

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: **032017-007**

Project Number: 2017-02-044
Installation ID: PORT-0747

Parent Company: Thomas Crushing, LLC

Parent Company Address: PO Box 1468, Lee's Summit, MO 64063

Installation Name: Thomas Crushing, LLC PORT-0747

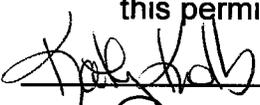
Installation Address: NE JCT of E. 163rd St and W Airport Road, Greenwood, MO

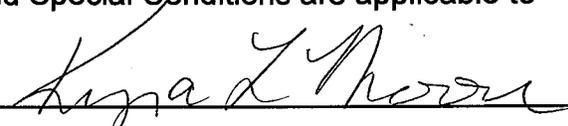
Location Information: Jackson County, S3 T46N R31W

Application for Authority to Construct was made for:
Construction of a new 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
Kathy Kolb
New Source Review Unit


Director or Designee
Department of Natural Resources
MAR 16 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**
Thomas Crushing, LLC PORT-0747 shall maintain easily read permanent markings on each component of the plant. These markings shall be the equipment's serial number or a company assigned identification number that uniquely identifies the individual component. These identification numbers must be submitted to the Air Pollution Control Program no later than 15 days after start-up of the portable rock crushing plant.
2. **Relocation of Portable Rock Crushing Plant**
 - A. Thomas Crushing, LLC PORT-0747 shall not be operated at any location longer than 24 consecutive months except if the Site Specific Special Conditions of this portable plant, PORT-0747, contain a nonroad engine requirement limiting the portable plant at the site specific location to 12 consecutive months.
 - B. A complete "Portable Source Relocation Request" application must be submitted to the Air Pollution Control Program prior to any relocation of this portable rock crushing plant.
 - 1) If the portable rock crushing plant is moving to a site previously permitted, and if the circumstances at the site have not changed, then the application must be received by the Air Pollution Control Program at least seven days prior to the relocation.
 - 2) If the portable rock crushing plant is moving to a new site, or if circumstances at the site have changed (e.g. the site was only permitted for solitary operation and now another plant is located at the site), then the application must be received by the Air Pollution Control Program at least 21 days prior to the relocation. The application must include written notification of any concurrently operating plants.
3. **Record Keeping Requirement**
Thomas Crushing, LLC PORT-0747 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**
Thomas Crushing, LLC PORT-0747 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-0747

Site ID Number: 037-0001 (Martin Marietta Aggregates-Greenwood Quarry)

Site Name: Martin Marietta Aggregates

Site Address: NE JCT of E. 163rd St and W Airport Road, Greenwood, MO

Site County: Jackson S3 T46N R31W

1. **Best Management Practices Requirement**
Thomas Crushing, LLC PORT-0747 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. Thomas Crushing, LLC shall emit less than 15.0 tons of PM₁₀ in any 12-month period from PORT-0747 portable rock crushing equipment as listed in Table 1..
 - B. Thomas Crushing, LLC PORT-0747 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. **Primary Equipment Requirement**
Thomas Crushing, LLC PORT-0747 shall process all rock through the primary crusher (EU-02). Bypassing the primary crusher is prohibited.
4. **Nonroad Engine Requirement**
Thomas Crushing, LLC PORT-0747's engine shall not remain at one location within this site longer than 12 consecutive months in order for the engine to meet the definition of a nonroad engine as stated in 40 CFR 89.2. These engines shall be moved with its associated equipment at least once every 12 consecutive months at this site.
5. **Record Keeping Requirement**
Thomas Crushing, LLC PORT-0747 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**
Thomas Crushing, LLC PORT-0747 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: 2017-02-044

Installation ID Number: PORT-0747

Permit Number: 032017-007

Thomas Crushing, LLC PORT-0747:
NE JCT of E. 163rd St and W Airport Road
Greenwood, MO

Complete: February 28, 2017

Parent Company:
Thomas Crushing, LLC
PO Box 1468
Lee's Summit, MO 64063

Jackson County, S3 T46N R31W

PROJECT DESCRIPTION

Thomas Crushing, LLC is moving a new portable rock crushing plant (PORT-0747) to the Martin Marietta Aggregates Greenwood Quarry located in Jackson County at the intersection of E 163rd Street and W Airport Road. The portable plant will process limestone and recycled concrete/asphalt that is already stockpiled at the site. Although Thomas Crushing, LLC will not be hauling any materials in or out of the property, haul road emissions were accounted for in this permit. The MHDR of the portable plant is 400 tph.

The plant is powered by a Detroit 671 (2006) 238 HP and a Komatsu (1999) 316 HP engines. They meet the definition of a nonroad engine as defined in 40 CFR 89.2 (1)(i). Therefore, the emissions of the engines were not included in the project emissions.

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 Jackson 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.

No permits have been issued to Thomas Crushing, LLC PORT-0747 from the Air Pollution Control Program.

TABLES

Thomas Crushing, LLC will take a de minimis PM₁₀ limit of 15 tons per year on the operation of its portable plant that will include all of the equipment at this site as listed in Table 1. There are two diesel engines but the engines' emissions were not evaluated for this review as the diesel engines at this site are classified as nonroad engines.

Table 1: Equipment list for PORT-0747

Emission Unit	Equipment Description	MHDR	Maximum No. of Units
EU-01	Grizzly feeder Eagle/1400-45	400	1
EU-02	Primary Crusher Eagle/1400-45	400	1
EU-03	Crusher conveyor belts Eagle/1400-45	400	3
EU-04	Screen Peerless 820TD	400	1
EU-05	Screen conveyor belts Peerless 820TD	400	5
EU-06	Belt conveyor Kolberg Pioneer	400	1
EU-07	Belt conveyor Kolberg Pioneer	400	1
EU-08	Belt conveyor Kolberg Pioneer	400	1
EU-09	Belt conveyor Kolberg Pioneer	400	1
EU-10	Belt conveyor Kolberg Pioneer	400	1
EU-11	Belt conveyor Kolberg Pioneer		
EU-12a	Storage Pile-Load in	400	N/A
EU-12b	Storage Pile-Load out	400	N/A
EU-12c	Storage Pile-Vehicular Activity	250 feet	N/A
EU-12d	Storage Pile-Wind Erosion	1 acre	N/A
EU-13	Haul Road	400 feet	N/A
	Nonroad engine Detroit 671 (2006)	238 HP	1
	Nonroad engine Komatsu (1999)	316 HP	1

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 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 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	90.05	N/D	217.73	37.72
PM ₁₀	15.0	32.94	N/D	86.57	<15.0
PM _{2.5}	10.0	5.62	N/D	17.91	2.58
SO _x	40.0	N/A	N/D	N/A	N/A
NO _x	40.0	N/A	N/D	N/A	N/A
VOC	40.0	N/A	N/D	N/A	N/A
CO	100.0	N/A	N/D	N/A	N/A
GHG (CO ₂ e)	75,000	N/A	N/D	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	N/A	N/D	N/A	N/A
Total HAPs	25.0	N/A	N/D	N/A	N/A

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

^aExcludes site specific haul road and storage pile emissions

^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.

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 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 storage piles:

- Load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4.
- 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."

The engines emissions were not evaluated for this review as the diesel engines at this site are classified as nonroad engines. 40 CFR 63 Subpart ZZZZ, "National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion

Engines" and 40 CFR 60 Subpart III, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" do not apply. However, if the engines were to remain in one location for longer than 12 consecutive months, it would not be in compliance with this permit because engine emissions were not evaluated. It may also not be in compliance with MACT ZZZZ or NSPS III. The nonroad engines are subject to further applicable requirements in 40 CFR 89 and 40 CFR 1039 which are outside the purview of this program.

OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site. The following scenarios explain how Thomas Crushing, LLC PORT-0747 shall demonstrate compliance.

- PORT-0747 will operate with the existing stationary rock crusher owned by Martin Marietta at this site. The existing plant is "grandfathered" and does not have a construction permit or ambient limit.
- PORT-0747 cannot operate with any other plants that have ambient impact limits based on the Air Pollution Control Program's nomographs. When locating to a site that have or will have other plants, please refer to that plant's permit special conditions to see if they contain ambient impact limits.

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

Thomas Crushing, LLC PORT-0747 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.
- *Operating Permits*, 10 CSR 10-6.065, a Basic Operating Permit application is not required for this installation because portable plants are exempt from obtaining an operating permit.
- *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 February 16, 2017, received February 21, 2017, designating Thomas Crushing, LLC 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.

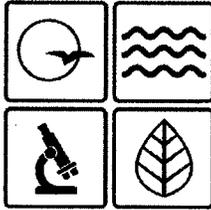
3. Application of Water-Documented Daily

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



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

MAR 16 2017

Mr. Kevin Thomas
Manager
Thomas Crushing, LLC PORT-0747
PO Box 1468
Lee's Summit, MO 64063

RE: New Source Review Permit - Project Number: 2017-02-044

Dear Mr. Thomas:

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



Mr. Kevin Thomas
Page Two

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.ao.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:kkj

Enclosures

c: Kansas City Regional Office
PAMS File: 2017-02-044

Permit Number: **032017-007**