



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: December 6, 2011

RE: Arctic Minerals, LLC / 019-31007-00139

FROM: Matthew Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

## Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FN-REGIS.dot 1/2/08



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## REGISTRATION OFFICE OF AIR QUALITY

**Arctic Minerals, LLC**  
**5140 Maritime Road**  
**Jeffersonville, Indiana 47130**

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. 019-31007-00139	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date:  December 6, 2011

## SECTION A

## SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

### A.1 General Information

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The Registrant owns and operates a stationary mica and talc dry processing facility.

Source Address:	5140 Maritime Road, Jeffersonville, Indiana 47130
General Source Phone Number:	812-283-6616
SIC Code:	3295 (Minerals and Earths, Ground or Otherwise Treated)
County Location:	Clark County
Source Location Status:	Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Registration

### A.2 Emission Units and Pollution Control Equipment Summary

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This stationary source consists of the following emission units and pollution control devices:

(a) One (1) stationary mica and talc dry processing operation, approved for construction in 2011, with a maximum throughput capacity of 31,200 tons per year, with an average moisture content of approximately 0.5% for the dry materials processed, all exhausting outside, and consisting of the following:

- (1) One (1) storage silo, identified as Silo #1, using Bin Vent A for particulate control;
- (2) One (1) storage silo, identified as Silo #2, using Bin Vent B for particulate control;
- (3) One (1) storage silo, identified as Silo #3, using Bin Vent C for particulate control;
- (4) One (1) storage silo, identified as Silo #4, using Bin Vent D for particulate control;
- (5) Two (2) jetmills, identified as E, using baghouse #1 for particulate control, exhausting to the atmosphere;
- (6) One (1) storage silo, identified as Silo #5, using Bin Vent F for particulate control; and
- (7) One (1) storage silo, identified as Silo #6, using Bin Vent G for particulate control.

Under 40 CFR 60, Subpart OOO, this is considered an affected facility.

The controls for the processes described above have been evaluated and are considered as integral to the process.

(b) Insignificant Activities, consisting of the following:

- (1) Paved roads to and from the facility, considered as fugitive emissions.

## SECTION B

## GENERAL CONDITIONS

### B.1 Definitions [326 IAC 2-1.1-1]

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Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

### B.2 Effective Date of Registration [IC 13-15-5-3]

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Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

### B.3 Registration Revocation [326 IAC 2-1.1-9]

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Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

### B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

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- (a) All terms and conditions of permits established prior to Registration No. 019-31007-00139 and issued pursuant to permitting programs approved into the state implementation plan have been either:
  - (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

### B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

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Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003

Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

**B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]**

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Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

**B.7 Registrations [326 IAC 2-5.1-2(i)]**

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Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

**B.8 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251

The Registrant shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Registrant is required by 40 CFR Part 60 or 40 CFR Part 63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such OMM Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**SECTION C**

**SOURCE OPERATION CONDITIONS**

Entire Source

**Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]**

**C.1 Opacity [326 IAC 5-1]**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this registration:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**C.2 Fugitive Dust Emissions [326 IAC 6-4]**

The Registrant shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

**SECTION D.1**

**OPERATION CONDITIONS**

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) stationary mica and talc dry processing operation, approved for construction in 2011, with a maximum throughput capacity of 31,200 tons per year, with an average moisture content of approximately 0.5% for the dry materials processed, all exhausting outside, and consisting of the following:
  - (1) One (1) storage silo, identified as Silo #1, using Bin Vent A for particulate control;
  - (2) One (1) storage silo, identified as Silo #2, using Bin Vent B for particulate control;
  - (3) One (1) storage silo, identified as Silo #3, using Bin Vent C for particulate control;
  - (4) One (1) storage silo, identified as Silo #4, using Bin Vent D for particulate control;
  - (5) Two (2) jetmills, identified as E, using baghouse #1 for particulate control, exhausting to the atmosphere;
  - (6) One (1) storage silo, identified as Silo #5, using Bin Vent F for particulate control; and
  - (7) One (1) storage silo, identified as Silo #6, using Bin Vent G for particulate control.

Under 40 CFR 60, Subpart OOO, this is considered an affected facility.

- (b) Insignificant Activities, consisting of the following:
  - (1) Paved roads to and from the facility, considered as fugitive emissions.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]**

**D.1.1 PM and PM10 Emissions Limitations [326 IAC 2-2]**

In order to render 326 IAC 2-2 not applicable, particulate emissions (PM and PM10) from Bin Vents A, B, C, D, F, and G, and Baghouse E shall not exceed the following:

<b>Emission Unit / Control Device</b>	<b>PM Emission Limit (lb/hr)</b>	<b>PM10 Emission Limit (lb/hr)</b>
Silo #1 / Bin Vent A	2.26	2.26
Silo #2 / Bin Vent B	2.26	2.26
Silo #3 / Bin Vent C	2.26	2.26
Silo #4 / Bin Vent D	2.26	2.26
Silo #5 / Bin Vent F	2.26	2.26
Silo #6 / Bin Vent G	2.26	2.26
Jetmills / Baghouse E	9.04	9.04

Compliance with these limits, combined with the potential to emit PM and PM10 from all other emission units at this source, shall limit the source-wide total potential to emit PM and PM10 to less than 250 tons per twelve consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

**D.1.2 PM2.5 Emissions Limitations [326 IAC 2-2-1.1-5]**

In order to render 326 IAC 2-1.1-5 not applicable, particulate emissions (PM2.5) from Bin Vents A, B, C, D, F, and G, and Baghouse E shall not exceed the following:

<b>Emission Unit / Control Device</b>	<b>PM2.5 Emission Limit (lb/hr)</b>
Silo #1 / Bin Vent A	2.26
Silo #2 / Bin Vent B	2.26
Silo #3 / Bin Vent C	2.26
Silo #4 / Bin Vent D	2.26
Silo #5 / Bin Vent F	2.26
Silo #6 / Bin Vent G	2.26
Jetmills / Baghouse E	9.04

Compliance with these limits, combined with the potential to emit PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit PM2.5 to less than 100 tons per twelve consecutive month period and shall render 326 IAC 2-3 (Emission Offset) not applicable.

**D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]**

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

**Compliance Determination Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]**

**D.1.4 Particulate Control**

- (a) In order to comply with Conditions D.1.1 and D.1.2, the bin vents, identified as A, B, C, D, F, and G, and baghouse, identified as E, used for particulate control shall be in operation and control emissions from the mica and talc dry processing facilities at all times that these facilities are in operation.
- (b) In the event that failure is observed in a bin vent or baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

**D.1.5 Testing Requirements [326 IAC 2.1.1-11]**

- (a) Silo Testing:

Not later than 180 days from initial start up and in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM2.5 testing to one of the following silos and bin vents, utilizing methods as approved by the Commissioner:

<b>Emission Unit / Control Device</b>
Silo #1 / Bin Vent A
Silo #2 / Bin Vent B
Silo #3 / Bin Vent C
Silo #4 / Bin Vent D
Silo #5 / Bin Vent F
Silo #6 / Bin Vent G

As long as Bin Vents A, B, C, D, F, and G are identical, any one (1) compliant bin vent test may be used to determine compliance for the remaining bin vents. These tests shall be repeated at least every five (5) years from the date of the most recent valid compliance demonstration.

(b) Jetmills / Baghouse E Testing:

Not later than 180 days from initial start up and in order to demonstrate compliance with Condition D.1.2, the Permittee shall perform PM<sub>2.5</sub> testing to the jetmill Baghouse E, utilizing methods as approved by the Commissioner. These tests shall be repeated at least every five (5) years from the date of the most recent valid compliance demonstration.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

**D.1.6 Visible Emissions Notations**

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- (a) Visible emission notations of the mica and talc dry processing bin vent and baghouse exhausts, identified as A, B, C, D, E, F, and G, shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

**D.1.7 Baghouse Parametric Monitoring**

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- (a) The Permittee shall record the pressure drop across the bin vents and baghouse, identified as A, B, C, D, E, F, and G, used in conjunction with the mica and talc dry processing facilities at least once per day when these facilities are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.1.8 Broken or Failed Bag Detection

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- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced.
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit.

Bag failure can be indicated by a significant drop in the baghouses pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks.

#### **Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

##### D.1.9 Record Keeping Requirements

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- (a) To document the compliance status with Condition D.1.6, the Permittee shall maintain a daily record of visible emission notations of the bin vents and baghouse, identified as A, B, C, D, E, F, and G, used in conjunction with the mica and talc dry processing facilities. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the jetmill did not operate that day).
- (b) To document the compliance status with Condition D.1.7, the Permittee shall maintain a daily record of the pressure drop across the bin vents and baghouse, identified as A, B, C, D, E, F, and G, used in conjunction with the mica and talc dry processing facilities. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the jetmill did not operate that day).
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

## SECTION E.1

## OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) One (1) stationary mica and talc dry processing operation, approved for construction in 2011, with a maximum throughput capacity of 31,200 tons per year, with an average moisture content of approximately 0.5% for the dry materials processed, all exhausting outside, and consisting of the following:
- (1) One (1) storage silo, identified as Silo #1, using Bin Vent A for particulate control;
  - (2) One (1) storage silo, identified as Silo #2, using Bin Vent B for particulate control;
  - (3) One (1) storage silo, identified as Silo #3, using Bin Vent C for particulate control;
  - (4) One (1) storage silo, identified as Silo #4, using Bin Vent D for particulate control;
  - (5) Two (2) jetmills, identified as E, using baghouse #1 for particulate control, exhausting to the atmosphere;
  - (6) One (1) storage silo, identified as Silo #5, using Bin Vent F for particulate control; and
  - (7) One (1) storage silo, identified as Silo #6, using Bin Vent G for particulate control.

Under 40 CFR 60, Subpart OOO, this is considered an affected facility.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### E.1.1 General Provisions Relating to New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart A] [326 IAC 12-1]

Pursuant to 40 CFR 60, the Registrant shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, in accordance with schedule in 40 CFR 60 Subpart OOO.

### E.1.2 New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants [40 CFR Part 60, Subpart OOO] [326 IAC 12-1]

The Registrant, which engages in the dry processing of mica and talc, shall comply with the following provisions of 40 CFR Part 60, Subpart OOO (included as Attachment A of this permit), with a compliance date of April 28, 2009:

- (1) 40 CFR 60.670(a)(1), (e)
- (2) 40 CFR 60.671
- (3) 40 CFR 60.672
- (4) 40 CFR 60.673
- (5) 40 CFR 60.674
- (6) 40 CFR 60.675 (testing requirements)
- (7) 40 CFR 60.676
- (8) 40 CFR 60, Table 1 to Subpart OOO
- (9) 40 CFR 60, Table 2 to Subpart OOO
- (10) 40 CFR 60, Table 3 to Subpart OOO

### E.1.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing as required under NESHAP 40 CFR 60, Subpart

OOO, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the testing required by this condition.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH**

**REGISTRATION  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

<b>Company Name:</b>	Arctic Minerals, LLC
<b>Address:</b>	5140 Maritime Road
<b>City:</b>	Jeffersonville, Indiana 47130
<b>Phone Number:</b>	812-283-6616
<b>Registration No.:</b>	019-31007-00139

I hereby certify that Arctic Minerals, LLC is:

still in operation.

I hereby certify that Arctic Minerals, LLC is:

no longer in operation.

in compliance with the requirements of Registration No. 019-31007-00139.

not in compliance with the requirements of Registration No. 019-31007-00139.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Phone Number:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>

## Subpart 000—Standards of Performance for Nonmetallic Mineral Processing Plants

### *Subpart 000—Standards of Performance for Nonmetallic Mineral Processing Plants*

**Source:** 74 FR 19309, Apr. 28, 2009, unless otherwise noted.

#### *§ 60.670 Applicability and designation of affected facility.*

(a)(1) Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.

(2) The provisions of this subpart do not apply to the following operations: All facilities located in underground mines; plants without crushers or grinding mills above ground; and wet material processing operations (as defined in §60.671).

(b) An affected facility that is subject to the provisions of subparts F or I of this part or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart.

(c) Facilities at the following plants are not subject to the provisions of this subpart:

(1) Fixed sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 23 megagrams per hour (25 tons per hour) or less;

(2) Portable sand and gravel plants and crushed stone plants with capacities, as defined in §60.671, of 136 megagrams per hour (150 tons per hour) or less; and

(3) Common clay plants and pumice plants with capacities, as defined in §60.671, of 9 megagrams per hour (10 tons per hour) or less.

(d)(1) When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided for in paragraph (d)(3) of this section.

(2) An owner or operator complying with paragraph (d)(1) of this section shall submit the information required in §60.676(a).

(3) An owner or operator replacing all existing facilities in a production line with new facilities does not qualify for the exemption described in paragraph (d)(1) of this section and must comply with the provisions of §§60.672, 60.674 and 60.675.

(e) An affected facility under paragraph (a) of this section that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part.

(f) Table 1 of this subpart specifies the provisions of subpart A of this part 60 that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

#### *§ 60.671 Definitions.*

All terms used in this subpart, but not specifically defined in this section, shall have the meaning given them in the Act and in subpart A of this part.

*Bagging operation* means the mechanical process by which bags are filled with nonmetallic minerals.

*Belt conveyor* means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end.

*Bucket elevator* means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached.

*Building* means any frame structure with a roof.

*Capacity* means the cumulative rated capacity of all initial crushers that are part of the plant.

*Capture system* means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more affected facilities to a control device.

*Control device* means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a nonmetallic mineral processing plant.

*Conveying system* means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems.

*Crush* or *Crushing* means to reduce the size of nonmetallic mineral material by means of physical impaction of the crusher or grinding mill upon the material.

*Crusher* means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: Jaw, gyratory, cone, roll, rod mill, hammermill, and impactor.

*Enclosed truck or railcar loading station* means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars.

*Fixed plant* means any nonmetallic mineral processing plant at which the processing equipment specified in §60.670(a) is attached by a cable, chain, turnbuckle, bolt or other means (except electrical connections) to any anchor, slab, or structure including bedrock.

*Fugitive emission* means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

*Grinding mill* means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: Hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used.

*Initial crusher* means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant.

*Nonmetallic mineral* means any of the following minerals or any mixture of which the majority is any of the following minerals:

(1) Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell.

(2) Sand and Gravel.

(3) Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay.

- (4) Rock Salt.
- (5) Gypsum (natural or synthetic).
- (6) Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate.
- (7) Pumice.
- (8) Gilsonite.
- (9) Talc and Pyrophyllite.
- (10) Boron, including Borax, Kernite, and Colemanite.
- (11) Barite.
- (12) Fluorospars.
- (13) Feldspar.
- (14) Diatomite.
- (15) Perlite.
- (16) Vermiculite.
- (17) Mica.
- (18) Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite.

*Nonmetallic mineral processing plant* means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c).

*Portable plant* means any nonmetallic mineral processing plant that is mounted on any chassis or skids and may be moved by the application of a lifting or pulling force. In addition, there shall be no cable, chain, turnbuckle, bolt or other means (except electrical connections) by which any piece of equipment is attached or clamped to any anchor, slab, or structure, including bedrock that must be removed prior to the application of a lifting or pulling force for the purpose of transporting the unit.

*Production line* means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system.

*Saturated material* means, for purposes of this subpart, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket elevators and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be "saturated" for purposes of this definition.

*Screening operation* means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations.

*Seasonal shut down* means shut down of an affected facility for a period of at least 45 consecutive days due to weather or seasonal market conditions.

*Size* means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin.

*Stack emission* means the particulate matter that is released to the atmosphere from a capture system.

*Storage bin* means a facility for storage (including surge bins) of nonmetallic minerals prior to further processing or loading.

*Transfer point* means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile.

*Truck dumping* means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: Trucks, front end loaders, skip hoists, and railcars.

*Vent* means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities.

*Wet material processing operation(s)* means any of the following:

(1) Wet screening operations (as defined in this section) and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line; or

(2) Screening operations, bucket elevators and belt conveyors in the production line downstream of wet mining operations (as defined in this section) that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line.

*Wet mining operation* means a mining or dredging operation designed and operated to extract any nonmetallic mineral regulated under this subpart from deposits existing at or below the water table, where the nonmetallic mineral is saturated with water.

*Wet screening operation* means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water.

#### § 60.672 *Standard for particulate matter (PM).*

(a) Affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

(b) Affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under §60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

(c) [Reserved]

(d) Truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.

(e) If any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of this section, or the building enclosing the affected facility or facilities must comply with the following emission limits:

(1) Fugitive emissions from the building openings (except for vents as defined in §60.671) must not exceed 7 percent opacity; and

(2) Vents (as defined in §60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.

(f) Any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

#### *§ 60.673 Reconstruction.*

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.

(b) Under §60.15, the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in paragraph (a) of this section) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.

#### *§ 60.674 Monitoring of operations.*

(a) The owner or operator of any affected facility subject to the provisions of this subpart which uses a wet scrubber to control emissions shall install, calibrate, maintain and operate the following monitoring devices:

(1) A device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 250$  pascals  $\pm 1$  inch water gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(2) A device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber. The monitoring device must be certified by the manufacturer to be accurate within  $\pm 5$  percent of design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses wet suppression to control emissions from the affected facility must perform monthly periodic inspections to check that water is flowing to discharge spray nozzles in the wet suppression system. The owner or operator must initiate corrective action within 24 hours and complete corrective action as expeditiously as practical if the owner or operator finds that water is not flowing properly during an inspection of the water spray nozzles. The owner or operator must record each inspection of the water spray nozzles, including the date of each inspection and any corrective actions taken, in the logbook required under §60.676(b).

(1) If an affected facility relies on water carryover from upstream water sprays to control fugitive emissions, then that affected facility is exempt from the 5-year repeat testing requirement specified in Table 3 of this subpart provided that the affected facility meets the criteria in paragraphs (b)(1)(i) and (ii) of this section:

(i) The owner or operator of the affected facility conducts periodic inspections of the upstream water spray(s) that are responsible for controlling fugitive emissions from the affected facility. These inspections are conducted according to paragraph (b) of this section and §60.676(b), and

(ii) The owner or operator of the affected facility designates which upstream water spray(s) will be periodically inspected at the time of the initial performance test required under §60.11 of this part and §60.675 of this subpart.

(2) If an affected facility that routinely uses wet suppression water sprays ceases operation of the water sprays or is using a control mechanism to reduce fugitive emissions other than water sprays during the monthly inspection (for example, water from recent rainfall), the logbook entry required under §60.676(b) must specify the control mechanism being used instead of the water sprays.

(c) Except as specified in paragraph (d) or (e) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, Appendix A-7). The Method 22 (40 CFR part 60, Appendix A-7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, Appendix A-7) test, including the date and any corrective actions taken, in the logbook required under §60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to §60.675(b) simultaneously with a Method 22 (40 CFR part 60, Appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.

(d) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions may use a bag leak detection system. The owner or operator must install, operate, and maintain the bag leak detection system according to paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the specifications and requirements in paragraphs (d)(1)(i) through (viii) of this section.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator shall continuously record the output from the bag leak detection system using electronic or other means ( *e.g.* , using a strip chart recorder or a data logger).

(iii) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (d)(1)(iv) of this section, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) In the initial adjustment of the bag leak detection system, the owner or operator must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(v) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the Administrator or delegated authority except as provided in paragraph (d)(1)(vi) of this section.

(vi) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by paragraph (d)(2) of this section.

(vii) The owner or operator must install the bag leak detection sensor downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) The owner or operator of the affected facility must develop and submit to the Administrator or delegated authority for approval of a site-specific monitoring plan for each bag leak detection system. The owner or operator must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system;

(ii) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(iii) Operation of the bag leak detection system, including quality assurance procedures;

(iv) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(v) How the bag leak detection system output will be recorded and stored; and

(vi) Corrective action procedures as specified in paragraph (d)(3) of this section. In approving the site-specific monitoring plan, the Administrator or delegated authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(3) For each bag leak detection system, the owner or operator must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in paragraph (d)(2)(vi) of this section, the owner or operator must alleviate the cause of the alarm within 3 hours of the alarm by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to the following:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media or otherwise repairing the control device;

(iv) Sealing off a defective fabric filter compartment;

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; or

(vi) Shutting down the process producing the PM emissions.

(e) As an alternative to the periodic Method 22 (40 CFR part 60, Appendix A-7) visible emissions inspections specified in paragraph (c) of this section, the owner or operator of any affected facility that is subject to the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) may follow the continuous compliance requirements in row 1 items (i) through (iii) of Table 6 to Subpart AAAAA of 40 CFR part 63.

§ 60.675 *Test methods and procedures.*

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A–1 through A–7 of this part or other methods and procedures as specified in this section, except as provided in §60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of this section.

(b) The owner or operator shall determine compliance with the PM standards in §60.672(a) as follows:

(1) Except as specified in paragraphs (e)(3) and (4) of this section, Method 5 of Appendix A–3 of this part or Method 17 of Appendix A–6 of this part shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, Appendix A–3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 of Appendix A–4 of this part and the procedures in §60.11 shall be used to determine opacity.

(c)(1) In determining compliance with the particulate matter standards in §60.672(b) or §60.672(e)(1), the owner or operator shall use Method 9 of Appendix A–4 of this part and the procedures in §60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources ( e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A–4 of this part, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2)(i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under §60.672(f) of this subpart, using Method 9 (40 CFR part 60, Appendix A–4), the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations shall be 1 hour (ten 6-minute averages).

(ii) The duration of the Method 9 (40 CFR part 60, Appendix A–4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under §60.672(b) or §60.672(e)(1) of this subpart, the duration of the Method 9 (40 CFR part 60, Appendix A–4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.

(d) To demonstrate compliance with the fugitive emission limits for buildings specified in §60.672(e)(1), the owner or operator must complete the testing specified in paragraph (d)(1) and (2) of this section. Performance tests must be conducted while all affected facilities inside the building are operating.

(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, Appendix A–4) performance test according to this section and §60.11.

(2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, Appendix

A-7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with the opacity limit in §60.672(e)(1). If the owner or operator has not conducted an initial performance test for the building before April 22, 2008, then the owner or operator must conduct an initial Method 9 (40 CFR part 60, Appendix A-4) performance test according to this section and §60.11 to show compliance with the opacity limit in §60.672(e)(1).

(e) The owner or operator may use the following as alternatives to the reference methods and procedures specified in this section:

(1) For the method and procedure of paragraph (c) of this section, if emissions from two or more facilities continuously interfere so that the opacity of fugitive emissions from an individual affected facility cannot be read, either of the following procedures may be used:

(i) Use for the combined emission stream the highest fugitive opacity standard applicable to any of the individual affected facilities contributing to the emissions stream.

(ii) Separate the emissions so that the opacity of emissions from each affected facility can be read.

(2) A single visible emission observer may conduct visible emission observations for up to three fugitive, stack, or vent emission points within a 15-second interval if the following conditions are met:

(i) No more than three emission points may be read concurrently.

(ii) All three emission points must be within a 70 degree viewing sector or angle in front of the observer such that the proper sun position can be maintained for all three points.

(iii) If an opacity reading for any one of the three emission points equals or exceeds the applicable standard, then the observer must stop taking readings for the other two points and continue reading just that single point.

(3) Method 5I of Appendix A-3 of this part may be used to determine the PM concentration as an alternative to the methods specified in paragraph (b)(1) of this section. Method 5I (40 CFR part 60, Appendix A-3) may be useful for affected facilities that operate for less than 1 hour at a time such as (but not limited to) storage bins or enclosed truck or railcar loading stations.

(4) In some cases, velocities of exhaust gases from building vents may be too low to measure accurately with the type S pitot tube specified in EPA Method 2 of Appendix A-1 of this part [ *i.e.*, velocity head <1.3 mm H<sub>2</sub>O (0.05 in. H<sub>2</sub>O)] and referred to in EPA Method 5 of Appendix A-3 of this part. For these conditions, the owner or operator may determine the average gas flow rate produced by the power fans ( *e.g.*, from vendor-supplied fan curves) to the building vent. The owner or operator may calculate the average gas velocity at the building vent measurement site using Equation 1 of this section and use this average velocity in determining and maintaining isokinetic sampling rates.

$$v_e = \frac{Q_f}{A_e} \quad (\text{Eq. 1})$$

Where:

V<sub>e</sub>= average building vent velocity (feet per minute);

Q<sub>f</sub>= average fan flow rate (cubic feet per minute); and

A<sub>e</sub>= area of building vent and measurement location (square feet).

(f) To comply with §60.676(d), the owner or operator shall record the measurements as required in §60.676(c) using the monitoring devices in §60.674 (a)(1) and (2) during each particulate matter run and shall determine the averages.

(g) For performance tests involving only Method 9 (40 CFR part 60 Appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in §60.7(a)(6) and 60.8(d) to a 7-day advance notification.

(h) [Reserved]

(i) If the initial performance test date for an affected facility falls during a seasonal shut down (as defined in §60.671 of this subpart) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

*§ 60.676 Reporting and recordkeeping.*

(a) Each owner or operator seeking to comply with §60.670(d) shall submit to the Administrator the following information about the existing facility being replaced and the replacement piece of equipment.

(1) For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:

(i) The rated capacity in megagrams or tons per hour of the existing facility being replaced and

(ii) The rated capacity in tons per hour of the replacement equipment.

(2) For a screening operation:

(i) The total surface area of the top screen of the existing screening operation being replaced and

(ii) The total surface area of the top screen of the replacement screening operation.

(3) For a conveyor belt:

(i) The width of the existing belt being replaced and

(ii) The width of the replacement conveyor belt.

(4) For a storage bin:

(i) The rated capacity in megagrams or tons of the existing storage bin being replaced and

(ii) The rated capacity in megagrams or tons of replacement storage bins.

(b)(1) Owners or operators of affected facilities (as defined in §§60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under §60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.

(2) For each bag leak detection system installed and operated according to §60.674(d), the owner or operator must keep the records specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) Records of the bag leak detection system output;

- (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
- (iii) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the cause of the alarm was alleviated within 3 hours of the alarm.
- (3) The owner or operator of each affected facility demonstrating compliance according to §60.674(e) by following the requirements for processed stone handling operations in the Lime Manufacturing NESHAP (40 CFR part 63, subpart AAAAA) must maintain records of visible emissions observations required by §63.7132(a)(3) and (b) of 40 CFR part 63, subpart AAAAA.
- (c) During the initial performance test of a wet scrubber, and daily thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.
- (d) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Administrator of occurrences when the measurements of the scrubber pressure loss and liquid flow rate decrease by more than 30 percent from the average determined during the most recent performance test.
- (e) The reports required under paragraph (d) of this section shall be postmarked within 30 days following end of the second and fourth calendar quarters.
- (f) The owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in §60.672 of this subpart, including reports of opacity observations made using Method 9 (40 CFR part 60, Appendix A-4) to demonstrate compliance with §60.672(b), (e) and (f).
- (g) The owner or operator of any wet material processing operation that processes saturated and subsequently processes unsaturated materials, shall submit a report of this change within 30 days following such change. At the time of such change, this screening operation, bucket elevator, or belt conveyor becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.11.
- (h) The subpart A requirement under §60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.
- (i) A notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator.
- (1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be postmarked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.
- (2) For portable aggregate processing plants, the notification of the actual date of initial startup shall include both the home office and the current address or location of the portable plant.
- (j) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected facilities within the State will be relieved of the obligation to comply with the reporting requirements of this section, provided that they comply with requirements established by the State.
- (k) Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart need only to be sent to the EPA Region or the State which has been delegated authority according to §60.4(b).

*Table 1 to Subpart 000—Exceptions to Applicability of Subpart A to Subpart 000*

**Table 1 to Subpart 000—Exceptions to Applicability of Subpart A to Subpart 000**

<b>Subpart A reference</b>	<b>Applies to subpart 000</b>	<b>Explanation</b>
60.4, Address	Yes	Except in §60.4(a) and (b) submittals need not be submitted to both the EPA Region and delegated State authority (§60.676(k)).
60.7, Notification and recordkeeping	Yes	Except in (a)(1) notification of the date construction or reconstruction commenced (§60.676(h)).
		Also, except in (a)(6) performance tests involving only Method 9 (40 CFR part 60, Appendix A–4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.8, Performance tests	Yes	Except in (d) performance tests involving only Method 9 (40 CFR part 60, Appendix A–4) require a 7-day advance notification instead of 30 days (§60.675(g)).
60.11, Compliance with standards and maintenance requirements	Yes	Except in (b) under certain conditions (§§60.675(c)), Method 9 (40 CFR part 60, Appendix A–4) observation is reduced from 3 hours to 30 minutes for fugitive emissions.
60.18, General control device	No	Flares will not be used to comply with the emission limits.

*Table 2 to Subpart 000—Stack Emission Limits for Affected Facilities With Capture Systems*

**Table 2 to Subpart 000—Stack Emission Limits for Affected Facilities With Capture Systems**

<b>For * * *</b>	<b>The owner or operator must meet a PM limit of * * *</b>	<b>And the owner or operator must meet an opacity limit of * * *</b>	<b>The owner or operator must demonstrate compliance with these limits by conducting * * *</b>
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	0.05 g/dscm (0.022 gr/dscf) <sup>a</sup>	7 percent for dry control devices <sup>b</sup>	An initial performance test according to §60.8 of this part and §60.675 of this subpart; and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c), (d), and (e).
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	0.032 g/dscm (0.014 gr/dscf) <sup>a</sup>	Not applicable (except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed	An initial performance test according to §60.8 of this part and §60.675 of this subpart; and Monitoring of wet scrubber parameters according to §60.674(a) and §60.676(c),

		storage bins	(d), and (e); and
			Monitoring of baghouses according to §60.674(c), (d), or (e) and §60.676(b).

<sup>a</sup>Exceptions to the PM limit apply for individual enclosed storage bins and other equipment. See §60.672(d) through (f).

<sup>b</sup>The stack opacity limit and associated opacity testing requirements do not apply for affected facilities using wet scrubbers.

*Table 3 to Subpart 000—Fugitive Emission Limits*

**Table 3 to Subpart 000—Fugitive Emission Limits**

<b>For * * *</b>	<b>The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§60.670 and 60.671) * * *</b>	<b>The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *</b>	<b>The owner or operator must demonstrate compliance with these limits by conducting * * *</b>
Affected facilities (as defined in §§60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	10 percent opacity	15 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart.
Affected facilities (as defined in §§60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart; and Periodic inspections of water sprays according to §60.674(b) and §60.676(b); and
			A repeat performance test according to §60.11 of this part and §60.675 of this subpart within 5 years from the previous performance test for fugitive

			emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in §60.674(b) and §60.676(b) are exempt from this 5-year repeat testing requirement.
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## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Registration

#### Source Description and Location

**Source Name:** Arctic Minerals, LLC  
**Source Location:** 5140 Maritime Road, Jeffersonville, IN 47130  
**County:** Clark  
**SIC Code:** 3295 (Minerals and Earths, Ground or Otherwise Treated)  
**Registration No.:** 019-31007-00139  
**Permit Reviewer:** Jack Harmon

On October 5, 2011, the Office of Air Quality (OAQ) received an application from Arctic Minerals, LLC related to the construction and operation of a stationary mica and talc dry processing facility. Additional information was received on October 25 and October 27, 2011.

#### Existing Approvals

There have been no previous approvals issued to this source.

#### County Attainment Status

The source is located in Clark County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Attainment effective July 19, 2007, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.

<sup>1</sup>Attainment effective October 23, 2001, for the 1-hour ozone standard for the Louisville area, including Clark County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standard (NAAQS) for purposes of 40 CFR Part 51, Subpart X\*. The 1-hour standard was revoked effective June 15, 2005. Basic nonattainment designation effective federally April 5, 2005, for PM<sub>2.5</sub>.

- (a) **Ozone Standards**  
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Clark County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM<sub>2.5</sub>**  
 Clark County has been classified as nonattainment for PM<sub>2.5</sub> in 70 FR 943 dated January 5, 2005. On May 8, 2008, U.S. EPA promulgated specific New Source Review rules for PM<sub>2.5</sub> emissions. These rules became effective on July 15, 2008. Therefore, direct PM<sub>2.5</sub> and SO<sub>2</sub> emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

- (c) Other Criteria Pollutants  
Clark County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

### **Fugitive Emissions**

The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

### **Background and Description of Emission Units and Pollution Control Equipment**

The Office of Air Quality (OAQ) has reviewed an application, submitted by Arctic Minerals, LLC on October 2, 2011, relating to the construction and operation of a stationary mica and talc dry processing facility. The mica and talc are purchased as dry materials.

The following is a list of the new emission units and pollution control devices:

- (a) One (1) stationary mica and talc dry processing operation, approved for construction in 2011, with a maximum throughput capacity of 31,200 tons per year, with an average moisture content of approximately 0.5% for the dry materials processed, all exhausting outside, and consisting of the following:
- (1) One (1) storage silo, identified as Silo #1, using Bin Vent A for particulate control;
  - (2) One (1) storage silo, identified as Silo #2, using Bin Vent B for particulate control;
  - (3) One (1) storage silo, identified as Silo #3, using Bin Vent C for particulate control;
  - (4) One (1) storage silo, identified as Silo #4, using Bin Vent D for particulate control;
  - (5) Two (2) jetmills, identified as E, using baghouse #1 for particulate control, exhausting to the atmosphere;
  - (6) One (1) storage silo, identified as Silo #5, using Bin Vent F for particulate control; and
  - (7) One (1) storage silo, identified as Silo #6, using Bin Vent G for particulate control.

Under 40 CFR 60, Subpart OOO, this is considered an affected facility.

The controls for the processes described above have been evaluated and are considered as integral to the process. This determination is explained in the Integral Part of the Process section below.

- (b) Insignificant Activities, consisting of the following:
- (1) Paved roads to and from the facility, considered as fugitive emissions.

### **“Integral Part of the Process” Determination**

The Permittee has submitted the following information to justify why the Bin Vents A, B, C, D, F, and G, serving the silos, and Vent E from Baghouse #1, should be considered an integral part of the pneumatic conveyance and dry milling processes:



Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)									
	PM	PM10*	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
Silo #6 (Bin Vent G)	0.73	0.73	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Emissions	1.73	0.35	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total PTE of Entire Source***</b>	<b>9.07</b>	<b>7.69</b>	<b>7.42</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **The 100,000 CO <sub>2</sub> e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. This source has no heating units, or other sources of greenhouse gasses. *** PTE after control used for permitting level because Bin Vents and baghouse are considered integral to the process.										

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of all criteria pollutants (after control) are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants (after control) are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.
- (c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

**Prevention of Significant Deterioration (PSD) and Emission Offset Determination**

The following table reflects the unlimited potential to emit (PTE) of the entire source without controls or limits, in order to make a determination under 326 IAC 2-2 (PSD) and under 326 IAC 2-1.1-5 (Nonattainment). Except for particulate emissions (PM, PM10, PM2.5) emissions, all other criteria pollutants are zero potential emissions, therefore these other criteria pollutants are not shown in the table below.

Process/ Emission Unit	Uncontrolled/Unlimited Potential To Emit of the Entire Source (tons/year)		
	PM	PM10*	PM2.5**
Silo #1 (Bin Vent A)	73.31	73.31	73.31
Silo #2 (Bin Vent B)	73.31	73.31	73.31
Silo #3 (Bin Vent C)	73.31	73.31	73.31
Silo #4 (Bin Vent D)	73.31	73.31	73.31
Jetmills (Baghouse Vent E)	293.96	293.96	293.96
Silo #5 (Bin Vent F)	73.31	73.31	73.31
Silo #6 (Bin Vent G)	73.31	73.31	73.31
<b>Total PTE of Entire Source</b>	<b>733.82</b>	<b>733.82</b>	<b>733.82</b>
<b>PSD Major Threshold</b>	<b>250</b>	<b>250</b>	<b>N/A</b>
<b>Non Attainment Threshold</b>	<b>N/A</b>	<b>N/A</b>	<b>100</b>

Process/ Emission Unit	Uncontrolled/Unlimited Potential To Emit of the Entire Source (tons/year)		
	PM	PM10*	PM2.5**
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".			
** This source is located in Clark County, which is a non-attainment area for PM2.5; therefore, the major threshold level for that pollutant is 100 tons per year.			

**Potential To Emit After Issuance of the Registration (tons per year)**

The following table reflects the potential to emit (PTE) of the entire source after issuance, considering all limits.

Process/ Emission Unit	Potential To Emit of the Entire Source after Issuance (tons/year)		
	PM	PM10*	PM2.5**
Silo #1 (Bin Vent A)	9.9	9.9	9.9
Silo #2 (Bin Vent B)	9.9	9.9	9.9
Silo #3 (Bin Vent C)	9.9	9.9	9.9
Silo #4 (Bin Vent D)	9.9	9.9	9.9
Jetmills (Baghouse Vent E)	39.6	39.6	39.6
Silo #5 (Bin Vent F)	9.9	9.9	9.9
Silo #6 (Bin Vent G)	9.9	9.9	9.9
<b>Total PTE of Entire Source</b>	<b>99.0</b>	<b>99.0</b>	<b>99.0</b>
<b>PSD Major Threshold</b>	<b>250</b>	<b>250</b>	<b>N/A</b>
<b>Nonattainment Threshold</b>	<b>N/A</b>	<b>N/A</b>	<b>100</b>
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".			
** This source is located in Clark County, which is a non-attainment area for PM2.5; therefore, the major threshold level for that pollutant is 100 tons per year.			

(a) PSD Minor Source (326 IAC 2-2)

In order the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following limits:

Emission Unit / Control Device	PM Emission Limit (lb/hr)	PM10 Emission Limit (lb/hr)
Silo #1 / Bin Vent A	2.26	2.26
Silo #2 / Bin Vent B	2.26	2.26
Silo #3 / Bin Vent C	2.26	2.26
Silo #4 / Bin Vent D	2.26	2.26
Silo #5 / Bin Vent F	2.26	2.26
Silo #6 / Bin Vent G	2.26	2.26
Jetmills / Baghouse E	9.04	9.04

Compliance with these limits, combined with the potential to emit PM and PM10 from all other emission units at this source, shall limit the source-wide total potential to emit PM and PM10 to less than 250 tons per twelve consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(b) Nonattainment New Source Review (326 IAC 2-1.1-5)

In order the requirements of 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable, the source shall comply with the following limits:

<b>Emission Unit / Control Device</b>	<b>PM2.5 Emission Limit (lb/hr)</b>
Silo #1 / Bin Vent A	2.26
Silo #2 / Bin Vent B	2.26
Silo #3 / Bin Vent C	2.26
Silo #4 / Bin Vent D	2.26
Silo #5 / Bin Vent F	2.26
Silo #6 / Bin Vent G	2.26
Jetmills / Baghouse E	9.04

Compliance with these limits, combined with the potential to emit PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit PM2.5 to less than 100 tons per twelve consecutive month period and shall render 326 IAC 2-3 (Emission Offset) not applicable.

### **Federal Rule Applicability Determination**

#### New Source Performance Standards (NSPS)

- (a) This source is subject to the New Source Performance Standards for Nonmetallic Mineral Processing Plants (40 CFR 60, Subpart OOO, because this stationary source uses grinding mills, storage units, and conveyance equipment to reduce the size of nonmetallic minerals, and are, therefore, considered affected facilities. Mica and talc are considered nonmetallic minerals, as defined under 40 CFR 60.671.

Applicable portions of the NSPS are the following:

- (1) 40 CFR 60.670(a)(1), (e)
- (2) 40 CFR 60.671
- (3) 40 CFR 60.672
- (4) 40 CFR 60.673
- (5) 40 CFR 60.674
- (6) 40 CFR 60.675 (testing requirements)
- (7) 40 CFR 60.676
- (8) 40 CFR 60, Table 1 to Subpart OOO
- (9) 40 CFR 60, Table 2 to Subpart OOO
- (10) 40 CFR 60, Table 3 to Subpart OOO

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the source, except as otherwise specified in 40 CFR 60, Subpart OOO.

- (b) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

#### National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

#### Compliance Assurance Monitoring (CAM)

- (d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

### State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))  
PSD applicability is discussed under the PSD and Emission Offset section above.
- (b) 326 IAC 2-3 (Emission Offset)  
PSD applicability is discussed under the PSD and Emission Offset section above.
- (c) 326 IAC 2-5.1-2 (Registrations)  
Registration applicability is discussed under the Permit Level Determination – Registration section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
  - (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (d) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (e) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (f) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)  
Pursuant to 326 IAC 6-3-2, this source is not subject to the provisions of 326 IAC 6-3-2 because it is located in Clark County, and would be subject to 326 IAC 6.5. Therefore, the provisions of 326 IAC 6-3-2 do not apply.
- (g) 326 IAC 6.5 (Particulate Emissions Except Lake County)  
Pursuant to 326 IAC 6.5, this source would be subject to the provisions of 326 IAC 6.5 because it is located in Clark County. However, the source is subject to New Source Performance Standards for Nonmetallic Mineral Processing Plants, 40 CFR 60, Subpart OOO, which is more stringent than the provisions of 326 IAC 6.5, and the source is, therefore, not subject to the provisions of 326 IAC 6.5.

- (h) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)  
 Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since there are no unlimited VOC potential emissions from this source.

There are no other Article 8 rules applicable to this source.

- (i) 326 IAC 12 (New Source Performance Standards)  
 See Federal Rule Applicability Section of this TSD.

<b>Compliance Determination and Monitoring Requirements</b>
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- (a) Testing Requirements

Testing is required for one of these silo bin vents to confirm that the control devices are capable of complying with the nonattainment limits for PM<sub>2.5</sub>. Since the Bin Vents for Silos #1 through #6 are identical, one (1) compliant bin vent test may be used to determine compliance for the remaining bin vents.

Testing is required for the jetmill Baghouse E to confirm that the control device is capable of complying with the nonattainment limits for PM<sub>2.5</sub>.

The source shall comply with the following testing requirements:

<b>Emission Unit / Control Device</b>	<b>Pollutant Tested</b>	<b>Timeframe for Testing</b>	<b>Frequency of Testing</b>
Silo #1 / Bin Vent A	PM <sub>2.5</sub>	Within 180 days of startup	Every 5 years
Silo #2 / Bin Vent B	PM <sub>2.5</sub>	Within 180 days of startup	Every 5 years
Silo #3 / Bin Vent C	PM <sub>2.5</sub>	Within 180 days of startup	Every 5 years
Silo #4 / Bin Vent D	PM <sub>2.5</sub>	Within 180 days of startup	Every 5 years
Silo #5 / Bin Vent F	PM <sub>2.5</sub>	Within 180 days of startup	Every 5 years
Silo #6 / Bin Vent G	PM <sub>2.5</sub>	Within 180 days of startup	Every 5 years
Jetmills / Baghouse E	PM <sub>2.5</sub>	Within 180 days of startup	Every 5 years

- (b) The following are the monitoring requirements for this source:

<b>Emission Unit / Control Device</b>	<b>Operating Parameters</b>	<b>Frequency</b>
Silo #1 / Bin Vent A	Pressure Drop	Once per day
Silo #2 / Bin Vent B	Pressure Drop	Once per day
Silo #3 / Bin Vent C	Pressure Drop	Once per day
Silo #4 / Bin Vent D	Pressure Drop	Once per day
Silo #5 / Bin Vent F	Pressure Drop	Once per day
Silo #6 / Bin Vent G	Pressure Drop	Once per day
Jetmills / Baghouse E	Pressure Drop	Once per day
Silo #1 / Bin Vent A	Visible Emissions Notations	Once per day
Silo #2 / Bin Vent B	Visible Emissions Notations	Once per day
Silo #3 / Bin Vent C	Visible Emissions Notations	Once per day

Silo #4 / Bin Vent D	Visible Emissions Notations	Once per day
Silo #5 / Bin Vent F	Visible Emissions Notations	Once per day
Silo #6 / Bin Vent G	Visible Emissions Notations	Once per day
Jetmills / Baghouse E	Visible Emissions Notations	Once per day

<b>Conclusion and Recommendation</b>
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Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on October 5, 2011. Additional information was received on October 25 and 27, 2011.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 019-31007-00139. The staff recommends to the Commissioner that this Registration be approved.

<b>IDEM Contact</b>
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- (a) Questions regarding this proposed permit can be directed to Jack Harmon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-4228 or toll free at 1-800-451-6027 extension 3-4228.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.in.gov/idem](http://www.in.gov/idem)

**Appendix A: Emission Calculations  
Emissions Summary**

**Company Name:** Arctic Minerals, LLC  
**Address City IN Zip:** 5140 Maritime Road, Jeffersonville, Indiana 47130  
**Permit Number:** Reg 019-31007-00139  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

**Controlled Potential Emissions**

<b>Emission Unit</b>	<b>PM</b> (tons/yr)	<b>PM-10</b> (tons/yr)	<b>PM-2.5</b> (tons/yr)	<b>SO2</b> (tons/yr)	<b>NOx</b> (tons/yr)	<b>VOC</b> (tons/yr)	<b>CO</b> (tons/yr)	<b>GHG, as CO2e</b> (tons/yr)	<b>Worst HAP</b> (tons/yr)	<b>Total HAPs</b> (tons/yr)
Mica and Talc Dry Processing	7.34	7.34	7.34	0.00	0.00	0.00	0.00	0.00	0.000E+00	0.000E+00
Fugitive Paved/Unpaved Roads	1.73	0.35	0.08	0.00	0.00	0.00	0.00	0.00	0.000E+00	0.000E+00
<b>Total</b>	<b>9.07</b>	<b>7.69</b>	<b>7.42</b>	<b>0.00</b>	<b>0.00</b>	<b>0.0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00E+00</b>	<b>0.000E+00</b>

**Company Name:** Arctic Minerals, LLC  
**Address City IN Zip:** 5140 Maritime Road, Jeffersonville, Indiana 47130  
**Permit Number:** Reg 019-31007-00139  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

Milling and Product Storage/Transfer Operations  
 Potential Emission Calculations

Facility Description	Control Device ID	Control Efficiency (%)	Allowable Loading per Dry Cubic Meter of Outlet Air (grams/dry std cubic meter)	Air Flow Rate (acfm)	Exhaust Temperature (°F)	PM/PM-10/PM-2.5 Potential Emissions After Controls (lbs/hr)	PM/PM-10/PM-2.5 Potential Emissions After Controls (tons/yr)	PM/PM-10/PM-2.5 Potential Emissions Before Controls (lbs/hr)	PM/PM-10 Potential Emissions Before Controls (tons/yr)	PM2.5 Potential Emissions Before Controls (tons/yr)
Silo #1	Bin Vent A	99.0%	0.032	1,528	120	0.17	0.73	16.74	73.31	73.31
Silo #2	Bin Vent B	99.0%	0.032	1,528	120	0.17	0.73	16.74	73.31	73.31
Silo #3	Bin Vent C	99.0%	0.032	1,528	120	0.17	0.73	16.74	73.31	73.31
Silo #4	Bin Vent D	99.0%	0.032	1,528	120	0.17	0.73	16.74	73.31	73.31
Baghouse #1 (Jetmills)	E	99.0%	0.032	7,500	250	0.67	2.94	67.11	293.96	293.96
Silo #5	Bin Vent F	99.0%	0.032	1,528	120	0.17	0.73	16.74	73.31	73.31
Silo #6	Bin Vent G	99.0%	0.032	1,528	120	0.17	0.73	16.74	73.31	73.31
<b>TOTAL</b>						<b>1.68</b>	<b>7.34</b>	<b>167.54</b>	<b>733.83</b>	<b>733.83</b>

**Notes**

PM-10 and PM-2.5 emissions have been assumed to be equal to PM emissions

Potential PM/PM-10/PM-2.5 emissions are calculated after consideration of the control devices, and was the basis for determining permit level (refer to Technical Support Document (TSD) for further information).

Grain Loading per Dry Cubic Meter of Outlet Air is based upon PM emission limit in Table 2 of NSPS Subpart OOO (rev. 4/29/09) for applicable units constructed after 4/22/08. This was used because it is more stringent than standard grain loading factors.

Air Flow Rate is based upon dscfm values provided by control device manufacturer

Emission Rate after Controls takes into consideration the correction from actual gas flow rate to standard gas flow rate

**Methodology**

Emission Rate after Controls (lbs/hr) = Allowable Loading (grams/m<sup>3</sup>) x (1 lb/453.5924 grams) x (0.02832 m<sup>3</sup>/1 ft<sup>3</sup>) x Flow Rate (ft<sup>3</sup>/min) x ((530/(460 + °F)) x (60 mins/hr)

Emission Rate after Controls (tons/yr) = Emission Rate after Controls (lbs/hr) x (8760 hrs/yr) x (1 ton/2000)

Emission Rate Before Controls (lb/hr) = Emission Rate After Controls (lb/hr) / (1-control efficiency)

Emission Rate Before Controls (tons/yr) = Emission Rate After Controls (tons/yr) / (1-control efficiency)

**Appendix A: Emission Calculations**  
Fugitives Paved Roads

**Company Name: Arctic Minerals, LLC**  
**Address City IN Zip: 5140 Maritime Road, Jeffersonville, Indiana 47130**  
**Permit Number: Reg 019-31007-00139**  
**Reviewer: Jack Harmon**  
**Application Date: 2011**

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (conservative estimates provided by source)									
Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Passenger vehicles (entering plant) (one-way trip)	10.0	1.0	10.0	2.5	25.0	200	0.038	0.4	138.3
Passenger vehicles (leaving plant) (one-way trip)	10.0	1.0	10.0	2.5	25.0	200	0.038	0.4	138.3
Trucks (entering plant) (one-way trip)	5.0	1.0	5.0	40.0	200.0	200	0.038	0.2	69.1
Trucks (leaving plant) (one-way trip)	5.0	1.0	5.0	40.0	200.0	200	0.037879	0.2	69.1
<b>Total</b>			<b>30</b>	<b>40.0</b>	<b>200.0</b>	<b>200</b>	<b>0.037879</b>	<b>0.2</b>	<b>69.1</b>

Average Vehicle Weight Per Trip =  $\frac{15.00}{0.037878788}$  tons/trip  
Average Miles Per Trip = 0.037878788 miles/trip

Unmitigated Emission Factor, Ef =  $[k * (sL)^{0.91} * (W)^{1.02}]$  (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5
where k =	0.0	0.0	0.0
W =	15	15	15
sL =	70.00000	70	70

lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)

tons = average vehicle weight (provided by source)

70 g/m<sup>2</sup> = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

$E_{xt} = E * [1 - (p/4N)]$  (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext =  $\frac{Ef * [1 - (p/4N)]}{N}$

where p =  $\frac{125}{365.00000}$  days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)  
N = 365.00000 days per year

	PM	PM10	PM2.5
Unmitigated Emission Factor, Ef =	8.318	1.664	0.4084
Mitigated Emission Factor, Eext =	761%	152%	37%

lb/mile

lb/mile

Dust Control Efficiency = 0% (pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Passenger vehicles (entering plant) (one-way trip)	0.58	0.12	0.03	0.53	0.11	0.03	0.53	0.11	0.03
Passenger vehicles (leaving plant) (one-way trip)	0.58	0.12	0.03	0.53	0.11	0.03	0.53	0.11	0.03
Trucks (entering plant) (one-way trip)	0.29	0.06	0.01	0.26	0.05	0.01	0.26	0.05	0.01
Trucks (leaving plant) (one-way trip)	0.29	0.06	0.01	0.26	0.05	0.01	0.26	0.05	0.01
<b>Total</b>									
	<b>1.73</b>	<b>0.35</b>	<b>0.08</b>	<b>1.58</b>	<b>0.32</b>	<b>0.08</b>	<b>1.58</b>	<b>0.32</b>	<b>0.08</b>

**Methodology**

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] \* [Maximum trips per day (trip/day)]  
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] \* [Maximum one-way distance (mi/trip)]  
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]  
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]  
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Unmitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Mitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] \* [1 - Dust Control Efficiency]

**Abbreviations**

PM = Particulate Matter  
PM10 = Particulate Matter (<10 um)  
PM2.5 = Particle Matter (<2.5 um)  
PTE = Potential to Emit



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
**Governor**

*Thomas W. Easterly*  
**Commissioner**

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Jamie Stone  
Arctic Minerals, LLC  
5140 Maritime Road  
Jeffersonville, IN 47130

DATE: December 6, 2011

FROM: Matt Stuckey, Branch Chief  
Permits Branch  
Office of Air Quality

SUBJECT: Final Decision  
Registration  
019-31007-00139

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
Ryan Brownhill – Operations Manager  
Joseph VanCamp – Cornerstone Environmental, Health & Safety, Inc.  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07

# Mail Code 61-53

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2		Ryan Brownhill Operations Mgr Arctic Minerals LLC 5140 Maritime Rd Jeffersonville IN 47130 (RO CAATS)										
3		Ms. Rhonda England 17213 Persimmon Run Rd Borden IN 47106-8604 (Affected Party)										
4		Ms. Betty Hislip 602 Dartmouth Drive, Apt 8 Clarksville IN 47129 (Affected Party)										
5		Mrs. Sandy Banet 514 Haddox Rd Henryville IN 47126 (Affected Party)										
6		Jeffersonville City Council and Mayors Office 500 Quarter Master Jeffersonville IN 47130 (Local Official)										
7		Mr. Robert Bottom Paddlewheel Alliance P.O. Box 35531 Louisville KY 40232-5531 (Affected Party)										
8		Clark County Board of Commissioners 501 E. Court Avenue Jeffersonville IN 47130 (Local Official)										
9		Mr. Joseph VanCamp Cornerstone Environmental, Health & Safety, Inc. 312 E Diamond St. Kendallville IN 46755 (Consultant)										
10		Clark County Health Department 1320 Duncan Avenue Jeffersonville IN 47130-3723 (Health Department)										
11		Nick Lawrence One Southern Indiana 4100 Charlestown Road New Albany IN 47150 (Affected Party)										
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