

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: 07 2017 - 005

Project Number: 2017-05-059
Installation ID: PORT-0751

Parent Company: Richard J. Mertens, Inc.

Parent Company Address: P.O. Box 448, Warrenton, MO 63383

Installation Name: Richard Mertens Construction

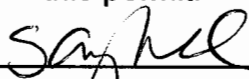
Installation Address: 1st Creek Rd, Hermann, MO 65041


Location Information: Gasconade County, S30 T45N R05W

Application for Authority to Construct was made for:
A portable rock crusher. 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
Sam Anzalone
New Source Review Unit


Director or Designee
Department of Natural Resources
JUL 07 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/>

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**
Richard Mertens Construction 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 shall 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. Richard Mertens Construction shall not be operated at any location longer than 24 consecutive months.
 - B. A complete "Portable Source Relocation Request" application shall 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 shall 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 shall be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application shall include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**
Richard Mertens Construction 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**
Richard Mertens Construction 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.

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-0751

Site ID Number: 073-0052

Site Name: RJM Gasconade Quarry

Site Address: 1st Creek Rd, Hermann, MO 65041

Site County: Gasconade S30 T45N R05W

1. **PM₁₀ Emission Limit**
 - A. Richard Mertens Construction shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from the entire installation as defined by Table 1.
 - B. Richard Mertens Construction shall demonstrate compliance with Special Condition 1.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
2. **Undocumented Watering Requirement**

Richard Mertens Construction shall apply a water spray on all haul roads and vehicular activity areas whenever conditions exist that would allow visible emissions from these sources to leave the property.
3. **Record Keeping Requirement**

Richard Mertens Construction 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.
4. **Reporting Requirement**

Richard Mertens Construction 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: 2017-05-059

Installation ID Number: PORT-0751

Permit Number: 07 2017 - 005

Richard Mertens Construction:
1st Creek Rd
Hermann, MO 65041

Complete: May 22, 2017

Parent Company:
Richard J. Mertens, Inc.
P.O. Box 448
Warrenton, MO 63383

Gasconade County, S30 T45N R05W

PROJECT DESCRIPTION

Richard J. Mertens (RJM) is installing a new portable crushing plant at RJM Gasconade Quarry, in Gasconade County. This installation will consist of a primary crusher with a maximum hourly design rate of 441.0 tph, secondary crusher with a MDHR of 352 tph, a primary screen with an MDHR of 661 tph, a secondary screen with a MDHR of 551 tph, and 10 conveyors. RJM has requested the flexibility of running the screens by themselves. The emissions have been calculated to reflect that flexibility. There are track mounted engines on the primary crusher, secondary crusher and the two screens. The engines associated with the equipment meet the definition of non-road engine 40 CFR 89.2 (1)(i), therefore the emissions from these have not been calculated toward the PTE. NSPS III "Standards of performance for Stationary Compression Ignition Internal Combustion Engines" and MACT ZZZZ "National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines" do not apply because the engines meet the definition of nonroad. A summary of all equipment can be seen in the table below.

Total storage piles (EP-19) will be 3.0 acres. There are three haul roads: EP-20 which is from the loader to the crusher (100 ft), EP-21 from the crusher to the stockpiles (800 ft) and EP-22, customer's road (700 ft). RJM will not be using Best Management Practices for the construction industry to control particulate emissions from the haul roads but instead will use undocumented watering. There is a stationary rock crusher located at the site but will cease operation when the portable plant is permitted.

This installation is located in Gasconade County, an attainment area for all criteria pollutants. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]; therefore the installation's major source threshold is 250 tons and fugitive emissions are not counted towards major source applicability.

No permits have been issued to Richard Mertens Construction from the Air Pollution Control Program.

Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400 does not apply to grinding, crushing and classifying operations at a rock quarry and all other sources are fugitive.

Table 1: Project Equipment List

Emission Unit	Equipment Description	Manufacturer	MHDR
EP-01	Truck Unloading	N/A	441 tph
EP-02	Grizzly Feeder	Powerscreen XA400 (year 2008)	441 tph
EP-03	Jaw Crusher	Powerscreen XA400 (year 2008)	441 tph
EP-04	Discharge Belt	Powerscreen XA400 (year 2008)	441 tph
EP-05	Screen (2 deck)	Powerscreen Warrior (year 2013)	661 tph
EP-06	Apron Feeder	Powerscreen Warrior (year 2013)	661 tph
EP-07	Discharge Belt	Powerscreen Warrior (year 2013)	661 tph
EP-08	Discharge Belt	Powerscreen Warrior (year 2013)	661 tph
EP-09	Discharge Belt	Powerscreen Warrior (year 2013)	661 tph
EP-10	Grizzly Feeder	Powerscreen 320 (year 2010)	352 tph
EP-11	Impact Crusher	Powerscreen 320 (year 2010)	352 tph
EP-12	Discharge Belt	Powerscreen 320 (year 2010)	352 tph
EP-13	Screen (3 deck)	Finlay 684-3 (year 2015)	551 tph
EP-14	Feed Belt to Screen	Finlay 684-3 (year 2015)	551 tph
EP-15	Discharge Belt	Finlay 684-3 (year 2015)	551 tph
EP-16	Discharge Belt	Finlay 684-3 (year 2015)	551 tph
EP-17	Discharge Belt	Finlay 684-3 (year 2015)	551 tph
EP-18	Discharge Belt	Finlay 684-3 (year 2015)	551 tph
EP-19	Storage Pile	N/A	3 Acres
EP-20	Haul Roads	N/A	2.09 vmt
EP-21	Haul Roads	N/A	7.42 vmt
EP-22	Haul Roads	N/A	6.50 vmt
	Diesel Engine	CAT C7 (302 hp) (year 2008)	non road engine
	Diesel Engine	CAT C4.4 (111 hp) (year 2013)	non road engine
	Diesel Engine	CAT C9 (375 hp) (year 2008)	non road engine
	Diesel Engine	CAT C4.4 (111 hp) (year 2014)	non road engine

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 is a new portable plant. The potential emissions of the application represent the emissions of all equipment (excluding nonroad engines) and activities assuming continuous operation (8,760 hours per year). Conditioned potential emissions account for a voluntary PM₁₀ emission limit of 15.0 tons per year 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	^a Potential Emissions of Process Equipment	Existing Actual Emissions	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	271.9	N/A	804.1	44.2
PM ₁₀	15.0	98.7	N/A	273.1	<15.0
PM _{2.5}	10.0	17.2	N/A	39.3	2.16
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
Total HAPs	25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable

^aProcess equipment excluding haul roads, vehicular activity and wind erosion.

^bIncludes site specific haul road and storage pile emissions

EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and 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:

- 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 because the inherent moisture content of the crushed rock is less than 1.5 % by weight.

Emissions from haul roads and vehicular activity areas:

- 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 for the use of undocumented watering.

Emissions from storage piles:

- 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."

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 rolling 12 months 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

Richard Mertens Construction 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.
 - 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.
- No Operating Permit is required for this 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

- 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

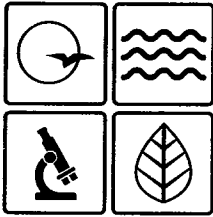
The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May, 05, 2017, received May, 22, 2017, designating Richard J. Mertens, Inc. as the owner and operator of the installation.

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
CO_{2e}carbon 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	SSMstartup, shutdown, malfunction
grgrains	tphtons per hour
GWPGlobal Warming Potential	tpytons per year
HAPHazardous Air Pollutant	VMTvehicle miles traveled
hrhour	VOCVolatile Organic Compound
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	



Missouri Department of

dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

JUL 07 2017

Mr. Jack Mertens
Vice President
Richard Mertens Construction
P.O. Box 488
Warrenton, MO 63383

RE: New Source Review Permit - Project Number: 2017-05-059

Dear Mr. Mertens:

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.



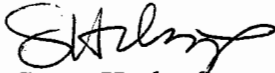
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Mr. Jack Mertens
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If you have any questions regarding this permit, please do not hesitate to contact Sam Anzalone, at the department's Air Pollution Control Program, P.O. Box 176, Jefferson City, 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:saj

Enclosures

c: St. Louis Regional Office
PAMS File: 2017-05-059

Permit Number: 07 2017 - 005