



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

## DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

JAN 06 2011

Mr. Danny Dumey  
Member  
Heartland Materials, LLC  
P.O. Box 558  
Benton, MO 63730

RE: New Source Review Permit - Project Number: 2010-11-014

Dear Mr. Dumey:

Enclosed with this letter is your air permit to construct a rock crushing facility in Jackson, Missouri. This permit was issued in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required, and contains special conditions to ensure compliance with this rule. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your future 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.

As you are aware, this proposed plant requires additional permits from the Department's Land Reclamation Program and Water Protection Program. These permits are required prior to certain activity at the site. Specifically, the Land Reclamation Permit is required prior to any activity anywhere on the mine plan area and a Water Pollution Control Permit is required prior to any land clearing activity.

If you have any questions regarding this permit, please do not hesitate to contact Michael Mittermeyer at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

*Kendall B. Hale*

Kendall B. Hale  
New Source Review Unit Chief

KBH:mmk

Enclosures

c: Southeast Regional Office  
PAMS File: 2010-11-014

Permit Number: 012011-008 

# STATE OF 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: 012011-008

Project Number: 2010-11-014

Installation ID: 031-0125

Parent Company: Heartland Materials, LLC

Parent Company Address: P.O. Box 558, Benton, MO 63730

Installation Name: Heartland Materials, LLC

Installation Address: County Road 601, Jackson, MO 63755

Location Information: Cape Girardeau County, SUR 799/SUR 2192, T32N, R13E

Application for Authority to Construct was made for:  
Construction of a 1,000 ton per hour generic rock-crushing plant. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

JAN 06 2011

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EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James L. Kavanaugh".  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## 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 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 Departments' 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 of Natural Resources 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 this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' 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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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| Permit No.  |             |
| Project No. | 2010-11-014 |

**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. Generic Plant Designation and Maximum Combined Hourly Design Rate  
Heartland Materials, LLC has been designated to be a Generic Plant Operation. The combined Maximum Hourly Design Rate (MHDR) each of the following generic equipment types shall not exceed the rates and numbers listed below.

| Equipment Type                     | Maximum Combined Hourly Design Rate | Maximum Number of Units |
|------------------------------------|-------------------------------------|-------------------------|
| Primary Unit (Primary Crusher)     | 1,000 tons per hour                 | 1                       |
| Feeder/Grizzly                     | 1,000 tons per hour                 | 1                       |
| Crushers including primary crusher | 2,000 tons per hour                 | 3                       |
| Fine Crushers                      | 150 tons per hour                   | 3                       |
| Conveyors and Stackers             | 20,000 tons per hour                | 50                      |
| Bins                               | 1,500 tons per hour                 | 5                       |
| Screens                            | 2,000 tons per hour                 | 4                       |

2. Generic Plant Equipment Identification Requirement
  - A. Heartland Materials, LLC shall submit the following information to the Air Pollution Control Program's Permitting Section and the Southeast Regional Office within 15 days of actual startup.
    - 1) A master list of all equipment that will be permitted for use with the generic plant. This master list shall include at minimum the following information for each piece of equipment:
      - a) Manufacturer's name
      - b) Model number
      - c) Serial number
      - d) Actual MHDR
      - e) Date of manufacture
      - f) Any other additional information that is necessary to uniquely identify the equipment.
    - 2) A list of the core equipment that will always be utilized with the generic plant. The core equipment associated with the generic plant shall include at least one primary unit that controls the rate of the process flow (e.g., a primary crusher or primary screen).
    - 3) A determination of the applicability of 40 CFR Part 60, Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants" for each piece of equipment indicating whether each piece of equipment is subject to Subpart OOO and justification for this determination.

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| Project No. | 2010-11-014 |

**GENERAL SPECIAL CONDITIONS:**

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

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- 4) Heartland Materials, LLC shall notify the Air Pollution Control Program's Permitting Section and the Southeast Regional Office when new equipment is added to the master list and when core equipment is changed within 30 days of the change.
  - B. Heartland Materials, LLC shall maintain a list of the specific equipment currently being utilized with the generic plant. Any arrangement of the generic plant's equipment must be such that the core equipment is not bypassed in the process flow.
3. **Equipment Identification Requirement**  
Heartland Materials, LLC 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.
4. **Record Keeping Requirement**  
Heartland Materials, LLC 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.
5. **Reporting Requirement**  
Heartland Materials, LLC shall report to the Air Pollution Control Program's Compliance/Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

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| Permit No.  |             |
| Project No. | 2010-11-014 |

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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*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. Ambient Air Impact Limitation
  - A. Heartland Materials, LLC shall not cause an exceedance of the National Ambient Air Quality Standard (NAAQS) for particulate matter less than ten microns in aerodynamic diameter (PM<sub>10</sub>) of 150.0 µg/m<sup>3</sup> 24-hour average in ambient air.
  - B. Heartland Materials, LLC shall demonstrate compliance with Special Condition 1.A using Attachment A and Attachment B or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms. Heartland Materials, LLC shall account for the impacts from other sources of PM<sub>10</sub> as instructed in Attachment A and Attachment B.
2. Annual Emission Limit
  - A. Heartland Materials, LLC shall emit less than 15.0 tons of PM<sub>10</sub> in any 12-month period from the entire installation.
  - B. Heartland Materials, LLC shall demonstrate compliance with Special Condition 2.A using Attachment C or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
3. Fugitive Dust Control Requirement-Haul Road and Vehicular Activity Areas
  - A. Heartland Materials, LLC shall pave all haul roads and vehicular activity areas with asphalt cement or concrete.
    - 1) 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.
    - 2) 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.
  - B. Until paving is complete, Heartland Materials, LLC shall control haul road and vehicular activity area emissions with one of the following methods:
    - 1) Heartland Materials, LLC shall apply water at a rate greater than or equal to 100 gallons per 1,000 square feet of haul road per day.

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| Permit No.  |             |
| Project No. | 2010-11-014 |

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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- a) Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
  - b) 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.
  - c) 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).
- 2) Heartland Materials, LLC shall apply a chemical dust suppressant at the rate recommended by the suppressant's manufacturer.
- a) 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.
  - b) 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.
4. Wet Suppression Control System Requirement
- A. Heartland Materials, LLC shall install and operate wet spray devices on crushers and screen feed conveyors. Fine crushers (crushers that reduce the size of aggregate below three sixteenths of an inch) are excluded from this requirement.
  - B. Watering may be suspended during periods of freezing condition, when use of the wet spray devices may damage the equipment. During these conditions, Heartland Materials, LLC shall adjust the production rate to control emissions from these units. Heartland Materials, LLC shall record a brief description of such events.
5. Minimum Distance to Property Boundary Requirement
- The primary emission point shall be located at least 600 feet from the nearest property boundary.
6. Primary Equipment Requirement
- Heartland Materials, LLC shall process all rock through the primary crusher (EU-5). Bypassing the primary crusher is prohibited.

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| Permit No.  |             |
| Project No. | 2010-11-014 |

**SITE SPECIFIC SPECIAL CONDITIONS:**

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

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7. **Nonroad Engine Requirement**  
Heartland Materials, LLC is prohibited from operating the nonroad diesel engine described in their Application for Authority to Construct for more than 12-consecutive months without first obtaining a construction permit.
  
8. **Record Keeping Requirement**  
Heartland Materials, LLC 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.
  
9. **Reporting Requirement**  
Heartland Materials, LLC shall report to the Air Pollution Control Program's Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

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

Project Number: 2010-11-014  
Installation ID Number: 031-0125  
Permit Number:

Heartland Materials, LLC  
County Road 601  
Jackson, MO 63755

Complete: November 3, 2010

Parent Company:  
Heartland Materials, LLC  
P.O. Box 558  
Benton, MO 63730

Cape Girardeau County, SUR 799/SUR 2192, T32N, R13E

PROJECT DESCRIPTION

Heartland Materials, LLC has applied for authority to construct a new rock-crushing plant. The plant is being permitted as a generic plant, which allows the installation to be set up in any configuration of equipment provided that the total number and capacity of the equipment does not exceed the values in General Special Condition 1. The installation's primary crusher is rated at 1,000 tons per hour. The installation is authorized to operate pug mills. Pug mills are not considered emission units because the process is saturated with water and emissions are not expected. Spray bars will be used to control emissions from the rock-crushing equipment. The spray bars will be installed on the large crushers and the feed conveyors for the screens. The fine screens are uncontrolled.

The applicant is using "Best Management Practices" (BMPs) to control emissions from haul roads and vehicular activity areas. Haul roads will be paved to reduce fugitive dust emissions. Until paving is complete, Heartland Materials, LLC will water the haul roads or use a chemical dust suppressant as specified in Site Specific Special Condition 3. This special condition satisfies the requirements of BMPs.

The installation will be powered with electricity from the local utility, but until the electrical lines are installed, the installation will be powered by a portable generator. This generator is not a stationary source because it is considered a nonroad engine as defined in 40 CFR 89.2. The generator is transportable and will not be located at the site for more than 12 consecutive months. Because the generator is not a stationary source, it is excluded from construction permitting. If the generator is made stationary, (installed on permanent footings) or remains at the site for more than 12 months, a permit will be required for the generator.

This installation is located in Cape Girardeau 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 Heartland Materials, LLC from the Air Pollution Control Program.

## TABLES

The table below summarizes the emissions of this project. 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 are based on a voluntary limit of 15.0 tons per year to avoid refined modeling.

Table 1: Emissions Summary (tons per year)

| Air Pollutant     | De Minimis Level/ SMAL | <sup>a</sup> Existing Potential Emissions | Existing Actual Emissions | <sup>b</sup> Potential Emissions of the Application | Conditioned Potential Emissions |
|-------------------|------------------------|---|---------------------------|---|---------------------------------|
| PM <sub>2.5</sub> | 10.0                   | N/A                                       | N/A                       | 27.2  | 2.62                            |
| PM <sub>10</sub>  | 15.0                   | N/A                                       | N/A                       | 155.74  | < 15.0                          |
| SO <sub>x</sub>   | 40.0                   | N/A                                       | N/A                       | N/A   | N/A                             |
| NO <sub>x</sub>   | 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

<sup>a</sup>Existing Potential Emissions are not applicable

<sup>b</sup>Includes site specific haul road and storage pile emissions

Table 2: Ambient Air Quality Impact Analysis

| Pollutant                                | <sup>a</sup> NAAQS (µg/m <sup>3</sup> ) | Averaging Time | <sup>b</sup> Maximum Modeled Impact (µg/m <sup>3</sup> ) | Limited Impact (µg/m <sup>3</sup> ) | Background (µg/m <sup>3</sup> ) | <sup>c</sup> Daily Limit (tons/day) |
|--|---|----------------|--|-------------------------------------|---------------------------------|-------------------------------------|
| <sup>d</sup> PM <sub>10</sub> (same)     | 150.0                                   | 24-hour        | 225.89   | 130.00                              | 20.00                           | 12,745                              |
| <sup>e</sup> PM <sub>10</sub> (separate) | 150.0                                   | 24-hour        | N/A  | 81.60                               | 48.40                           | 8,000                               |

<sup>a</sup>National Ambient Air Quality Standards (NAAQS) and Risk Assessment Level (RAL)

<sup>b</sup>Modeled impact at maximum capacity with controls

<sup>c</sup>Indirect limit based on compliance with NAAQS.

<sup>d</sup>Solitary operation or operation with other plants that are owned by Heartland Materials, LLC

<sup>e</sup>Operation with other plants that are not owned by Heartland Materials, LLC

## EMISSIONS CALCULATIONS

Emissions for the project were calculated using emission factors found in the United States Environmental Protection Agency (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 spray bars are being used to control emissions.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equation from AP-42 Section 13.2.1 "Paved Roads," November 2006. 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 0.7% 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." PM<sub>2.5</sub> emissions were assumed to be 50 percent of PM<sub>10</sub> emissions for wind erosion.

## AMBIENT AIR QUALITY IMPACT ANALYSIS

An ambient air quality impact analysis (AAQIA) was performed to determine the impact of the pollutants listed in Table 2. The Air Pollution Control Program requires an AAQIA of PM<sub>10</sub> for all asphalt, concrete and rock-crushing plants regardless of the level of PM<sub>10</sub> emissions if a permit is required. The AAQIA was performed using the Air Pollution Control Program's generic nomographs. The maximum concentration of PM<sub>10</sub> that occurs at or beyond the site boundary was compared to the National Ambient Air Quality Standard (NAAQS) for the pollutant. During continuous operation, the modeled concentration of PM<sub>10</sub> was greater than the NAAQS, so the plant's production was limited to ensure compliance with the standard.

This plant uses Best Management Practices (BMPs) to control emissions from haul roads and vehicular activity areas, so emissions from these sources were not included in the AAQIA. Instead they were addressed as a background concentration of 20 µg/m<sup>3</sup> of PM<sub>10</sub> in accordance with the Air Pollution Control Program's BMPs interim policy.

## OPERATING SCENARIOS

The plant is permitted to operate with other plants located at the site as long as the NAAQS is not exceeded. The following scenarios explain how Heartland Materials, LLC shall demonstrate compliance with the NAAQS.

- When plants that are owned by Heartland Materials, LLC, which are referred to as same owner plants, are located at the site, Heartland Materials, LLC must calculate the daily impact of each plant and limit the total impact of all plants below the NAAQS using Attachment A.
- When plants that are not owned by Heartland Materials, LLC, which are referred to as separate owner plants, are located at the site, Heartland Materials, LLC must account for the impacts of these plants as a background concentration and add it to the total impact of all plants owned by Heartland Materials, LLC that are operating at the site. This total is limited below the NAAQS. Heartland Materials, LLC will limit the total impact of all plants they own and operate at the site to 101.6  $\mu\text{g}/\text{m}^3$  when any plants they do not own are located at the site. Plants that are not owned by Heartland Materials, LLC and have a separate owner background greater than 28.40  $\mu\text{g}/\text{m}^3$  will not be permitted to operate at this site. During this scenario, Heartland Materials, LLC shall use Attachment B to demonstrate compliance with the NAAQS.

#### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are conditioned below de minimis levels.

#### APPLICABLE REQUIREMENTS

Heartland Materials, LLC 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

#### 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 equipment startup.
- *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 (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Michael Mittermeyer  
Environmental Engineer

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Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 28, 2010, received November 3, 2010, designating Heartland Materials, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated November 11, 2010.







## 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 portable 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<sup>1</sup> 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 and volume of water application 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.

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<sup>1</sup> For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)