarry face to the crushing plant at a distance of not more than 500 feet. A second wheel loader will load product haul trucks from the product stockpiles, travelling approximately 50 feet. The product haul trucks will travel less than 1,500 feet to transport rock from the stock piles to the highway. All roads and vehicular activity area will be unpaved.

Additional processing equipment will be appended, as described below:

Table 1: Emission Points

Emission Point ID	Description	Maximum Hourly Design Rate (MHDR)	MHDR Units	Status
EU1	Hopper Loading	250	Tons	Existing
EU2	Grizzly Feeder	250	Tons	Existing
EU3	Primary Crusher CR-1 Lippman 3048 LP Jaw	250	Tons	Existing
EU4	Conveyor C-1	250	Tons	Existing
EU5	Screen S-1	250	Tons	Existing
EU6	Conveyor C-2	250	Tons	Existing
EU7	Conveyor C-3	50	Tons	Existing
EU8	Conveyor C-4	200	Tons	Existing
EU9	Conveyor C-5	200	Tons	Existing
EU10	Secondary Crusher CR-2 Trio TC 51 Cone	200	Tons	New
EU11	Non-Road Engine	N/A	N/A	Removed
EU12	Screen S-2 Cedarapids	200	Tons	New
EU13	Conveyor C-6 ^a	0	Tons	New
EU14	Conveyor C-7 ^a	0	Tons	New
EU15	Conveyor C-8 ^a	200	Tons	New
EU16	Conveyor C-9 ^a	0	Tons	New
EU17a	Storage Piles (Load-in)	250	Tons	Existing
EU17b	Storage Piles (Wind Erosion)	5	Acres	Increasing
EU17c	Storage Piles (Vehicular Activity)	0.64	VMT	Existing
EU17d	Storage Piles (Load-out)	250	Tons	Existing
EU18	Pit Haul Road	4.78	VMT	Existing
EU19	Shipping Haul Road	5.68	VMT	Increasing

^aConveyors EU6-9 will distribute to 200 tph proportionately from Screen EU12

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 Newton 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 Anchor Stone Company - Howe Quarry from the Air Pollution Control Program for a stationary plant. Only PORT-0680 has been permitted to operate at this quarry.

TABLES

The table below summarizes the emissions of this project. There are no existing actual emissions since this is a new stationary plant, but the emissions from PORT-0680 as reported from the 2015 EIQ are listed in Table 2 below. 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 include emissions from sources that will limit their production to ensure compliance with the annual emission limit. Conditioned potential emissions account for a voluntary annual PM₁₀ emission limit of 15.0 tons per year for stationary plants in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3.

Table 2: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	PORT-0680 Existing Actual Emissions (2015 EIQ)	^a Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	N/D	92.28	43.72
PM ₁₀	15.0	0.49	31.66	<15.0
PM _{2.5}	10.0	0.16	7.01	3.32
SO _x	40.0	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A

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

^aIncludes site specific 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 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 74% 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 conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual PM₁₀ emission limit of 15.0 tons per year for stationary plants in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

Anchor Stone Company - Howe Quarry 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 commencement of operations.
- *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 (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 June 21, 2016, received June 23, 2016, designating Anchor Stone Company as the owner and operator of the installation.

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	Mgal 1,000 gallons
°Fdegrees Fahrenheit	MW megawatt
acfmactual cubic feet per minute	MHDR maximum hourly design rate
BACTBest Available Control Technology	MMBtu ... Million British thermal units
BMPsBest Management Practices	MMCF million cubic feet
BtuBritish thermal unit	MSDS Material Safety Data Sheet
CAMCompliance Assurance Monitoring	NAAQS .. National Ambient Air Quality Standards
CASChemical Abstracts Service	NESHAPs ..National Emissions Standards for Hazardous Air Pollutants
CEMSContinuous Emission Monitor System	NO_x nitrogen oxides
CFRCode of Federal Regulations	NSPS New Source Performance Standards
COcarbon monoxide	NSR New Source Review
CO₂carbon dioxide	PM particulate matter
CO_{2e}carbon dioxide equivalent	PM_{2.5} particulate matter less than 2.5 microns in aerodynamic diameter
COMSContinuous Opacity Monitoring System	PM₁₀ particulate matter less than 10 microns in aerodynamic diameter
CSRCode of State Regulations	ppm parts per million
dscfdry standard cubic feet	PSD Prevention of Significant Deterioration
EQEmission Inventory Questionnaire	PTE potential to emit
EPEmission Point	RACT Reasonable Available Control Technology
EPAEnvironmental Protection Agency	RAL Risk Assessment Level
EUEmission Unit	SCC Source Classification Code
fpsfeet per second	scfm standard cubic feet per minute
ftfeet	SDS Safety Data Sheet
GACTGenerally Available Control Technology	SIC Standard Industrial Classification
GHGGreenhouse Gas	SIP State Implementation Plan
gpmgallons per minute	SMAL Screening Model Action Levels
grgrains	SO_x sulfur oxides
GWPGlobal Warming Potential	SO₂ sulfur dioxide
HAPHazardous Air Pollutant	tph tons per hour
hrhour	tpy tons per year
hphorsepower	VMT vehicle miles traveled
lbpound	VOC Volatile Organic Compound
lbs/hrpounds per hour	
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	

Mr. Jesse McIntyre
Environmental Engineer
Anchor Stone Company - Howe Quarry
4124 S. Rockford Avenue, Suite 201
Tulsa, OK 74105

RE: New Source Review Permit - Project Number: 2016-06-050

Dear Mr. McIntyre:

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 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.

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

Mr. Jesse McIntyre
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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.

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

SH:shj

Enclosures

c: Southwest Regional Office
PAMS File: 2016-06-050

Permit Number: