



*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

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Indianapolis, Indiana 46204  
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TO: Interested Parties / Applicant  
DATE: October 9, 2007  
RE: Unimin Corporation / 029-15387-00022  
FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### **Notice of Decision: Approval - Effective Immediately**

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 13-15-5-3, this permit 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.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require 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, Room 1049, 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  
FNPER.dot 03/23/06



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## Federally Enforceable State Operating Permit OFFICE OF AIR QUALITY

**Unimin Corporation  
137 Franklin Street  
Aurora, Indiana 47001**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F029-15387-00022	
Issued by/Original Signed By:  Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: October 9, 2007  Expiration Date: October 9, 2012

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**SECTION A**

**SOURCE SUMMARY**

This permit 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 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee 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 Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary olivine processing facility.

Authorized Individual:	Vice President
Source Address:	137 Franklin Street, Aurora, Indiana 47001
Mailing Address:	P.O. Box 370, Aurora, Indiana 47001-0370
General Source Phone Number:	(812) 926-0462
SIC Code:	3295
County Location:	Dearborn
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

(a) One (1) drying circuit constructed in 1988 and consisting of the following units:

- (1) One (1) natural gas-fired rotary dryer, identified as DR-01, with a maximum heat input capacity of 12.6 MMBtu per hour and a maximum olivine throughput of 20 tons per hour. The dryer was manufactured prior to 1986 and installed at this location in 1988.
- (2) One (1) belt conveyor, identified as BC-09, with a maximum throughput capacity of 3 tons of olivine per hour.
- (3) One (1) de-duster drum, identified as DD-01, with a maximum capacity of 3 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-01. DC-01 has a grain loading of 0.0166 grains/actual standard cubic feet, an air flow rate of 9,300 actual cubic feet per minute, and an actual collection efficiency of 99%.

(b) One (1) screening and intermediate storage circuit constructed in 1988 and consisting of the following units:

- (1) One (1) crusher, identified as CR-01, with a maximum capacity of 20 tons of olivine per hour.
- (2) Six (6) belt conveyors, identified as BC-02, BC-03, BC-04, BC-05, BC-06, and BC-11. BC-02, BC-03 and BC-06 each have a maximum capacity of 20 tons of olivine per hour. BC-04 and BC-11 each have a maximum capacity of 10 tons of olivine per hour. BC-05 has a maximum capacity of 15 tons of olivine per hour.

- (3) Four (4) bucket elevators, identified as BE-01, BE-03, BE-04, and BE-07, having a maximum capacity of 20, 15, 5, and 60 tons of olivine per hour, respectively.
- (4) Two (2) storage bins, identified as BN-10 and BN-11, with a maximum capacity of 13 and 10 tons of olivine per hour, respectively.
- (5) Two (2) vibratory screens, identified as VS-01 and VS-02, each with a maximum capacity of 20 tons of olivine per hour.
- (6) One (1) coarse paper bagging unit, identified as BA-05, with a maximum capacity of 5 tons per hour.

BN-10 and BC-05 are controlled by dust collector DC-06. DC-06 has an outlet grain loading of 0.02 grains per dry standard cubic foot and an air flow rate of 1,500 cubic feet per minute. All other units are controlled by baghouse DC-02, which has a grain loading of 0.0137 grains/actual standard cubic feet, an air flow rate of 9,700 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (c) One (1) sand sizing circuit constructed in 1988 and consisting of the following units:
  - (1) One (1) elevator, identified as BE-02, with a maximum capacity of 15 tons of sand per hour.
  - (2) One (1) storage bin, identified as BN-08, with a maximum capacity of 11 tons of olivine per hour.
  - (3) One (1) drop out bin, identified as BN-12, with a maximum capacity of 5 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-03. DC-03 has an air flow rate of 3,500 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (d) One (1) bagging and bulk loadout process constructed in 1988 and consisting of the following units:
  - (1) Four (4) belt conveyors, identified as BC-07, BC-08, BC-12, and BC-13, having a maximum capacity of 60, 30, 10 and 20 tons of olivine per hour, respectively.
  - (2) Three (3) bucket elevators, identified as BE-05, BE-06, and BE-08 with a maximum capacity of 60, 3, and 40 tons of olivine per hour, respectively.
  - (3) Ten (10) storage bins, identified as BN-01, BN-02, BN-03, BN-04, BN-05, BN-06, BN-07, BN-14, BN-15 (constructed in 2003) and BN-16. Storage bins BN-02, BN-04, BN-05, and BN-06 each have a maximum capacity of 11 tons of olivine per hour. Storage bins BN-14, BN-15 and BN16 each have a maximum capacity of 40 tons of olivine per hour. Storage bins BN-01, BN-03, and BN-07 have a maximum capacity of 10, 5, and 1 tons of olivine per hour, respectively.
  - (4) Two (2) bagger surge bins, identified as SB-01 and SB-02, each with a maximum capacity of 30 tons of olivine per hour.
  - (5) Two (2) truck loadouts, identified as LS-01 and LS-03, with a maximum capacity of 60 tons of olivine per hour and 5 tons of olivine per hour, respectively.
  - (6) One (1) paper/bulk sack bagger and one (1) paper bagger, identified BA-01/BA-11 and BA-02 respectively, each with a maximum capacity of 9 tons per hour.

- (7) Two (2) vibratory screens, identified as VS-04 and VS-05, having a maximum capacity of 9 and 10 tons per hour of olivine, respectively.

These units are controlled by one (1) baghouse, identified as DC-04. DC-04 has an air flow rate of 1,200 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (e) One (1) fines circuit constructed in 1988 and consisting of the following units:
- (1) One (1) bin, identified as BN-13, with a maximum capacity of 5 tons of olivine per hour.
- (2) One paper/bulk sack bagger, identified as BA-03/BA-13, with a maximum capacity of 5 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-05. DC-05 has an air flow rate of 750 actual cubic feet per minute, and an actual collection efficiency of 99%.

### A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

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This stationary source also includes the following insignificant activities:

- (a) One (1) natural gas-fired space heater with a maximum heat input capacity of 0.35 MMBtu per hour.
- (b) Combustion source flame used for safety purging on startup.
- (c) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (d) Cleaners and solvents characterized as follows:
- (1) having a vapor pressure equal to or less than 2 kPa; 15 mmHg; or 0.3 psi measured at 38 degrees C; or
- (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mmHg; or 0.1 psi measured at 20 degrees C,
- the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (e) Maintenance activities including: grinding machine, brazing equipment, cutting torches, and welding equipment.
- (f) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (g) Paved and unpaved roads and parking lots with public access [326 IAC 6-5]
- (h) Air dryer blowdown.
- (i) One (1) emergency portable gasoline pump.
- (j) One (1) compressor dryer.
- (k) One (1) dry screening quality control laboratory.

- (l) Activities with emissions equal to or less than 5 pounds per hour of particulate matter:
  - (1) Two (2) loadout spouts, identified as LS-04 and LS-05, each having a maximum capacity of 60 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (2) One (1) plant feed hopper, identified as HO-01, with a maximum capacity of 20 tons of olivine. [326 IAC 6.5-1-2]
  - (3) Four (4) waste totes, identified as HO-02, HO-03, HO-04, and HO-05, each with a maximum capacity of 1 ton. [326 IAC 6.5-1-2]
  - (4) One (1) coarse truck loadout/sack, identified as LS-02/BA-12, with a maximum capacity of 60 tons per hour. [326 IAC 6.5-1-2]
  - (5) Two (2) coarse sack baggers, identified as BA-14 and BA-15, having a maximum capacity of 25 and 9 tons per hour, respectively. [326 IAC 6.5-1-2]
  - (6) One (1) feeder conveyor and one (1) belt conveyor, identified as FE-01 and BC-01, respectively, each having a maximum capacity of 20 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (7) One (1) storage bin, identified as BN-09, having a maximum capacity of 10 tons of olivine per hour. [326 IAC 6.5-1-2]
  
- (m) One (1) diesel storage tank, with a maximum capacity of 300 gallons, constructed in 2003.

A.4 FESOP Applicability [326 IAC 2-8-2]

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This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

## **SECTION B GENERAL CONDITIONS**

### **B.1 Definitions [326 IAC 2-8-1]**

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Terms in this permit 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 2-7) shall prevail.

### **B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]**

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- (a) This permit, F029-15387-00022, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

### **B.3 Term of Conditions [326 IAC 2-1.1-9.5]**

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Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

### **B.4 Enforceability [326 IAC 2-8-6]**

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Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

### **B.5 Severability [326 IAC 2-8-4(4)]**

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The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

### **B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]**

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This permit does not convey any property rights of any sort or any exclusive privilege.

### **B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]**

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- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (b) The annual compliance certification report required by this permit 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.
- (c) The annual compliance certification report shall include the following:
  - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
  - (2) The compliance status;
  - (3) Whether compliance was continuous or intermittent;
  - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
  - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, 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 Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;

- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or  
Telephone Number: 317-233-0178 (ask for Compliance Section)  
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
  - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
  - (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
  - (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
  - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
    - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
    - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

**B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]**

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- (a) All terms and conditions of permits established prior to F029-15387-00022 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 permit.

**B.14 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

**B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]**

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- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement

that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

**B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination**  
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

---

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
  - (1) That this permit contains a material mistake.
  - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
  - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

**B.17 Permit Renewal [326 IAC 2-8-3(h)]**

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:

- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
- (2) 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.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

**B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]**

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- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
  
Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

**B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]**

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- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:
  - (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
  - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
  - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
  - (4) The Permittee notifies the:  
  
Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V  
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(c)]  
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]  
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Permit Revision Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air

pollution control equipment), practices, or operations regulated or required under this permit;

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:  
  
Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
  
The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

### Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) not applicable.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 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 permit:

- (a) Opacity shall not exceed an average of forty percent (40%) 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.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

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The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

---

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

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

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The Permittee 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).

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

---

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan included as Appendix A to this permit.

C.8 Stack Height [326 IAC 1-7]

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The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.9 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

---

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
  - (2) If there is a change in the following:
    - (A) Asbestos removal or demolition start date;
    - (B) Removal or demolition contractor; or
    - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

### **Testing Requirements [326 IAC 2-8-4(3)]**

#### **C.10 Performance Testing [326 IAC 3-6]**

---

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### **Compliance Requirements [326 IAC 2-1.1-11]**

#### **C.11 Compliance Requirements [326 IAC 2-1.1-11]**

---

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

### **Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

#### **C.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]**

---

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

#### **C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

---

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

#### **C.14 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]**

---

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

### **Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]**

#### **C.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]**

---

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:  
  
Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
  
within ninety (90) days after the date of issuance of this permit.  
  
The ERP does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.  
[326 IAC 1-5-3]

#### **C.16 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]**

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If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

#### **C.17 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]**

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- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

- (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records; and/or
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
  - (1) monitoring data;
  - (2) monitor performance data, if applicable; and
  - (3) corrective actions taken.

**C.18 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

**Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

**C.19 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]**

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the

Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

**C.20 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]**

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- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit 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.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

**Stratospheric Ozone Protection**

**C.21 Compliance with 40 CFR 82 and 326 IAC 22-1**

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Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Facility Description [326 IAC 2-8-4(10)]:

- (a) One (1) drying circuit constructed in 1988 and consisting of the following units:
- (1) One (1) natural gas-fired rotary dryer, identified as DR-01, with a maximum heat input capacity of 12.6 MMBtu per hour and a maximum olivine throughput of 20 tons per hour. The dryer was manufactured prior to 1986 and installed at this location in 1988.
  - (2) One (1) belt conveyor, identified as BC-09, with a maximum throughput capacity of 3 tons of olivine per hour.
  - (3) One (1) de-duster drum, identified as DD-01, with a maximum capacity of 3 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-01. DC-01 has a grain loading of 0.0166 grains/actual standard cubic feet, an air flow rate of 9,300 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (b) One (1) screening and intermediate storage circuit constructed in 1988 and consisting of the following units:
- (1) One (1) crusher, identified as CR-01, with a maximum capacity of 20 tons of olivine per hour.
  - (2) Six (6) belt conveyors, identified as BC-02, BC-03, BC-04, BC-05, BC-06, and BC-11. BC-02, BC-03 and BC-06 each have a maximum capacity of 20 tons of olivine per hour. BC-04 and BC-11 each have a maximum capacity of 10 tons of olivine per hour. BC-05 has a maximum capacity of 15 tons of olivine per hour.
  - (3) Four (4) bucket elevators, identified as BE-01, BE-03, BE-04, and BE-07, having a maximum capacity of 20, 15, 5, and 60 tons of olivine per hour, respectively.
  - (4) Two (2) storage bins, identified as BN-10 and BN-11, with a maximum capacity of 13 and 10 tons of olivine per hour, respectively.
  - (5) Two (2) vibratory screens, identified as VS-01 and VS-02, each with a maximum capacity of 20 tons of olivine per hour.
  - (6) One (1) coarse paper bagging unit, identified as BA-05, with a maximum capacity of 5 tons per hour.

BN-10 and BC-05 are controlled by dust collector DC-06. DC-06 has an outlet grain loading of 0.02 grains per dry standard cubic foot and an air flow rate of 1,500 cubic feet per minute. All other units are controlled by baghouse DC-02, which has a grain loading of 0.0137 grains/actual standard cubic feet, an air flow rate of 9,700 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (c) One (1) sand sizing circuit constructed in 1988 and consisting of the following units:
- (1) One (1) elevator, identified as BE-02, with a maximum capacity of 15 tons of sand per hour.

**Facility Description [326 IAC 2-8-4(10)]:**

- (2) One (1) storage bin, identified as BN-08, with a maximum capacity of 11 tons of olivine per hour.
- (3) One (1) drop out bin, identified as BN-12, with a maximum capacity of 5 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-03. DC-03 has an air flow rate of 3,500 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (d) One (1) bagging and bulk loadout process constructed in 1988 and consisting of the following units:

- (1) Four (4) belt conveyors, identified as BC-07, BC-08, BC-12, and BC-13, having a maximum capacity of 60, 30, 10 and 20 tons of olivine per hour, respectively.
- (2) Three (3) bucket elevators, identified as BE-05, BE-06, and BE-08 with a maximum capacity of 60, 3, and 40 tons of olivine per hour, respectively.
- (3) Ten (10) storage bins, identified as BN-01, BN-02, BN-03, BN-04, BN-05, BN-06, BN-07, BN-14, BN-15 (constructed in 2003) and BN-16. Storage bins BN-02, BN-04, BN-05, and BN-06 each have a maximum capacity of 11 tons of olivine per hour. Storage bins BN-14, BN-15 and BN16 each have a maximum capacity of 40 tons of olivine per hour. Storage bins BN-01, BN-03, and BN-07 have a maximum capacity of 10, 5, and 1 tons of olivine per hour, respectively.
- (4) Two (2) bagger surge bins, identified as SB-01 and SB-02, each with a maximum capacity of 30 tons of olivine per hour.
- (5) Two (2) truck loadouts, identified as LS-01 and LS-03, with a maximum capacity of 60 tons of olivine per hour and 5 tons of olivine per hour, respectively.
- (6) One (1) paper/bulk sack bagger and one (1) paper bagger, identified BA-01/BA-11 and BA-02 respectively, each with a maximum capacity of 9 tons per hour.
- (7) Two (2) vibratory screens, identified as VS-04 and VS-05, having a maximum capacity of 9 and 10 tons per hour of olivine, respectively.

These units are controlled by one (1) baghouse, identified as DC-04. DC-04 has an air flow rate of 1,200 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (e) One (1) fines circuit constructed in 1988 and consisting of the following units:

- (1) One (1) bin, identified as BN-13, with a maximum capacity of 5 tons of olivine per hour.
- (2) One paper/bulk sack bagger, identified as BA-03/BA-13, with a maximum capacity of 5 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-05. DC-05 has an air flow rate of 750 actual cubic feet per minute, and an actual collection efficiency of 99%.

**Insignificant Activities:**

- (I) Activities with emissions equal to or less than 5 pounds per hour of particulate matter:
  - (1) Two (2) loadout spouts, identified as LS-04 and LS-05, each having a maximum capacity of 60 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (2) One (1) plant feed hopper, identified as HO-01, with a maximum capacity of 20 tons of olivine. [326 IAC 6.5-1-2]
  - (3) Four (4) waste totes, identified as HO-02, HO-03, HO-04, and HO-05, each with a maximum capacity of 1 ton. [326 IAC 6.5-1-2]
  - (4) One (1) coarse truck loadout/sack, identified as LS-02/BA-12, with a maximum capacity of 60 tons per hour. [326 IAC 6.5-1-2]
  - (5) Two (2) coarse sack baggers, identified as BA-14 and BA-15, having a maximum capacity of 25 and 9 tons per hour, respectively. [326 IAC 6.5-1-2]
  - (6) One (1) feeder conveyor and one (1) belt conveyor, identified as FE-01 and BC-01, respectively, each having a maximum capacity of 20 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (7) One (1) storage bin, identified as BN-09, having a maximum capacity of 10 tons of olivine per hour. [326 IAC 6.5-1-2]

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

**Emission Limitations and Standards [326 IAC 2-8-4(1)]**

**D.1.1 PSD Minor Limits for PM [326 IAC 2-2]**

In order to render the requirements of 326 IAC 2-2 not applicable, the emissions of PM shall be limited as follows:

Facility	Baghouse	PM Emission Limit (lbs/hour)
Drying Circuit	DC-01	2.98
Screening and Intermediate Storage Circuit	DC-02	2.73
	DC-06	1.24
Sand Sizing Circuit	DC-03	0.5
Bagging and Bulk Loadout	DC-04	0.37
Fines Circuit	DC-05	0.37

Compliance with these limitations ensures that the PM emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period and makes the source minor for 326 IAC 2-2 (Prevention of Significant Deterioration).

#### D.1.2 FESOP Limits for PM10 [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4, the emissions of PM-10 shall be limited as follows:

Facility	Baghouse	PM10 Emission Limit (lbs/hour)
Drying Circuit	DC-01	2.98
Screening and Intermediate Storage Circuit	DC-02	2.73
	DC-06	1.24
Sand Sizing Circuit	DC-03	0.5
Bagging and Bulk Loadout	DC-04	0.37
Fines Circuit	DC-05	0.37

Compliance with these limitations ensures that the PM10 emissions from the entire source do not exceed 100 tons per twelve (12) consecutive month period and makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

#### D.1.3 Particulate Emission Limits [326 IAC 6.5-1-2(a)]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Emission Limitations), the particulate matter emissions from each emission unit at this source, including the insignificant activities, shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (gr/dscf)).

#### D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

### Compliance Determination Requirements

#### D.1.5 Particulate Control

- (a) In order to comply with Condition D.1.1, D.1.2 and D.1.3, the baghouses used to control particulate emissions shall be in operation and control emissions from the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit at all times these facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment 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.1.6 Testing Requirements [326 IAC 2-1.1-11]

Within 180 days of issuance of this permit, the Permittee shall perform PM and PM10 testing of the baghouses controlling emissions from the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit using methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing.

## Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

### D.1.7 Visible Emissions Notations

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- (a) Visible emission notations of the baghouse stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. 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 steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

### D.1.8 Parametric Monitoring

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The Permittee shall record the pressure drop across the baghouses used in conjunction with the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit at least once per shift when these processes are in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range specified in the following table or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances.

Baghouse I.D	Pressure Drop Range (inches of water)
DC-01	1.0 -10.0
DC-02	0.4 – 6.0
DC-03	0.4 – 6.0
DC-04	0.4 – 6.0
DC-05	0.4 – 6.0
DC-06	0.4 – 6.0

A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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.1.9 Baghouse Inspections

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An inspection shall be performed each calendar quarter of all bags controlling the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

#### D.1.10 Broken or Failed Bag Detection

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- (a) For a single compartment baghouses 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. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (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 have 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 units. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

### **Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]**

#### D.1.11 Record Keeping Requirement

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- (a) To document compliance with Condition D.1.7, the Permittee shall maintain records of the once per shift visible emission notations of the baghouse stack exhausts. The Permittee shall include in its records when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (b) To document compliance with Condition D.1.8, the Permittee shall maintain records of the once per shift pressure drop for each baghouse. The Permittee shall include in its records when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).
- (c) To document compliance with Condition D.1.9, the Permittee shall maintain records of the results of the inspections required under Condition D.1.9.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
CERTIFICATION**

Source Name: Unimin Corporation  
Source Address: 137 Franklin Street, Aurora, Indiana 47001  
Mailing Address: P.O. Box 370, Aurora, Indiana 47001-0370  
FESOP Permit No.: F029-15387-00022

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.**

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)\_\_\_\_\_
- Report (specify)\_\_\_\_\_
- Notification (specify)\_\_\_\_\_
- Affidavit (specify)\_\_\_\_\_
- Other (specify)\_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-0178  
Fax: 317-233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
EMERGENCY OCCURRENCE REPORT**

Source Name: Unimin Corporation  
Source Address: 137 Franklin Street, Aurora, Indiana 47001  
Mailing Address: P.O. Box 370, Aurora, Indiana 47001-0370  
FESOP Permit No.: F029-15387-00022

**This form consists of 2 pages**

**Page 1 of 2**

- |  |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none"><li>• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</li><li>• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16</li></ul> |
|--|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 COMPLIANCE DATA SECTION  
 FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Unimin Corporation  
 Source Address: 137 Franklin Street, Aurora, Indiana 47001  
 Mailing Address: P.O. Box 370, Aurora, Indiana 47001-0370  
 FESOP Permit No.: F029-15387-00022

**Months:** \_\_\_\_\_ **to** \_\_\_\_\_ **Year:** \_\_\_\_\_

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## Appendix A

### Unimin Corporation – Aurora Facility

### Fugitive Emissions

### Dust Control Plan

Per 326 IAC 6-5-1(b), the Aurora facility is required to prepare a control plan for fugitive particulate matter emissions. The contents of the Dust Control Plan is set down in writing as per 326 IAC 6-5-5(a) and contains the information identified in 326 IAC 6-5-5 (1) through (12). Per 326 IAC 6-5-8, the Control Plan will be updated at the time of reapplication for Aurora’s operating permit.

**(1) Source:** Unimin Corporation  
Aurora Olivine Processing Facility  
P.O. Box 370  
137 Franklin Street  
Aurora, IN 47001-0370

**(2) Owner/Operator Responsible for the Execution of the Control Plan:**

**Same as above**

**Contact:** Aurora Plant Manager Tel: 812-926-0462 Fax: 812-926-0913

**(3) Identification of Potential Emission Sources**

Fugitive particulate matter emissions are generated from multiple sources at the Aurora plant site. Per 326 IAC 6-5-4, the emission sources are identified as the following emission points:

- (a) Plant yard, internal roads and parking lots;
- (b) Outdoor raw material (olivine) aggregate stockpiles;
- (c) Outdoor Olivine Fines Pile;
- (d) Outdoor Contractor Fill Pile;
- (e) Outdoor conveying and transfer of aggregate material;
- (f) Transportation of aggregate material by truck, front end loader, or similar vehicles;
- (g) Loadout of paper bags, bulk totes, and bulk trucks;
- (h) Solid waste handling;
- (i) Material handling operations;
- (j) Escape through building opening such as doors, windows, powered or unpowered ventilators, roof monitors, other than a stack.

**(4) Site map**

A site map is provided at the end of this document.

**(5) Vehicular Activity**

Vehicles	Trips/hour	Speed (mph)	Distance (Miles per round trip)	Gross/Tare Weights (Tons)	No. of wheels
Tractor Trailer	<4	5	~ 0.2	40/15	18
Tandem Truck	<6	5	~ 0.2	35/13	14
Front-end Loader	~10	5	~ 400 feet	18/12	4
Forklifts	~10	5	~ 400 feet	unknown	4
Plant vehicle	<1	5	0.2	0.5/0.5	4

**(6) Type and Quantity of material handled**

Raw material stockpiles consist of olivine aggregate, which is an inert mineral. The material can

be dried, crushed, sized and shipped as bulk and/or bagged products, depending on customer specifications. The plant can process a maximum of 60 tons of olivine per hour.

**(7) Equipment used to maintain aggregate piles**

Outdoor stockpiles are generated by tandem truck dumping. A front-end loader is used for conveying raw material to the processing equipment. In addition, the loader is used to recycle processed material back to the stockpiles. Forklifts are used for conveying/loading bagged material and transferring tote-hoppers.

The facility will utilize a Municipal street cleaner until Unimin purchases a sweeper that will consist of a front-end loader equipped with an angled spinning broom and water tank.

**(8) Description of Control Measure**

Described below under CONTROL MEASURES.

**(9) Specification of dust suppressant material**

Water is the primary dust suppressant. A generic chemical dust suppressant shall be applied on the contractor fill pile.

**(10) Specifications of the particulate matter collection equipment**

Specifications of the particulate matter collection equipment are identified in the IDEM air permit, which may be amended from time to time.

**(11) Schedule of Compliance**

**(12) Recordkeeping**

Unimin will maintain records for three years, which document applicable control measures and activities to be implemented for this Dust Control Plan. Most of the maintenance records will be maintained on the electronic database and can be recalled at the request of an inspector. Records of the rental of the street cleaners are maintained in the purchasing files.

## CONTROL MEASURES

Control measures for fugitive particulate matter emissions generated from the emission points listed in Item 3, are identified below:

Process	Required Physical and Operational Controls	Implementation Schedule
<p>Internal Roads, Plant Yard, and Parking Lots</p> <p><b>Description:</b> The plant yard (excluding stockpile area), internal roads, and parking lots are paved.</p>	<ol style="list-style-type: none"> <li>1. The plant yard, internal roads, and parking lots shall be paved.</li> <li>2. Paved areas shall be cleaned by sweeping, shovelling, and/or water hose.</li> <li>3. Paved areas shall be cleaned using a sweeper. If excessive dust is present, the roads shall be misted with water prior to sweeping.</li> </ol>	<ul style="list-style-type: none"> <li>• Sweeping, shovelling and washdowns shall occur, as needed (excluding measurable rain event or winter weather conditions)</li> <li>• The paved areas shall be swept as needed and at least once a week.</li> </ul>
<p>Outdoor Raw Material (Olivine) Aggregate Stockpiles</p> <p><b>Description:</b> Olivine sand is stored outdoors on bare ground. The stockpiles are over 30-foot high and cover an area roughly 200-foot wide by 400-foot long. The pile is accessed daily as feed to the plant. Processed material that is recycled into the piles is blended or buried in the raw material.</p>	<ol style="list-style-type: none"> <li>1. The perimeter of the stockpiles shall be contained by concrete blocks at least up to 32 inches in height, as indicated on the attached site plan.</li> <li>2. At least four portable sprinkler heads shall be distributed across the piles to spray water to suppress dust.</li> <li>3. Unimin shall investigate the transfer of excess processed material to a silo instead recycling it back to the stockpiles to minimize exposure during handling</li> </ol>	<ul style="list-style-type: none"> <li>• The sprinklers shall be operated as needed but not less than every eight hours (excluding measurable rain events or winter weather conditions). The sprinklers shall be relocated as needed to provide sufficient dust control across all the stockpiles. Sprinklers shall be operated regardless if the plant is operating (i.e. down days, holidays, night time, etc.)</li> </ul>

Process	Required Physical and Operational Controls	Implementation Schedule
<p>Outdoor Olivine Fines Pile <b>Description:</b> Dust collector rejects (fines) are emptied into 1-ton portable hoppers for transport via forklift to a three-sided bunker, where it is later transferred to the Contractor Fill Pile.</p>	<ol style="list-style-type: none"> <li>1. Where applicable, the hoppers shall be covered when filled.</li> <li>2. The hoppers shall be slowly dumped. Material free fall be minimized. The operators shall be trained to slowly dump the hoppers and minimize material free fall.</li> <li>3. Water shall be applied to the Fines Pile to suppress dust.</li> <li>4. Unimin shall re-locate the sprinkler head from a side position to one that overhangs the pile to ensure better distribution of water for dust suppression.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> <li>• The sprinklers shall be operated during addition or removal of material from the Fines Pile or if the material begins to dry out (excluding measurable rain events or winter weather conditions).</li> </ul>
<p>Outdoors Contractor Fill Piles <b>Description:</b> Contractor fill grade material is stockpiled at the south end of the property. Commercial dump trucks are loaded and shipped, on demand, for the construction trade.</p>	<ol style="list-style-type: none"> <li>1. Product shall be wetted prior to placement at the Contractor Fill Pile.</li> <li>2. Chemical sealants shall be applied to the contractor Fill Pile to suppress dust.</li> </ol>	<ul style="list-style-type: none"> <li>• The chemical sealant shall be applied as needed, depending on the volume of material and the wetness of the season but at least with every disturbance.</li> </ul>
<p>Outdoor conveying and transfer of aggregate material <b>Description:</b> Olivine from the raw material stockpile is transported via front-end loader to a feed hopper, which is a three-sided roofed structure. Outdoor conveying equipment is covered with hoods or enclosures.</p>	<ol style="list-style-type: none"> <li>1. The operators shall be trained to reduce the free fall of aggregate during material transfer. When discharging a silo or bin for recycling, the front-end bucket shall be placed immediately under the loadout spout and lowered slowly until it is full. When placing material into the stockpile, the bucket shall be placed against the ground and then rolled forward until empty, so the bucket forms a makeshift hood.</li> <li>2. Front-end loader operators have been trained to maintain low-speeds, below five (5) miles per hour, to reduce airborne dust.</li> <li>3. On windy days, activities shall be curtailed or loaded from the backside of the pile.</li> <li>4. Outdoor conveying equipment shall be covered with hoods or enclosures.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> </ul>

Process	Required Physical and Operational Controls	Implementation Schedule
<p>Transportation of aggregate material by truck, front-end loader or similar vehicles  <b>Description:</b> Dump trucks bring in the raw material and end-load it into the olivine raw material stockpiles. A front-end loader conveys the raw material to the process; recycles excess product back into the stockpiles; and transfers material from the fines pile to the Contractor Fill Pile. Forklifts move bagged material to storage or trucks for shipment. Forklifts move hoppers filled with dust collector rejects to the fines pile. On-site transport distances are short (~200 feet). Tractor-trailers haul bags, totes and bulk material to market.</p>	<ol style="list-style-type: none"> <li>1. Vehicles shall maintain posted speeds of 5 miles per hour on the truck entrance road. There shall be speed bumps on the truck entrance road.</li> <li>2. Vehicle speeds on-site are restricted by tight turns and short hauls. Front-end loader operators shall be trained to maintain low-speeds.</li> <li>3. Trucks carrying product entering and leaving the site shall be tarped.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> </ul>
<p>Loadout of paper bags, bulk totes, and bulk trucks  <b>Description:</b> Product is shipped as palletted paper bags, bulk totes, and bulk trucks. Bulk totes are filled outdoors. Paper bags are filled inside the warehouse while utilizing baghouses, then palletted and wrapped.</p>	<ol style="list-style-type: none"> <li>1. The bags shall be lifted during loading to minimize the free fall distance of material and exposure to wind.</li> <li>2. The bulk truck loadout sidewalls shall extend to 6" above the pavement. The bulk truck loadout ends shall be curtained.</li> <li>3. An overhead door shall be installed to allow equipment traffic through the loadout sidewalls.</li> <li>4. Operational controls, such as closing bulk product truck hatches, shall be used as necessary.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> </ul>

Process	Required Physical and Operational Controls	Implementation Schedule
<p>Solid Waste Handling  <b>Description:</b> There are no "tailings" generated at the Aurora facility. Off-spec mineral product is recycled into the plant process wherever feasible. On the rare occasion when surplus mineral product is not marketable, it is hauled to a licensed waste disposal site. Solid wastes consist primarily of office and plant trash.</p>	<ol style="list-style-type: none"> <li>1. Trash shall be placed in designated waste bins and hauled off-site by disposal contractors.</li> <li>2. Plant-specific Policy/Procedures shall be followed to properly manage plant wastes.</li> </ol>	<ul style="list-style-type: none"> <li>• Trash shall be removed on regularly scheduled pickups.</li> <li>• The 'Plant Waste Disposal, Landfills and Trespass Dumps' Policy/Procedure and the 'Plant Surplus Equipment and Boneyard Management' Policy/Procedures shall be reviewed annually and updated, as necessary.</li> </ul>
<p>Material handling operations  <b>Description:</b> The industrial activities include industrial olivine storage, processing, handling, and shipping. Olivine processing includes drying, crushing, screening and classification to obtain different sized olivine products.</p>	<p>Drying, crushing, screening and loadout activities are directed to baghouses.</p>	<ul style="list-style-type: none"> <li>• Baghouses shall be maintained as per the FESOP air permit.</li> </ul>
<p>Escape through building opening such as doors, windows, powered or unpowered ventilators, roof monitors, other than a stack  <b>Description:</b> There are two process buildings with mechanical vents and openings (North Warehouse and Screenhouse). The North Warehouse contains three baggers in addition to product inventory. The baggers all utilize dust collectors. The North Warehouse building vent is for ventilation purposes. The Screenhouse has two building vents for ventilation purposes. All process equipment in the Screenhouse also reports to dust collectors, so pollutants are not expected to discharge through the openings.</p>	<ol style="list-style-type: none"> <li>1. Unimin shall follow an equipment maintenance program (Qqest) to ensure proper maintenance of the process equipment and dust collection systems.</li> <li>2. Good housekeeping shall be employed to reduce indoor spillage and nuisance dust, which could escape through doors and vents.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually. Training refreshers shall occur at a minimum annually.</li> </ul>



North Arrow (as marked in the top right hand corner of the Google aerial)

Scale (as marked in the bottom left hand corner of the Google aerial)

## LEGEND

Property line – solid orange line

Line of concrete blocks – dashed black line

Sprinkler stand pipes for sprinkler hose hook ups - blue circles

**Note:** The positions of the property lines and the line of concrete blocks around the stockpile perimeter have been approximated, then superimposed on the aerial view within the limits of the software program.

# Indiana Department of Environmental Management Office of Air Quality

## Addendum to the Technical Support Document for A Federally Enforceable State Operating Permit (FESOP)

### Source Background and Description

**Source Name:** Unimin Corporation  
**Source Location:** 137 Franklin Street, Aurora, Indiana 47001  
**County:** Dearborn  
**SIC Code:** 3295  
**Operation Permit No.:** F029-15387-00022  
**Permit Reviewer:** ERG/AAB

On January 30, 2007, the Office of Air Quality (OAQ) had a notice published in the Journal Press, Lawrenceburg, Indiana, stating that Unimin Corporation (Unimin) had applied for a Federally Enforceable State Operating Permit (FESOP) to operate an olivine processing facility with control. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On April 20th, 2007, Cynthia Luxford from the Compliance Branch of the OAQ and Jed Wolkins, David White and Doug Wagner from the Permits Branch of the OAQ conducted a public meeting in Aurora, Indiana regarding the FESOP for Unimin Corporation's olivine processing plant. The three hour meeting was attended by the Mayor of Aurora, two city commissioners, the city code enforcement officer, two representatives from the source and twenty-three concerned citizens. Twelve citizens spoke in opposition to the plant's continued operation, mainly due to dust from the plant that has been accumulating on their lawns, cars and homes for years. One citizen displayed a sandwich bag of dust collected from his gutter. Citizens were also concerned about their health due to exposure to the dust; as well as the level of noise from the plant. The citizens submitted six pages of written comments during the meeting. Permit staff explained in detail the FESOP conditions that will address the citizens' dust concerns. Ms. Luxford described her extensive inspections of the plant and IDEM's pending enforcement action for violation of the fugitive dust rule. A summary of the comments received at the public meeting and the Department's responses are as follows:

#### **Comments from Donnie Hastings, Jr., Mayor, City of Aurora**

Mayor Hastings asked that the City of Aurora and all adjacent property owners be notified if there is a change in ownership of the Unimin Plant.

#### **Response:**

IDEM, OAQ is unable to comply with the request to notify all adjacent landowners if there is a change in ownership of the source. However, IDEM, OAQ maintains a mailing list of people who have asked to be notified of any permit activity involving this source. IDEM, OAQ will send a notice of any ownership change, as well as any other permitting activity, to each person on the mailing list for the source. There are currently nine Aurora households on the mailing list. Each

person on the mailing list will remain on the list until they ask to be removed. Any person not on the mailing list that would like to be notified of future actions related to this source may request to be added to the mailing list. Any person may request to be notified of permit actions related to this source, or for all permit activity in Dearborn County. To be put on the mailing list, call IDEM at 1-800-451-6027, press 0 and ask for ext. 3-0178, then ask for the Air Permits Administration Section.

**Comment from James U. Sechrest Jr., Johnny Wright, Bobby and Theresa Bradley and Donald Lowe, Jr.:**

Mr. Sechrest asks why IDEM uses air pollution background information from other areas, such as New Albany, when IDEM models the air quality in Aurora. Mr. Sechrest notes that when IDEM conducted the air quality analysis for Consolidated Grain & Barge in Aurora, permit number 029-23115-00036, it used information from New Albany, 35 miles from Aurora and pollutant information from 1986 to 1990. In addition, the meteorological information was from 1994. Mr. Sechrest notes that IDEM needs to focus on the high concentration of emissions due largely to other nearby sources.

In separate documents, Mr. Sechrest, Mr. Wright, Mr. Lowe and the Bradleys expressed concern over air pollution in the area. They note that particulate matter from the source floats through the air from the plant and onto the homes, gutters, vehicles and children's toys in the surrounding neighborhoods. The dust has forced residents to keep their windows closed, even in mild weather, for the past ten years. The employees at the source wear face masks. Mr. Sechrest includes a news story from CBS News' website, dated January 31, 2007, describing a scientific study on the effect of fine particulate pollution on the health of older women. The study concludes that fine particulate matter, even at levels below the U. S. Environmental Protection Agency's standard, increases the risk of fatal cardiovascular disease. This article can be found at <http://www.cbsnews.com/stories/2007/01/31/health/main2419133.shtml> on the internet.

**Response:**

Particulate matter is one of six criteria pollutants addressed by the federal Clean Air Act and Indiana's corresponding air pollution control laws. These pollutants have been identified as being particularly harmful to humans and the environment. Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Some particles are large or dark enough to be seen as soot or smoke. Others are so small that individually they can only be detected with an electron microscope. The United States Environmental Protection Agency (U.S. EPA) categorizes particulate matter in two categories. The first category is "fine particles", referred to as PM<sub>2.5</sub>, that are 2.5 microns or less in diameter. The second category is "coarse particles", referred to as PM<sub>10</sub>, that are between 2.5 and 10 microns in diameter. In comparison, a human hair is about 70 microns in diameter.

Particulate matter comes from many different sources including industrial and residential combustion activities and vehicle exhaust, so its composition varies widely. Some particles are emitted directly into the air from cars, trucks, buses, factories, construction sites, tilled fields, unpaved roads, stone crushing, and wood burning. Other particles are formed in the air from the chemical change of gases. They are indirectly formed when gases from burning fuels react with sunlight and water vapor. These gases come from fuel combustion in motor vehicles, diesel engines, at power plants, and in other industrial processes.

The federal Clean Air Act requires the U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. PM<sub>2.5</sub> is one of the six criteria pollutants. The EPA sets these standards at levels that protect human health, which is why the NAAQS are often referred to as the federal health standards for outdoor air. The NAAQS limit for all criteria pollutants is set low enough to protect human health, including the health of sensitive persons and those with preexisting health conditions, such as asthmatics, children, and the elderly. The NAAQS also protects the environment, including crops and livestock. Dearborn County is in attainment for the National Ambient Air Quality Standard for particulate matter less than 2.5 microns in diameter.

Particle pollution, especially fine particulate matter, contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including:

- increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing;
- decreased lung function;
- aggravated asthma;
- development of chronic bronchitis;
- irregular heartbeat;
- nonfatal heart attacks; and
- premature death in people with heart or lung disease.

Children, older adults and people with existing heart or lung diseases, are the most likely to be affected by particle pollution exposure. However, even if you are healthy, you may experience temporary symptoms from exposure to elevated levels of particle pollution.

U.S. EPA revised the air quality standards for particle pollution in 2006. The 2006 standards tighten the 24-hour fine particle (PM<sub>2.5</sub>) standard from a level of 65 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) to 35  $\mu\text{g}/\text{m}^3$ , and retain the annual fine particle standard at 15  $\mu\text{g}/\text{m}^3$ . The U.S. EPA retained the 24-hour coarse particulate (PM<sub>10</sub>) standard of 150  $\mu\text{g}/\text{m}^3$ . The federal Clean Air Act requires U.S. EPA to review the latest scientific information and standards every five years. Before new standards are established, policy decisions undergo rigorous review by the scientific community, industry, public interest groups, the general public and the Clean Air Scientific Advisory Committee (CASAC). Information about the process of reviewing the NAAQS is available at <http://www.epa.gov/air/particlepollution/process.html> on U.S. EPA's website.

More information about the NAAQS for PM<sub>2.5</sub> is available at <http://www.epa.gov/air/particlepollution/standards.html> on EPA's website. The complete table of the NAAQS for all criteria pollutants can be found at the <http://www.epa.gov/air/criteria.html> website. EPA's website <http://www.epa.gov/air/urbanair/6poll.html> provides more detailed information about the health effects of six common air pollutants and why they are regulated.

IDEM has done computer modeling of the expected particulate matter levels in the ambient air in the vicinity of the source. IDEM's modeling used meteorological input data generated from the Covington, Kentucky, National Weather Service surface data, combined with Dayton, Ohio, National Weather Service upper air data. IDEM chose these data sets because they are geographically close to Aurora.

IDEM, OAQ used the most current, publicly available meteorological data, from 1986 through 1990, in performing the air quality modeling. This meteorological data includes wind speed, wind direction, air stability and mixing height information. The data from five continuous years captures a very wide range of possible weather variations.

IDEM, OAQ used background particulate matter pollution data from the Ft. Thomas, Ohio area because it was the data from the closest air monitoring station. The data is for the latest available three years. This background data includes particulate emissions from all sources, including traffic. The average of the highest second-highest monitoring values from each year was used for 24-hour background concentrations. Annual background concentrations were taken from the maximum annual values.

In addition to the background particulate matter concentration, IDEM used particulate matter emission inventories from all of the permitted air pollution sources in Ohio and Dearborn counties.

IDEM, OAQ believes the modeling represents the very worst case scenario that could be expected.

IDEM's computer modeling results show that all maximum concentrations will be below the NAAQS limits. The emissions from the source, combined with background emissions and emissions from all permitted air pollution sources in Ohio and Dearborn counties will not violate the NAAQS.

**Comment from Sabine Metheny and Sandra Lowe:**

Ms. Metheny and Ms. Lowe ask IDEM to describe the health effects from the sand.

**Response:**

The sand processed at this source is olivine, a mineral, also known as magnesium iron silicate. The material itself is not harmful. It is found in nature. The processing of this material will not release any Hazardous Air Pollutants (HAPs). The environmental concern for this product is when it is released as fine or coarse particulate matter into the ambient air, as described in the preceding response.

**Comment:**

Mr. Sechrest asks why IDEM does not allow local citizens to be acceptable witnesses to the fugitive dust violations at the source. He notes that IDEM staff are located in Indianapolis and inspect the source only 5-6 days per year, while the citizens are there everyday.

**Response:**

The source must comply with the fugitive dust emission requirements of 326 Indiana Administrative Code (IAC) 6-4 and 6-5. Fugitive dust may include emissions from paved and unpaved roads, wind erosion of exposed soil surfaces and soil storage piles and other activities. Fugitive dust emissions means the generation of particulate matter to the extent that some portion of the material escapes the property line or boundaries of the source's property. The measurement process for fugitive dust, as set out in 326 IAC 6-4-5, requires observations by a qualified representative of IDEM's commissioner of visible emissions crossing the property line of the source, at or near ground level. Due to this measurement process rule requirement, IDEM inspectors must rely on their own observations in order to pursue a fugitive dust violation.

Anyone seeing a fugitive dust problem should contact IDEM, OAQ's Compliance Branch inspector. The IDEM, OAQ Compliance Branch inspector for this area is Cynthia Luxford. She can be reached toll free at (800) 451-6027, ext. 4-3996 or direct dial at (317) 234-3996. Air pollution complaints can also be submitted on-line at <http://www.in.gov/idem/contact/complaints/index.html> on IDEM's Complaint Clearinghouse website, by calling IDEM's Complaint Coordinator toll free at (800) 451-6027 ext.2-4464, or by sending a written complaint to IDEM, Attn: Complaint Coordinator, 100 North Senate Avenue, MC 50-03 IGCN 1313, Indianapolis, IN 46204-2251. The IDEM, OAQ Compliance Branch inspector will conduct an inspection of the site within 30 days of receiving a complaint. The inspector prepares a written report of each inspection. Copies of the inspection reports can be obtained by contacting IDEM, OAQ's Compliance Branch at 1-800-452-6027, ext. 3-0178.

**Comment:**

Mr. Sechrest, Mr. Lowe and Ms. Lowe ask how IDEM, OAQ will require the source to control fugitive dust and if the Federally Enforceable State Operating Permit for this source will contain a provision concerning fugitive dust crossing boundary lines, such as in 326 Indiana Administrative Code. If it does, Mr. Sechrest asks why no testing has been conducted. Ms. Lowe asked how IDEM will address emissions from the uncovered sand pile, the conveyor, from forklifts loading trucks, and from direct loading of the trucks by the shoot.

**Response:**

The permit for this source contains a fugitive dust control plan and a requirement that the source comply with the fugitive dust rules found at 326 Indiana Administrative Code 6-4 and 6-5. The fugitive dust control plan addresses emissions from all points within the source. IDEM, OAQ does not have the authority to require the source to conduct testing to show that there are no fugitive dust emissions.

**Comment:**

Ms. Lowe asks why IDEM, OAQ allows the source to operate 24 hours a day, seven days a week.

**Response:**

IDEM, OAQ does not have any regulatory authority to require the source to limit hours of operation.

**Comment:**

Mr. Sechrest asks why IDEM conducted a public meeting on April 19, 2007, when he and other citizens had requested a public hearing. Mr. Sechrest was told by a staff member for Indiana State Representative Bob Bischoff that a public hearing would be held. In addition, during an Aurora city council meeting it was decided that a public hearing was needed and would be established. Mr. Sechrest asks if IDEM denied the requests for a public hearing.

**Response:**

326 Indiana Administrative Code 2-8-13(c)(4) states that "(t)here shall be an opportunity for a public hearing if deemed necessary by the commissioner." No other state or local government unit has authority to determine whether a public hearing will be held. IDEM reviewed the requests for a public hearing but did not deem that a public hearing was necessary. IDEM did feel that a public meeting would be helpful to explain the air pollution control permit process and discuss issues of air quality. In a public hearing a court reporter is present and stenographically records everything that is said during the hearing. In a public meeting, no court reporter is present.

The public meeting for this source was held on April 19, 2007. The three hour meeting was attended by the Mayor of Aurora, two city commissioners, the city code enforcement officer, two representatives from the source and twenty-three concerned citizens. IDEM received additional requests for a public hearing during and after the public meeting. IDEM reviewed these additional requests but did not deem that a public hearing was necessary.

**Comment from Johnny Wright:**

Mr. Wright is concerned about noise from the source that affects homes around the source's entire perimeter.

**Response:**

IDEM does not have an authority to regulate noise. IDEM understands that noise can be very disturbing and have an impact on the quality of life of those living around the source. IDEM has not been given any authority by the Indiana legislature or the Indiana Air Pollution Control Board to regulate noise. Local governmental units may have authority to pass ordinances regulating noise.

**Comments from Bobby and Theresa Bradley**

Bobby and Theresa Bradley are concerned about buried barrels in the ground.

**Response:**

Concerns about improperly buried chemical barrels should be sent to IDEM with information concerning the location of the buried barrels. Concerns and complaints may also be submitted

on-line at <http://www.in.gov/idem/contact/complaints/index.html> on IDEM's Complaint Clearinghouse website, by calling IDEM's Complaint Coordinator toll free at (800) 451-6027 ext.2-4464, or by sending a written complaint to IDEM, Attn: Complaint Coordinator, 100 North Senate Avenue, MC 50-03 IGCN 1313, Indianapolis, IN 46204-2251.

**Comment:**

Bobby and Theresa Bradley are concerned about water drainage and mold.

**Response:**

IDEM, OAQ does not have the authority to regulate water drainage. IDEM, OWQ has that authority and has investigated this issue. Please contact IDEM, OWQ at 317-232-8670 for additional information.

IDEM, OAQ does not have the authority to regulate mold growth. IDEM understands that mold growth can have an impact on the quality of life of those living around the source. IDEM has not been given any authority to regulate mold growth. Local governmental units may have authority to pass further ordinances regulating drainage practices and ordinances to regulate mold.

**Comment from Donald Lowe Jr.**

Mr. Lowe also commented that his property value has been adversely affected by the source's operation.

**Response:**

IDEM, OAQ understands that a source's negative affect on property value and quality of life is a valid concern for every homeowner. However, IDEM, OAQ has no authority to take any action regarding that specific concern. IDEM, OAQ does expect that current enforcement action against the source, the issuance of this permit and continued compliance inspections will create an improvement in source's operation.

**Comment:**

Many of the commenters stated that they are concerned about the frequency with which IDEM, OAQ inspects Unimin and the action that IDEM, OAQ has taken with regard to Unimin.

**Response:**

IDEM, OAQ prioritizes inspection frequency based on the permit level of the source, because the permit level is based on the source's potential to emit pollution. For example, a Title V source, which is the largest permit level, would have a routine inspection schedule that would be the most frequent, because it has the largest level of emissions. Sources that have a smaller permitting level and potential to emit (e.g. MSOPs, Registrations) would have a routine inspection schedule that starts out being less frequent than a Title V permit. Due to the fact that initially, Unimin was issued a Registration, which is one of the lowest level permits IDEM issues, it would not have been assigned a high routine inspection frequency. The FESOP permit, F029-15387-00022 will require a higher inspection frequency than the Registration that Unimin currently has. However, inspectors can always use their discretion and inspect sources as often as necessary. Citizen complaints about a source are another way that a source would obtain a higher inspection frequency. Due to the fact that IDEM, OAQ has received many complaints about Unimin and the surrounding area, this site has been inspected 33 times since 1997 by 8 different inspectors. This is a higher average inspection frequency than what is routinely assigned to a Title V source. One of the latest inspections, which occurred in April 2007, has resulted in violations of 326 IAC 6-4 Fugitive Dust Rule being observed. This case has been referred to the IDEM Office of Enforcement for appropriate action.

**Comment:**

Mr. James U. Sechrest has commented that any emissions from Unimin are in violation of the Fugitive Dust Rule 326 IAC 6-4. He points to 326 IAC 6-4-1 Applicability of Rule for this interpretation of the rule.

**Response:**

326 IAC 6-4-1 only states how the rule applies. It does not give information on how to determine a violation of the rule. In order to find a violation of this rule, one must look at the entire rule. 326 IAC 6-4-2 Emission limitations, gives the following emission limits:

A source or sources generating fugitive dust shall be in violation of this rule (326 IAC 6-4) if any of the following criteria are violated:

- (1) A source or combination of sources which cause to exist fugitive dust concentrations greater than sixty-seven percent (67%) in excess of ambient upwind concentrations as determined by the following formula:

$$P = \frac{100(R - U)}{U}$$

P = Percentage increase

R = Number of particles of fugitive dust measured at downward receptor site

U = Number of particles of fugitive dust measured at upwind or background site

- (2) The fugitive dust is comprised of fifty percent (50%) or more respirable dust, then the percent increase of dust concentration in subdivision (1) of this section shall be modified as follows:

$$P_R = (1.5 \text{ " } N) P$$

Where N = Fraction of fugitive dust that is respirable dust;  
P<sub>R</sub> = allowable percentage increase in dust concentration above background; and  
P = no value greater than sixty-seven percent (67%).

- (3) The ground level ambient air concentrations exceed fifty (50) micrograms per cubic meter above background concentrations for a sixty (60) minute period.
- (4) If fugitive dust is visible crossing the boundary or property line of a source. This subdivision may be refuted by factual data expressed in subdivisions (1), (2) or (3) of this section.

326 IAC 6-4-5 Measurement processes gives the standards for which the particulate matter can be measured against the emissions limitations above so that one can determine if there is a violation of the rule. 326 IAC 6-4-5 gives the following methods for measurement purposes:

- (a) Particle quantities and sizes will be measured by manual microscopic analysis of a dustfall sample collected on a sticky slide, or by use of commercially available particle counting devices which count and classify particles by micron size range, or other methods acceptable to the commissioner.
- (b) Ambient air concentrations shall be measured using the standard hi volume sampling and analysis techniques as specified by 40 C.F.R. 50.
- (c) Observations by a qualified representative of the commissioner of visible emissions crossing the property line of the source at or near ground level.

326 IAC 6-4-6 states the following exceptions that are applicable to Mr. Sechrest's question about this rule and would therefore render Unimin able to emit while not being in violation:

- (5) Visible plumes from a stack or chimney which provide adequate dispersion and are in compliance with other applicable rules.
- (6) Fugitive dust from a source caused by adverse meteorological conditions.

Therefore, it can not be assumed that all of the emissions from Unimin will be in violation of 326 IAC 6-4 because it is possible to have visible emissions from their stacks. It is also possible to have emissions from the plant that do not cross the boundary or property line as observed by a qualified representative of the commissioner at or near ground level.

**Comment from Donnie Hastings, Jr., Mayor, City of Aurora**

Mayor Hasting states, in regards to the fugitive dust plan:

1. Road surfaces within the plant should be paved.
2. All road surfaces should be swept daily.
3. A sprinkler system should be installed to control dust from road surfaces.
4. All produce carrying trucks should be covered when entering and leaving.
5. Speed bumps and speed signs should be installed on the plant roadways.
6. The existing fence should be screened to a height of 6 feet.
7. All bulk material storage should be within a three sided building and covered.
8. Baghouse operations should be enclosed within three sided buildings.

**Response:**

1. The fugitive dust plan requires the plant yard, internal roads, and parking lots to be paved.
2. The fugitive dust plan requires all paved areas to be swept, shoveled, or washed down as needed. The fugitive dust plan also requires the paved areas to be swept using a road sweeper as needed but not less than once a week. IDEM believes that this should be sufficient to control dust from plant roads.
3. Unimin could install a sprinkler system for the roads. However, Unimin has chosen to wash down, shovel, or sweep the roads when excessive dust is present and to avoid using roads until they are washed, shoveled or swept. Since IDEM has received some excess water runoff complaints, it does not seem the best course to require a sprinkler system on the road. IDEM believes that the revised fugitive dust plan should be sufficient to control dust from plant roads.
4. IDEM agrees that all produce carrying trucks should be covered when transporting material. The fugitive dust plan includes a requirement to cover truck cargos.
5. The revised fugitive dust plan requires speed limit signs of (five miles per hour) and speed bumps on the truck entrance road. Truck speeds on-site are restricted by the tight turns and short straight hauls. The revised fugitive dust plan requires training of the employees to keep the front-end load speed low.
6. IDEM believes the revised fugitive dust plan is sufficient without a screening fence.
7. The Olivine Fines Pile is in a three sided building. Unimin feels that covering the Fines Pile would hinder operations. Instead Unimin will permanently mount a sprinkler over the Fines pile to be operated as needed but at least once per day and when adding or removing fines from the pile. IDEM believes this should be sufficient to control fugitive dust from this area.

8. Baghouses are control devices. All the baghouses at the Unimin site control a regulated process. The emissions out of the baghouse must meet applicable limits. Section D.1 contains these limits and necessary compliance determination, monitoring, and recordkeeping for the baghouses. IDEM does not agree that any benefit would be gained from enclosing the baghouses in three sided buildings.

**Comment from Donald and Sandra Lowe:**

The Outdoor Raw Olivine Stockpiles is uncovered. How will Unimin cover it? Why has Unimin not covered their stockpiles before now?

**Response:**

The fugitive dust plan that was in the public notice version of the permit required the stockpiles covered. However, Unimin has since decided to use increased watering rather than covering the storage piles. See the revised fugitive dust plan.

IDEM does not know why Unimin did not cover their storage piles or take other steps, such as increased watering. IDEM is not required to determine past motivations, but is required to take appropriate steps when violations are discovered. Currently, IDEM is taking enforcement action against Unimin.

**Comment from Donald and Sandra Lowe:**

Mr. and Mrs. Lowe submitted a picture of one of the overhead conveyors. This conveyor is outside and uncovered. Fugitive dust comes from the conveyors.

**Response:**

After the public notice period, Unimin covered this and another conveyor. The revised fugitive dust plan requires all outdoor conveying equipment be covered with hoods or enclosures. See the revised fugitive dust plan.

**Comment from Donald and Sandra Lowe:**

The forklifts load bulk totes on trucks. How will this be covered and controlled when loading in the open. Three pictures accompany the comment, showing the loading of the bulk totes with olivine and the loading of the totes onto a truck.

**Response:**

The principal source of fugitive dust is the loading of olivine into the bulk totes. Subsequent to the public notice period, Unimin has covered the loadout with a hood and curtain on all four sides. The revised fugitive dust plan requires the bulk tote loadout to be covered. See the revised fugitive dust plan.

**Comment from Donald and Sandra Lowe:**

Trucks are loaded directly from the shoot. The shoot is in the open. How will fugitive dust be controlled? This operation is very dusty.

**Response:**

Since the public notice period, Unimin has enclosed the truck loadout with sidewalls and curtains on the ends. A retractable door has been installed on one side to allow smaller equipment to enter and exit the loading area. The revised fugitive dust plan requires the truck loadout area to be enclosed and curtained, with retractable side door. See the revised fugitive dust plan.

On March 5, 2007, Unimin submitted comments on the proposed FESOP. The summary of the comments is as follows.

**Comment 1:**

Revise the descriptions in Condition A.2 as follows:

Change (b)(3) from "...BE-07, having a maximum capacity of 20, 15, 5, and 8 tons of olivine per hour, respectively." to "...BE-07, having a maximum capacity of 20, 15, 5, and 60 tons of olivine per hour, respectively."

Change (b)(4) from "...maximum capacity of 13 and 10 tons of olivine, respectively." to "...maximum capacity of 13 and 10 tons of olivine per hour, respectively."

Change (c)(2) from "...with a maximum capacity of 11 tons of sand." to "...with a maximum capacity of 11 tons of olivine per hour."

Change (c)(3) from "...with a maximum capacity of 5 tons of sand." to "...with a maximum capacity of 5 tons of olivine per hour."

Change (d)(5) from "... 5 tons of flour per hour..." to "... 5 tons of olivine per hour..."

**Response to Comment 1:**

The increase in the maximum process rate for bucket elevator BE-07 results in an increase in emissions of 0.68 tons of PM per year and 0.25 tons of PM10 per year. This small increase in potential emissions does not trigger any new requirements under state or federal regulations. IDEM has made the following revisions to Condition A.2 and Section D.1:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

- (a) ....
- (b) One (1) screening and intermediate storage circuit constructed in 1988 and consisting of the following units:
  - (1) ...
  - (3) Four (4) bucket elevators, identified as BE-01, BE-03, BE-04, and BE-07, having a maximum capacity of 20, 15, 5, and **60** tons of olivine per hour, respectively.
  - (4) Two (2) storage bins, identified as BN-10 and BN-11, with a maximum capacity of 13 and 10 tons of olivine **per hour**, respectively.
  - ...
- (c) One (1) sand sizing circuit constructed in 1988 and consisting of the following units:
  - (1) ...
  - (2) One (1) storage bin, identified as BN-08, with a maximum capacity of 11 tons of **olivine per hour** ~~sand~~.
  - (3) One (1) drop out bin, identified as BN-12, with a maximum capacity of 5 tons of **olivine per hour** ~~sand~~.

These units are controlled by one (1) baghouse, identified as DC-03. DC-03 has an air flow rate of 3,500 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (d) One (1) bagging and bulk loadout process constructed in 1988 and consisting of the following units:
  - (1) ...
  - (5) Two (2) truck loadouts, identified as LS-01 and LS-03, with a maximum capacity of 60 tons of olivine per hour and 5 tons of ~~flour~~ olivine per hour, respectively.
  - ...

**Comment 2:**

Revise the facility descriptions in the TSD as follows:

Change (b)(3) from "...BE-07, having a maximum capacity of 20, 15, 5, and 8 tons of olivine per hour, respectively." to "...BE-07, having a maximum capacity of 20, 15, 5, and 60 tons of olivine per hour, respectively."

Change (b)(4) from "...a maximum capacity of 13 and 10 tons of olivine, respectively." to "...a maximum capacity of 13 and 10 tons of olivine per hour, respectively."

Change (c)(2) from "...a maximum capacity of 11 tons of sand." to "...a maximum capacity of 11 tons of olivine per hour."

Change (c)(3) from "...a maximum capacity of 5 tons of sand." to "...a maximum capacity of 5 tons of olivine per hour."

Change (d)(5) from "... 5 tons of flour per hour..." to "... 5 tons of olivine per hour..."

**Response to Comment 2:**

No changes have been made to the TSD because the OAQ prefers that the Technical Support Document (TSD) reflect the permit that was on public notice. Changes to the permit or TSD that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

**Comment 3:**

In the existing approvals section of the TSD: There are two documents that are dated June 27, 2001. These documents have both been submitted previously. The list is incomplete with only one listed. Please include the second document dated June 27, 2001.

**Response to Comment 3:**

IDEM agrees that two documents were issued by IDEM on June 27, 2001. The first was a revised Registration Construction and Operation approval and the second was a notice only change to Registration 029-11736-00022. Both approvals were given the permit number 029-14417-00022. No changes have been made to the TSD because the OAQ prefers that the Technical Support Document (TSD) reflect the permit that was on public notice. Changes to the permit or TSD that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

**Comment 4:**

In the TSD "Recommendation" section: Add January 2, 2004 to the list of dates for the receipt of additional information. Unimin submitted a one-page letter regarding confidentiality on this date.

**Response to Comment 4:**

IDEM agrees that letter was submitted by Unimin on January 2, 2004. However, no changes have been made to the TSD because the OAQ prefers that the Technical Support Document (TSD) reflect the permit that was on public notice. Changes to the permit or TSD that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

**Comment 5:**

Units BC-01, BN-09 and FE-01 are not controlled by dust collector DC-04. These units are sources of fugitive emissions. These units should be included with the list of fugitive emission sources included on page 7 of Appendix A.

Unimin also requests the PM limits in Condition D.1.1 and PM10 limits in Condition D.1.2 be revised to the values shown in the following table.

Facility	Baghouse	PM Emission Limit (lbs/hour)	PM10 Emission Limit (lbs/hour)
Drying Circuit	DC-01	2.98	2.98
Screening and Intermediate Storage Circuit	DC-02	2.73	2.73
	DC-06	1.24	1.24
Sand Sizing Circuit	DC-03	0.5	0.5
Bagging and Bulk Loadout	DC-04	0.37	0.37
Fines Circuit	DC-05	0.37	0.37

Also, the baghouse ID should be corrected to "DC-01" from "BC-01" in both conditions.

**Response to Comment 5:**

IDEM has moved the calculations for BC-01, BN-09, and FE-01 to page 7 as requested by Unimin. The term "fugitive emissions" is defined in 326 IAC 2-7-1(18) as "emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening." Fugitive emissions typically include emissions from outdoor storage piles and roadways, rather than processes or operations. The fact that these processes are not vented through a stack does not necessary mean that the emissions from these processes meet the definition of "fugitive emissions" provided in 326 IAC 2-7-1(19). For this reason, the title on page 7 has been revised from "fugitive emissions" to "uncontrolled emission units". A copy of the revised calculations is included as Appendix A to this document.

As requested by Unimin, IDEM has revised the limits in Conditions D.1.1 and D.1.2. The limits proposed by Unimin result in a limited PTE well below the PSD threshold of 250 tons of PM/PM10 per year and the Part 70 threshold of 100 tons of PM10 per year.

The revised limited PTE for this source is shown in the following table:

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Drying Circuit (DC-01)	<del>4.93</del> <b>13.1</b>	<del>2.2</del> <b>13.1</b>	0.03	0.30	4.54	5.41	Negligible
Dryer Combustion Emissions	0.58	0.14	Negligible	Negligible	Negligible	Negligible	Negligible
Screening & Storage Circuit (DC-02)	<del>57.4</del> <b>12.0</b>	<del>43.8</del> <b>12.0</b>	0	0	0	0	0
Bagging & Bulk Loadout Circuit (DC-04)	<del>59.4</del> <b>1.62</b>	<del>44.0</del> <b>1.62</b>	0	0	0	0	0
Sand Sizing Circuit (DC-03)	<del>4.6</del> <b>2.19</b>	<del>0.24</del> <b>2.19</b>	0	0	0	0	0
Fines Circuit (DC-05)	<del>0.88</del> <b>1.62</b>	<del>0.44</del> <b>1.62</b>	0	0	0	0	0
Insignificant Activities <b>Uncontrolled Emission Units</b>	<del>49.4</del> <b>20.5</b>	<del>2.37</del> <b>2.66</b>	0	Less than 5	0	0	0
Total Emissions	<del>440</del> <b>52.0</b>	<del>29.5</del> <b>33.3</b>	0.03	Less than 5.3	4.54	5.41	Negligible

**D.1.1 PSD Minor Limits for PM [326 IAC 2-2]**

In order to render the requirements of 326 IAC 2-2 not applicable, the emissions of PM shall be limited as follows:

Facility	Baghouse	PM Emission Limit (lbs/hour)
Drying Circuit	<del>DC-01</del> <b>BC-04</b>	<del>0.42</del> <b>2.98</b>
Screening and Intermediate Storage Circuit	DC-02	<del>42.8</del> <b>2.73</b>
	DC-06	<del>0.306</del> <b>1.24</b>
Sand Sizing Circuit	DC-03	<del>0.365</del> <b>0.5</b>
Bagging and Bulk Loadout	DC-04	<del>43.5</del> <b>0.37</b>
Fines Circuit	DC-05	<del>0.204</del> <b>0.37</b>

Compliance with these limitations ensures that the PM emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period and makes the source minor for 326 IAC 2-2 (Prevention of Significant Deterioration).

**D.1.2 FESOP Limits for PM10 [326 IAC 2-8]**

Pursuant to 326 IAC 2-8-4, the emissions of PM-10 shall be limited as follows:

Facility	Baghouse	PM10 Emission Limit (lbs/hour)
Drying Circuit	<del>DC-01</del> <b>BC-04</b>	<del>0.44</del> <b>2.98</b>
Screening and Intermediate Storage Circuit	DC-02	<del>3.4</del> <b>2.73</b>
	DC-06	<del>0.048</del> <b>1.24</b>
Sand Sizing Circuit	DC-03	<del>0.055</del> <b>0.5</b>
Bagging and Bulk Loadout	DC-04	<del>2.54</del> <b>0.37</b>
Fines Circuit	DC-05	<del>0.025</del> <b>0.37</b>

Compliance with these limitations ensures that the PM10 emissions from the entire source do not exceed 100 tons per twelve (12) consecutive month period and makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

**Comment 6:**

Conducting performance tests on all six baghouses seems excessive. The dryer circuit, which exhausts to DC-01, has potential to emit of 175 ton per year of uncontrolled PM10, which by itself could exceed the 100 ton per year PM10 Part 70 Permit Program limit. The total PM10 without control from the other equipment controlled by the other five baghouses is 25.08 tons per year. By accepting a FESOP restriction to operate the dryer circuit baghouse (DC-01) at all times that the dryer circuit is in operation, then Unimin will reduce the PM10 emissions for the Dryer circuit to 1.76 tons per year (assuming the application of AP-42 Emission Factors and a 99% baghouse control efficiency). The limits on the dryer circuit ensure that the entire plant is minor for Title V. Monitoring the dryer circuit baghouse is the critical compliance parameter to assure the source is not major for Title V. Therefore, Unimin proposes:

1. To monitor the DC-01 pressure drop; and
2. conduct a stack test for PM and PM10 only for the dryer circuit baghouse, once every five years.

Unimin requests the following sentence should be added to Condition D.1.6:

“Within 180 days of issuance of this permit, the Permittee shall perform PM and PM10 testing of the baghouse (DC-01) controlling emissions from the drying circuit using methods approved by the Commissioner.”

**Response to Comments 6:**

For this source, the calculations are based on emission factors from Chapter 11, Section 19 of U.S. EPA's AP-42. The emission factors provided in AP-42 are averages of available data from operations similar, but not necessarily identical, to those at Unimin. The emission factors provided in AP-42 are calculated using test and/or continuous emission monitoring data. Based on the completeness and detail of the documentation of this data, EPA determines an emission factor rating for each emission factor listed in AP-42. For Unimin, the emission factors used to calculate the potential to emit values shown in the Technical Support Document have ratings that are less than C, implying that the U.S. EPA considers the underlying data to be less reliable than those for other, better documented emission factors (e.g., AP-42 emission factors for boilers). As a result of the uncertainty associated with the PTE calculations, IDEM included limits in Conditions D.1.1 (for PM) and D.1.2 (for PM10) for all of the baghouses operating at this plant to ensure compliance under 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-8 (FESOP). The emission units controlled by baghouses DC-01 through DC-06 are also subject to a 0.03 grain/dscf PM limit pursuant to 326 IAC 6.5-1-2 (see Condition D.1.3). Since Unimin has not demonstrated that these units can comply with the limits in Conditions D.1.1, D.1.2, and D.1.3 without the baghouses, IDEM must include compliance determination, monitoring, and recordkeeping and reporting for these units pursuant to 326 IAC 2-8-4. IDEM believes that the testing and monitoring included in the draft permit are appropriate. Therefore, no changes were made to permit based on this comment.

**Comment 7:**

Condition D.1.8 should be revised to read:

“...When for any one reading, the pressure drop across baghouse DC-01 is outside the normal range of 1.0 to 6.0 inches of water or within 30% of the minimum range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C ...”

The draft FESOP identifies a pressure drop “normal” range to be arbitrarily set at 2.0 to 4.5 inches of water or the range established during the latest stack test. Unimin believes the proposed range is not based on any technical studies, or is it consistently achievable. In fact, the pressure drop readings collected from DC-01 during the April 2002 stack test would fail this arbitrary range. A useful tool to establish a ‘normal’ range would be the manufacturer’s specification. However, except for DC-06, all of the baghouses pre-date Unimin’s ownership of the Aurora plant and neither the manual nor the supplier is available for assistance. Unimin has reported deviations in annual notifications from the ranges permitted in the existing air registration. A summary of the 2006 minimum and maximum readings, measured in inches of water are as follows:

Baghouse I.D.	Minimum Pressure (inches of water)	Maximum Pressure (inches of water)
DC-01N	1.4	5.2
DC-01S	1.2	6.0
DC-02	2.7	Nothing reported over Registration limit of 6.0
DC-03	0.6	Nothing reported over Registration limit of 5.2
DC-04	1.0	Nothing reported over Registration limit of 3.3
DC-05	Equipment connected to DC-05 not operated in 2006; therefore, DC-05 was also not operated in 2006.	
DC-06	No deviations noted since its installation in 2006.	

Unimin has also found that despite these deviations from the permitted pressure drop ranges, visible emissions are rarely observed venting from the stacks.

Dust collector DC-01 has two chambers, 1N and 1S. During the April 2002 stack test the pressure drop ranges read 0.9 to 1.2 and 1.0 to 2.6 inches of water, respectively. It is clear that the baghouse operates in conformance when readings are equal to or less than 1.0 inch of water. Typically, a higher pressure drop reflects the build up of a filter cake, which often means that the emissions from the stack are reduced. Therefore, there should not be a tight restriction on the maximum pressure drop range. Unimin proposes to set a reasonable and justifiable ‘normal’ pressure drop range of 1.0 to 6.0 inches of water.

Except for DC-01, the emission sources reporting to the other five baghouses (DC-02, DC-03, DC-04, and DC-06) have uncontrolled PM10 emissions of 13.85 tons per year, 0.24 tons per year, 10.67 tons per year, 0.11 tons per year, and 0.21 tons per year, respectively. The total PM10 emissions without control for the emission units venting to these baghouses is 25.08 tons per year, which combined with the after controls emissions from baghouse DC-01 are approximately 27 tons per year, well below the 100 ton per year PM10 Part 70 limit. PSD should not be an issue because the uncontrolled PM emissions for the five baghouses combined with the after controls emissions from DC-01 is approximately 120 tons per year, which is well below the 250 ton per year PSD major source threshold. These baghouses should be run to aid in the reduction of emissions from the site, but they need not be monitored to show conformance with the Title V permit program or PSD. Although monitoring DC-01 is critical to show conformance with the Part 70 synthetic minor limit, additional monitoring is unnecessary for any other emission units at this source. Unimin recommends that parametric monitoring be discontinued for DC-02, DC-03, DC-04, DC-05, and DC-06 since their operation is not mandatory to meet FESOP limits.

In a letter dated August 17, 2007, Unimin provided the following pressure drop ranges based on manufacturer’s data:

Baghouse I.D	Baghouse Manufacturer	Bag Manufacturer	Bag Description	Pressure Drop Range (inches of water)
DC-01	Micropul	GE-BHA	14 oz. Nomex	1-10
DC-02	Torit	Donaldson	Cartridge	0.4 - 6
DC-03	Torit	Donaldson	6mm Nomex	0.4 - 6
DC-04	Torit	Donaldson	Cartridge	0.4 - 6
DC-05	Torit	Donaldson	6mm Nomex	0.4 - 6
DC-06	Donaldson-Torit	Donaldson-Torit	Cartridge filter	0.4 - 6

**Response to Comment 7:**

As previously discussed in the response to Comment 6, the permit includes PM and PM10 emissions limitations in Condition D.1.1 (PSD limits for PM), Condition D.1.2 (PSD and FESOP limits for PM10) and Condition D.1.3 (PM limit pursuant to 326 IAC 6.5-1-2). The PM and PM10 emissions were calculated using AP-42 emission factors that have a low reliability rating. IDEM has included stack testing requirements, visible emission monitoring, and pressure drop readings for all baghouses because Unimin has not demonstrated that these units can comply with the limits in Conditions D.1.1, D.1.2, and D.1.3 without the baghouses. Pursuant to 326 IAC 2-8-4, IDEM must include compliance determination, monitoring, and recordkeeping and reporting for these units. IDEM believes that the testing and monitoring included in the draft permit for DC-02 through DC-06 are appropriate. However, IDEM has revised the pressure drop ranges for the baghouses as supported by the manufacturer data provided by Unimin on August 17, 2007. The following revisions have been made to Condition D.1.8:

**D.1.8 Parametric Monitoring**

The Permittee shall record the pressure drop across the baghouses used in conjunction with the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit at least once per shift when these processes are in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range **specified in the following table of 2.0 to 4.5 inches of water** or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances.

Baghouse I.D	Pressure Drop Range (inches of water)
DC-01	1.0 -10.0
DC-02	0.4 – 6.0
DC-03	0.4 – 6.0
DC-04	0.4 – 6.0
DC-05	0.4 – 6.0
DC-06	0.4 – 6.0

A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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.

**Comment 8:**

The topographical error in Condition D.1.11(c) should be corrected.

**Response to Comment 8:**

IDEM has revised Condition D.1.11(c) as follows:

**D.1.11 Record Keeping Requirement**

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- (a) ...
- (c) To document compliance with Condition D.1.9, the Permittee shall ~~maintain records of~~ maintain records of the results of the inspections required under Condition D.1.9.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**Comment 9:**

Remove Section D.2 from the permit. Unimin does not have cold cleaning operations at the Aurora plant. On GSD-10(a) form of Insignificant activities submitted to IDEM on November 26, 2002, Unimin indicated that "cleaners and solvents characterized as follows;...". However, the cleaners and solvents consist of cans of citrus and penetrating oil.

**Response to Comment 9:**

IDEM has deleted Section D.2 since Unimin does not operate cold cleaner operations at this plant. IDEM has also deleted the rule citation, 326 IAC 8-3-2, from the description in Condition A.3. The following changes have been made to the permit. As previously stated in this document, no changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice.

**~~SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS~~**

**~~Facility Description [326 IAC 2-8-4(10)]:~~**

- ~~(d) Cleaners and solvents characterized as follows:
    - (1) having a vapor pressure equal to or less than 2 kPa; 15 mmHg; or 0.3 psi measured at 38 degrees C; or
    - (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mmHg; or 0.1 psi measured at 20 degrees C,~~
- ~~the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months [326 IAC 8-3-2].~~

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

**~~Emission Limitations and Standards [326 IAC 2-8-4 (1)]~~**

**~~D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]~~**

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~~Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:~~

- ~~(a) Equip the cleaner with a cover;~~
- ~~(b) Equip the cleaner with a facility for draining cleaned parts;~~

- ~~(c) — Close the degreaser cover whenever parts are not being handled in the cleaner;~~
- ~~(d) — Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;~~
- ~~(e) — Provide a permanent, conspicuous label summarizing the operation requirements;~~
- ~~(f) — Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.~~

**A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]**

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This stationary source also includes the following insignificant activities:

- (a) One (1) natural gas-fired space heater with a maximum heat input capacity of 0.35 MMBtu per hour.
- (b) Combustion source flame used for safety purging on startup.
- (c) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (d) Cleaners and solvents characterized as follows:
  - (1) having a vapor pressure equal to or less than 2 kPa; 15 mmHg; or 0.3 psi measured at 38 degrees C; or
  - (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mmHg; or 0.1 psi measured at 20 degrees C,

the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months. ~~[326 IAC 8-3-2]~~

**Comment 10:**

Unimin submitted a Fugitive Dust Control Plan for the Aurora plant on March 1, 2007 for IDEM review and approval. Condition C.7 should be revised.

**Response to Comment 10:**

IDEM reviewed the Fugitive Dust Control Plan and requested changes be made to the plan. A revised plan has been submitted by Unimin and approved by IDEM. Therefore, IDEM has deleted the previous Fugitive Dust Plan summarized in Condition C.7 and has included a copy of the revised Fugitive Dust Plan as Appendix A to the permit. The following changes have been made to Condition C.7:

**C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]**

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Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the **Fugitive Dust Control Plan in included as Appendix A to this permit.** ~~following plan:~~

- ~~(a) — All travel surfaces within the plant are paved. These paved roads shall either be swept or sprayed with a suitable and effective dust suppressant as needed and at least daily (unless there has been measurable rainfall during the last 24 hours). The Permittee shall keep records of the sweeping/spraying, stating when the sweeping/spraying was conducted and who the individual was that conducted it.~~

- ~~(b) All bulk materials shall be stored within three-sided buildings on paved pads and under tarps when not in use.~~
- ~~(c) General good housekeeping practices shall be followed throughout the plant, with particular attention paid to cleaning the area around the perimeter of the aggregate piles.~~
- ~~(d) Fugitive particulate matter emissions resulting from outdoor conveying of aggregate material such as, but not limited to, sand, gravel, stone, grain, and coal, by equipment such as belt conveyors and bucket elevators shall be controlled. The Permittee shall apply water or suitable and effective chemical dust suppressant at the feed and/or intermediate points as needed to minimize visible emissions.~~
- ~~(e) Fugitive particulate matter emissions resulting from transportation of aggregate material by truck, front end loaders, or similar vehicles shall be controlled. The Permittee shall either tarp the vehicle or spray the materials in the vehicle with a suitable and effective dust suppressant as needed.~~
- ~~(f) Fugitive particulate matter emissions resulting from the loading and unloading operations of the material from storage facilities such as bins, hoppers, and silos, onto or out of vehicles, shall be controlled. The Permittee shall enclose the material loading/unloading area.~~

The following revised Fugitive Dust Control Plan has been incorporated into the permit as Appendix A:

**Per 326 IAC 6-5-1(b), the Aurora facility is required to prepare a control plan for fugitive particulate matter emissions. The contents of the Dust Control Plan is set down in writing as per 326 IAC 6-5-5(a) and contains the information identified in 326 IAC 6-5-5 (1) through (12). Per 326 IAC 6-5-8, the Control Plan will be updated at the time of reapplication for Aurora's operating permit.**

**(1) Source: Unimin Corporation  
Aurora Olivine Processing Facility  
P.O. Box 370  
137 Franklin Street  
Aurora, IN 47001-0370**

**(2) Owner/Operator Responsible for the Execution of the Control Plan:**

**Same as above**

**Contact: Aurora Plant Manager      Tel: 812-926-0462      Fax: 812-926-0913**

**(3) Identification of Potential Emission Sources**

**Fugitive particulate matter emissions are generated from multiple sources at the Aurora plant site. Per 326 IAC 6-5-4, the emission sources are identified as the following emission points:**

- (a) Plant yard, internal roads and parking lots;**
- (b) Outdoor raw material (olivine) aggregate stockpiles;**
- (c) Outdoor Olivine Fines Pile;**
- (d) Outdoor Contractor Fill Pile;**
- (e) Outdoor conveying and transfer of aggregate material;**
- (f) Transportation of aggregate material by truck, front end loader, or similar vehicles;**
- (g) Loadout of paper bags, bulk totes, and bulk trucks;**

- (h) Solid waste handling;
- (i) Material handling operations;
- (j) Escape through building opening such as doors, windows, powered or unpowered ventilators, roof monitors, other than a stack.

(4) **Site map**  
 A site map is provided at the end of this document.

(5) **Vehicular Activity**

Vehicles	Trips/hour	Speed (mph)	Distance (Miles per round trip)	Gross/Tare Weights (Tons)	No. of wheels
Tractor Trailer	<4	5	~ 0.2	40/15	18
Tandem Truck	<6	5	~ 0.2	35/13	14
Front-end Loader	~10	5	~ 400 feet	18/12	4
Forklifts	~10	5	~ 400 feet	unknown	4
Plant vehicle	<1	5	0.2	0.5/0.5	4

(6) **Type and Quantity of material handled**  
 Raw material stockpiles consist of olivine aggregate, which is an inert mineral. The material can be dried, crushed, sized and shipped as bulk and/or bagged products, depending on customer specifications. The plant can process a maximum of 60 tons of olivine per hour.

(7) **Equipment used to maintain aggregate piles**  
 Outdoor stockpiles are generated by tandem truck dumping. A front-end loader is used for conveying raw material to the processing equipment. In addition, the loader is used to recycle processed material back to the stockpiles. Forklifts are used for conveying/loading bagged material and transferring tote-hoppers. The facility will utilize a Municipal street cleaner until Unimin purchases a sweeper that will consist of a front-end loader equipped with an angled spinning broom and water tank.

(8) **Description of Control Measure**  
 Described below under CONTROL MEASURES.

(9) **Specification of dust suppressant material**  
 Water is the primary dust suppressant. A generic chemical dust suppressant shall be applied on the contractor fill pile.

(10) **Specifications of the particulate matter collection equipment**  
 Specifications of the particulate matter collection equipment are identified in the IDEM air permit, which may be amended from time to time.

(11) **Schedule of Compliance**

(12) **Recordkeeping**  
 Unimin will maintain records for three years, which document applicable control measures and activities to be implemented for this Dust Control Plan. Most of the maintenance records will be maintained on the electronic database and can be recalled at the request of an inspector. Records of the rental of the street cleaners are maintained in the purchasing files.

**CONTROL MEASURES**

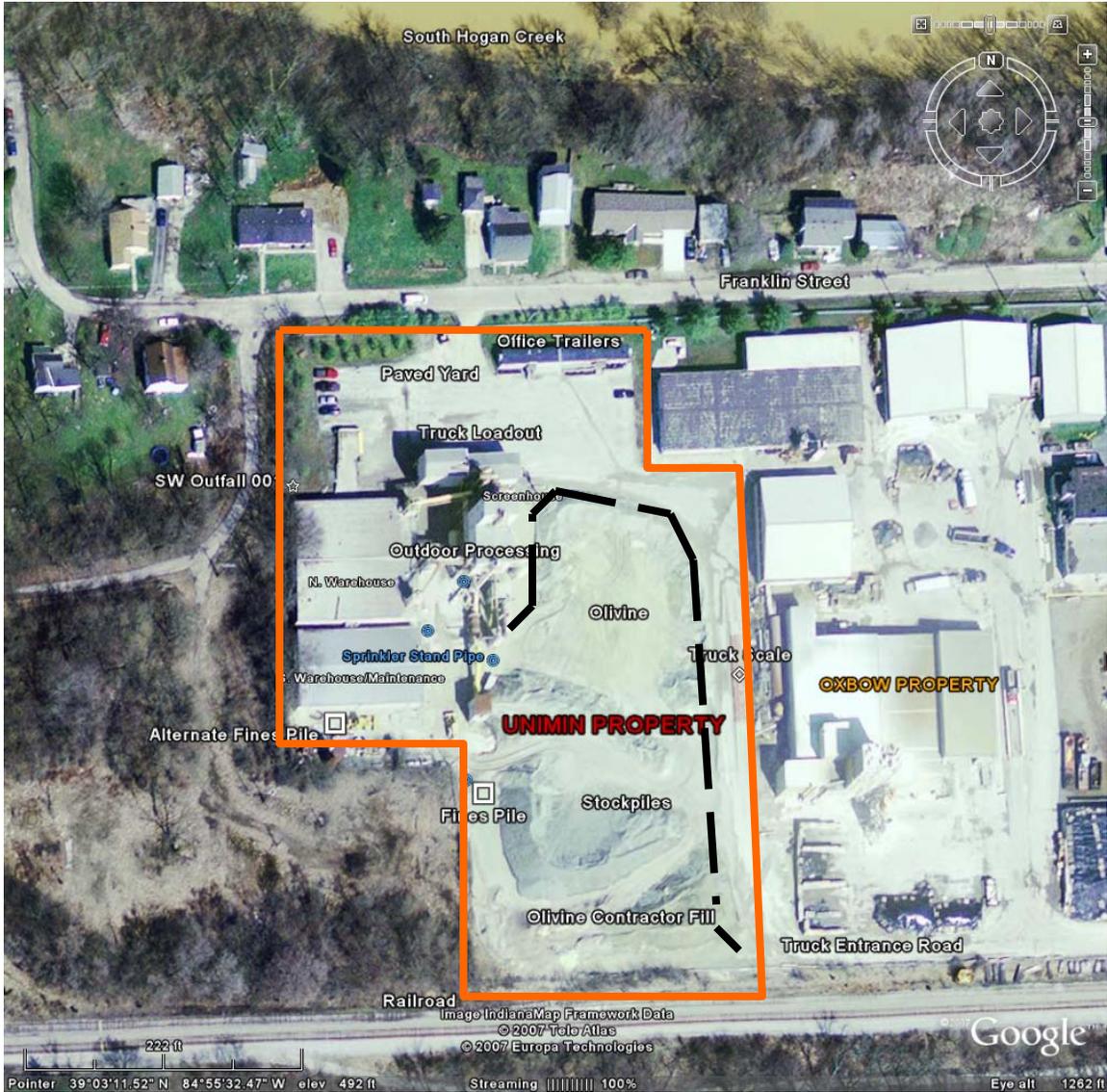
Control measures for fugitive particulate matter emissions generated from the emission points listed in Item 3, are identified below:

Process	Required Physical and Operational Controls	Implementation Schedule
<p><b>Internal Roads, Plant Yard, and Parking Lots</b></p> <p>Description: The plant yard (excluding stockpile area), internal roads, and parking lots are paved.</p>	<ol style="list-style-type: none"> <li>1. The plant yard, internal roads, and parking lots shall be paved.</li> <li>2. Paved areas shall be cleaned by sweeping, shovelling, and/or water hose.</li> <li>3. Paved areas shall be cleaned using a sweeper. If excessive dust is present, the roads shall be misted with water prior to sweeping.</li> </ol>	<ul style="list-style-type: none"> <li>• Sweeping, shovelling and washdowns shall occur, as needed (excluding measurable rain event or winter weather conditions)</li> <li>• The paved areas shall be swept as needed and at least once a week.</li> </ul>
<p><b>Outdoor Raw Material (Olivine) Aggregate Stockpiles</b></p> <p>Description: Olivine sand is stored outdoors on bare ground. The stockpiles are over 30-feet high and cover an area roughly 200-feet wide by 400-feet long. The pile is accessed daily as feed to the plant. Processed material that is recycled into the piles is blended or buried in the raw material.</p>	<ol style="list-style-type: none"> <li>1. The perimeter of the stockpiles shall be contained by concrete blocks at least up to 32 inches in height, as indicated on the attached site plan.</li> <li>2. At least four portable sprinkler heads shall be distributed across the piles to spray water to suppress dust.</li> <li>3. Unimin shall investigate the transfer of excess processed material to a silo instead recycling it back to the stockpiles to minimize exposure during handling</li> </ol>	<ul style="list-style-type: none"> <li>• The sprinklers shall be operated as needed but not less than every eight hours (excluding measurable rain events or winter weather conditions). The sprinklers shall be relocated as needed to provide sufficient dust control across all the stockpiles. Sprinklers shall be operated regardless if the plant is operating (i.e. down days, holidays, night time, etc.)</li> </ul>

Process	Required Physical and Operational Controls	Implementation Schedule
<p><b>Outdoor Olivine Fines Pile</b>  <b>Description:</b> Dust collector rejects (fines) are emptied into 1-ton portable hoppers for transport via forklift to a three-sided bunker, where it is later transferred to the Contractor Fill Pile.</p>	<ol style="list-style-type: none"> <li>1. Where applicable, the hoppers shall be covered when filled.</li> <li>2. The hoppers shall be slowly dumped. Material free fall be minimized. The operators shall be trained to slowly dump the hoppers and minimize material free fall.</li> <li>3. Water shall be applied to the Fines Pile to suppress dust.</li> <li>4. Unimin shall re-locate the sprinkler head from a side position to one that overhangs the pile to ensure better distribution of water for dust suppression.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> <li>• The sprinklers shall be operated during addition or removal of material from the Fines Pile or if the material begins to dry out (excluding measurable rain events or winter weather conditions).</li> </ul>
<p><b>Outdoors Contractor Fill Piles</b>  <b>Description:</b> Contractor fill grade material is stockpiled at the south end of the property. Commercial dump trucks are loaded and shipped, on demand, for the construction trade.</p>	<ol style="list-style-type: none"> <li>1. Product shall be wetted prior to placement at the Contractor Fill Pile.</li> <li>2. Chemical sealants shall be applied to the contractor Fill Pile to suppress dust.</li> </ol>	<ul style="list-style-type: none"> <li>• The chemical sealant shall be applied as needed, depending on the volume of material and the wetness of the season but at least with every disturbance.</li> </ul>
<p><b>Outdoor conveying and transfer of aggregate material</b>  <b>Description:</b> Olivine from the raw material stockpile is transported via front-end loader to a feed hopper, which is a three-sided roofed structure. Outdoor conveying equipment is covered with hoods or enclosures.</p>	<ol style="list-style-type: none"> <li>1. The operators shall be trained to reduce the free fall of aggregate during material transfer. When discharging a silo or bin for recycling, the front-end bucket shall be placed immediately under the loadout spout and lowered slowly until it is full. When placing material into the stockpile, the bucket shall be placed against the ground and then rolled forward until empty, so the bucket forms a makeshift hood.</li> <li>2. Front-end loader operators have been trained to maintain low-speeds, below five (5) miles per hour, to reduce airborne dust.</li> <li>3. On windy days, activities shall be curtailed or loaded from the backside of the pile.</li> <li>4. Outdoor conveying equipment shall be covered with hoods or enclosures.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> </ul>

Process	Required Physical and Operational Controls	Implementation Schedule
<p><b>Transportation of aggregate material by truck, front-end loader or similar vehicles</b>  <b>Description:</b> Dump trucks bring in the raw material and end-load it into the olivine raw material stockpiles. A front-end loader conveys the raw material to the process; recycles excess product back into the stockpiles; and transfers material from the fines pile to the Contractor Fill Pile. Forklifts move bagged material to storage or trucks for shipment. Forklifts move hoppers filled with dust collector rejects to the fines pile. On-site transport distances are short (~200 feet). Tractor-trailers haul bags, totes and bulk material to market.</p>	<ol style="list-style-type: none"> <li>1. Vehicles shall maintain posted speeds of 5 miles per hour on the truck entrance road. There shall be speed bumps on the truck entrance road.</li> <li>2. Vehicle speeds on-site are restricted by tight turns and short hauls. Front-end loader operators shall be trained to maintain low-speeds.</li> <li>3. Trucks carrying product entering and leaving the site shall be tarped.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> </ul>
<p><b>Loadout of paper bags, bulk totes, and bulk trucks</b>  <b>Description:</b> Product is shipped as palletted paper bags, bulk totes, and bulk trucks. Bulk totes are filled outdoors. Paper bags are filled inside the warehouse while utilizing baghouses, then palletted and wrapped.</p>	<ol style="list-style-type: none"> <li>1. The bags shall be lifted during loading to minimize the free fall distance of material and exposure to wind.</li> <li>2. The bulk truck loadout sidewalls shall extend to 6" above the pavement. The bulk truck loadout ends shall be curtained.</li> <li>3. An overhead door shall be installed to allow equipment traffic through the loadout sidewalls.</li> <li>4. Operational controls, such as closing bulk product truck hatches, shall be used as necessary.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually.</li> </ul>

Process	Required Physical and Operational Controls	Implementation Schedule
<p><b>Solid Waste Handling</b>  <b>Description:</b> There are no “tailings” generated at the Aurora facility. Off-spec mineral product is recycled into the plant process wherever feasible. On the rare occasion when surplus mineral product is not marketable, it is hauled to a licensed waste disposal site. Solid wastes consist primarily of office and plant trash.</p>	<ol style="list-style-type: none"> <li>1. Trash shall be placed in designated waste bins and hauled off-site by disposal contractors.</li> <li>2. Plant-specific Policy/Procedures shall be followed to properly manage plant wastes.</li> </ol>	<ul style="list-style-type: none"> <li>• Trash shall be removed on regularly scheduled pickups.</li> <li>• The ‘Plant Waste Disposal, Landfills and Trespass Dumps’ Policy/Procedure and the ‘Plant Surplus Equipment and Boneyard Management’ Policy/Procedures shall be reviewed annually and updated, as necessary.</li> </ul>
<p><b>Material handling operations</b>  <b>Description:</b> The industrial activities include industrial olivine storage, processing, handling, and shipping. Olivine processing includes drying, crushing, screening and classification to obtain different sized olivine products.</p>	<p>Drying, crushing, screening and loadout activities are directed to baghouses.</p>	<ul style="list-style-type: none"> <li>• Baghouses shall be maintained as per the FESOP air permit.</li> </ul>
<p><b>Escape through building opening such as doors, windows, powered or unpowered ventilators, roof monitors, other than a stack</b>  <b>Description:</b> There are two process buildings with mechanical vents and openings (North Warehouse and Screenhouse). The North Warehouse contains three baggers in addition to product inventory. The baggers all utilize dust collectors. The North Warehouse building vent is for ventilation purposes. The Screenhouse has two building vents for ventilation purposes. All process equipment in the Screenhouse also reports to dust collectors, so pollutants are not expected to discharge through the openings.</p>	<ol style="list-style-type: none"> <li>1. Unimin shall follow an equipment maintenance program (Qgest) to ensure proper maintenance of the process equipment and dust collection systems.</li> <li>2. Good housekeeping shall be employed to reduce indoor spillage and nuisance dust, which could escape through doors and vents.</li> </ol>	<ul style="list-style-type: none"> <li>• First Training shall occur within 30 days of hire or issuance of 029-15387-00022. Training refreshers shall occur at a minimum annually. Training refreshers shall occur at a minimum annually.</li> </ul>



**North Arrow** (as marked in the top right hand corner of the Google aerial)

**Scale** (as marked in the bottom left hand corner of the Google aerial)

### LEGEND

Property line – solid orange line

Line of concrete blocks – dashed black line

Sprinkler stand pipes for sprinkler hose hook ups - blue circles

**Note:** The positions of the property lines and the line of concrete blocks around the stockpile perimeter have been approximated, then superimposed on the aerial view within the limits of the software program.

Upon further review, the OAQ has decided to make the following revisions to the permit (bolded language has been added, the language with a line through it has been deleted). The Table Of Contents has been modified, if applicable, to reflect these changes.

1. For clarification, IDEM, OAQ has made the following revisions to Conditions D.1.9 and D.1.11:

**D.1.9 Baghouse Inspections**

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An inspection shall be performed each calendar quarter of all bags controlling the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit. **Inspections required by this condition shall not be performed in consecutive months.** All defective bags shall be replaced.

**D.1.11 Record Keeping Requirement**

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- (a) To document compliance with Condition D.1.7, the Permittee shall maintain records of the once per shift visible emission notations of the baghouse stack exhausts. **The Permittee shall include in its records when a ~~record of why the visible emission notations were~~ is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).**
  - (b) To document compliance with Condition D.1.8, the Permittee shall maintain records of the once per shift pressure drop for each baghouse. **The Permittee shall include in its records when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).**
  - (c) ...
2. Unimin's dryer was installed at the Aurora plant in 1988. However, this dryer is not subject to the provisions of 40 CFR 60, Subpart UUU - Standards of Performance for Calciners and Dryers in Mineral Industries (326 IAC 12) because it was manufactured by Barber Greene prior to the 1986 applicability date. Based on information provided by Unimin, the dryer was originally purchased by Astec Industries in 1977 and relocated to the Aurora plant when the plant was constructed in 1988. Pursuant to 40 CFR 60.730 (c), the owner or operator of any facility that commences construction, modification, or reconstruction after April 23, 1986 is subject to the requirements of 40 CFR 60, Subpart UUU. The General Provisions in Subpart A of Part 60 states "The following shall not, by themselves, be considered modifications under this part:... (6) The relocation or change in ownership of an existing facility." (see 40 CFR 60.14 (e) (6)).

To avoid future confusion regarding the applicability of Subpart UUU, IDEM has revised the description of the dryer provided in Condition A.2 and Section D.1.

**A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]**

---

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

- (a) One (1) drying circuit constructed in 1988 and consisting of the following units:
  - (1) One (1) natural gas-fired rotary dryer, identified as DR-01, with a maximum heat input capacity of 12.6 MMBtu per hour and a maximum olivine throughput of 20 tons per hour. **The dryer was manufactured prior to 1986 and installed at this location in 1988.**

- (2) One (1) belt conveyor, identified as BC-09, with a maximum throughput capacity of 3 tons of olivine per hour.
- (3) One (1) de-duster drum, identified as DD-01, with a maximum capacity of 3 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-01. DC-01 has a grain loading of 0.0166 grains/actual standard cubic feet, an air flow rate of 9,300 actual cubic feet per minute, and an actual collection efficiency of 99%.

3. The insignificant emission units listed under paragraph (I) in Condition A.3 are subject to the provisions of 326 IAC 6.5-1-2 and should have been listed in Section D.1. The following changes have been made to Section D.1 to correct this omission.

#### **SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS**

**Facility Description [326 IAC 2-8-4(10)]:**

- (a) One (1) drying circuit ...

**Insignificant Activities:**

- (I) **Activities with emissions equal to or less than 5 pounds per hour of particulate matter:**
  - (1) Two (2) loadout spouts, identified as LS-04 and LS-05, each having a maximum capacity of 60 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (2) One (1) plant feed hopper, identified as HO-01, with a maximum capacity of 20 tons of olivine. [326 IAC 6.5-1-2]
  - (3) Four (4) waste totes, identified as HO-02, HO-03, HO-04, and HO-05, each with a maximum capacity of 1 ton. [326 IAC 6.5-1-2]
  - (4) One (1) coarse truck loadout/sack, identified as LS-02/BA-12, with a maximum capacity of 60 tons per hour. [326 IAC 6.5-1-2]
  - (5) Two (2) coarse sack baggers, identified as BA-14 and BA-15, having a maximum capacity of 25 and 9 tons per hour, respectively. [326 IAC 6.5-1-2]
  - (6) One (1) feeder conveyor and one (1) belt conveyor, identified as FE-01 and BC-01, respectively, each having a maximum capacity of 20 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (7) One (1) storage bin, identified as BN-09, having a maximum capacity of 10 tons of olivine per hour. [326 IAC 6.5-1-2]

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

**Appendix A: Emission Calculations**  
**12.6 MMBtu/hr Rotary Dryer**  
**Natural Gas Combustion Only**  
**MMBTU/HR<100**  
**Dryer**

Company Name: Unimin Corporation  
 Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001  
 CP: 029-15387  
 Plt ID: 029-00022  
 Reviewer: ERG/AAB  
 Date: October 2, 2007

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
12.6	108

	Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NO <sub>x</sub>	VOC	CO	HAPS
	1.9	7.6	0.6	100.0	5.5	84.0	1.89
				**see below			
Potential to Emit in tons/yr	0.10	0.41	0.03	5.41	0.30	4.54	0.10

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 7/98)

\*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

\*\*Emission Factors for NO<sub>x</sub>: Uncontrolled = 100, Low NO<sub>x</sub> Burner = 50, Low NO<sub>x</sub> Burners/Flue gas recirculation = 32

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF - 1,000,000 Cubic Feet of Gas

**Methodology**

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) x 1 ton/2,000 lbs

Appendix A: Emission Calculations

Dryer Circuit  
 Company Name: Unimin Corporation  
 Address City IN Zip: 137 Franklin Street, Aurora, Indiana  
 CP: 029-15387  
 Plt ID: 029-00022  
 Reviewer: ERG/AAB  
 Date: October 2, 2007

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	Controlled PM Emissions* (tons/yr)	PTE PM-10 (tons/yr)	Controlled PM-10 Emissions* (tons/yr)
<b>DR-01</b> Rotary Dryer**	20	2	2	175	1.75	175	1.75
<b>BC-09 (inactive)</b> DD-01 Discharge*	3	0.003	0.0011	0.04	0.04	0.01	0.02
<b>DD-01 (inactive)</b> De-duster drum*	3	0.003	0.0011	0.04	0.04	0.01	0.02
<b>Total</b>				175	1.83	175	1.79

\* The rotary dryer is equipped with a baghouse for particulate emissions, which has a control efficiency of 99%.

AP-42 Emission Factor References

\* - Conveyor Transfer Point, Table 11.19.2-2 (8/04)

\*\* - Sand Dryer, Table 11.19.1-1 (11/95)

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Controlled PM/PM-10 Emissions (tons/yr) = Uncontrolled PTE PM/PM-10 (tons/yr) \* (1-Control Efficiency %)

Appendix A: Emission Calculations  
 Screening and Intermediate Storage Circuit  
 Company Name: Unimin Corporation  
 Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001  
 CP: 029-15387  
 Plt ID: 029-00022  
 Reviewer: ERG/AAB  
 Date: October 2, 2007

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BC-02</b> Dryer Discharge Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BC-03</b> CR-01 Discharge Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BC-04</b> BC-11 Discharge Conveyor <sup>a</sup>	10	0.003	0.0011	0.13	0.05
<b>BC-05</b> Belt Conveyor <sup>a</sup>	15	0.003	0.0011	0.20	0.07
<b>BC-06</b> BN-10 Discharge Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BC-11</b> Belt Conveyor <sup>a</sup>	10	0.003	0.0011	0.13	0.05
<b>BE-01</b> Elevator Feed to VS-01, -02 <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BE-03</b> Elevator Feed to Fractionator <sup>a</sup>	15	0.003	0.0011	0.20	0.07
<b>BE-04</b> BA-03 Feed Conveyor <sup>a</sup>	5	0.003	0.0011	0.07	0.02
<b>BE-07 (inactive)</b> Elevator Feed to BC-04 <sup>a</sup>	60	0.003	0.0011	0.79	0.29
<b>BN-10</b> -16 Storage Bin <sup>b</sup>	13	0.02	0.0024	1.14	0.14
<b>BN-11</b> 3x20 Storage Bin <sup>b</sup>	10	0.02	0.0024	0.88	0.11
<b>VS-01</b> Vibratory Screen <sup>c</sup>	20	0.30	0.072	26.28	6.31
<b>VS-02</b> Vibratory Screen <sup>c</sup>	20	0.30	0.072	26.28	6.31
<b>CR-01</b> Oversize Crusher <sup>d</sup>	20	0.0054	0.0024	0.47	0.21
<b>BA-05</b> Coarse Paper Bagging <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>Total</b>				<b>58.0</b>	<b>14.1</b>

**Notes:**

- AP-42 Emission Factor References:  
 a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)  
 b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25  
 c - Fines Screening, Table 11.19.2-2 (8/04)  
 d - Tertiary Crushing, Table 11.19.2-2 (8/04)

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Appendix A: Emission Calculations

Sand Sizing Circuit

Company Name: Unimin Corporation

Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001

CP: 029-15387

Plt ID: 029-00022

Reviewer: ERG/AAB

Date: October 2, 2007

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BE-02</b> Elevator Feed to Kice <sup>a</sup>	15	0.003	0.0011	0.20	0.07
<b>BN-08</b> DC-03 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-12</b> DC-03 Drop Out Bin <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>Total</b>				1.60	0.24

**Notes:**

AP-42 Emission Factor References:

a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)

b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BC-07</b>					
Feed to BE-05 Conveyor <sup>a</sup>	60	0.003	0.0011	0.79	0.29
<b>BC-08</b>					
Feed to Bag Bins <sup>a</sup>	30	0.003	0.0011	0.39	0.14
<b>BC-12</b>					
Feed to VS-05 <sup>a</sup>	10	0.003	0.0011	0.13	0.05
<b>BC-13</b>					
Feed to Bagging or BE-07 <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BE-05</b>					
Elevator Feed to Loadout <sup>a</sup>	60	0.003	0.0011	0.79	0.29
<b>BE-06 (inactive)</b>					
De-dust Elevator <sup>a</sup>	3	0.003	0.0011	0.04	0.01
<b>BE-08</b>					
Elevator Feed to BN-15 <sup>a</sup>	40	0.003	0.0011	0.53	0.19
<b>BN-01</b>					
4x10 Storage Bin <sup>b</sup>	10	0.02	0.0024	0.88	0.11
<b>BN-02</b>					
70 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-03</b>					
10x8 Storage Bin <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>BN-04</b>					
Free Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-05</b>					
30 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-06</b>					
120 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-07</b>					
200 DC-01 Discharge Bin <sup>b</sup>	1	0.02	0.0024	0.09	0.01
<b>BN-14</b>					
Bulk Loadout Bin <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>BN-15</b>					
Bulk Bin from BE-09	40	0.02	0.0024	3.50	0.42
<b>BN-16</b>					
Bulk Bin from BE-05 <sup>b</sup>	40	0.02	0.0024	3.50	0.42
<b>SB-01</b>					
BA-02 Bagger Bin <sup>b</sup>	30	0.02	0.0024	2.63	0.32
<b>SB-02</b>					
BA-02 Bagger Bin <sup>b</sup>	30	0.02	0.0024	2.63	0.32
<b>LS-01</b>					
Truck Loadout <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>LS-03</b>					
Flour Truck Loadout <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>BA-01/BA-11</b>					
Paper Bags/Sack from SB-	9	0.02	0.0024	0.79	0.09
<b>BA-02</b>					
Paper Bagger from SB-02 <sup>b</sup>	9	0.02	0.0024	0.79	0.09
<b>VS-04</b>					
Vibratory Screen <sup>c</sup>	9	0.30	0.072	11.8	2.84
<b>VS-05</b>					
Vibratory Screen <sup>c</sup>	10	0.30	0.072	13.1	3.15
			<b>Total</b>	57.9	10.7

**Notes:**

AP-42 Emission Factor References:

- a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)
- b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25
- c - Fines Screening, Table 11.19.2-2 (8/04)

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Appendix A: Emission Calculations

Fines Circuit

Company Name: Unimin Corporation

Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001

CP: 029-15387

Plt ID: 029-00022

Reviewer: ERG/AAB

Date: October 2, 2007

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BN-13</b> Feed to BA-05 Bulk Bagging	5	0.02	0.0024	0.44	0.05
<b>BA-03/BA-13</b> #200 Flour Paper/Sack	5	0.02	0.0024	0.44	0.05
<b>Total</b>				0.88	0.11

AP-42 Emission Factor Reference:

Bulk Loading (SCC 3-05-025-06), Fire Version 6.25

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Appendix A: Emission Calculations

Uncontrolled Emission Units

Company Name: Unimin Corporation

Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001

CP: 029-15387

Plt ID: 029-00022

Reviewer: ERG/AAB

Date: October 2, 2007

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>HO-01</b>					
Plant Feed Hopper <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>HO-02</b>					
DC-02 Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>HO-03</b>					
DC-02 Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>HO-04</b>					
VS o/s Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>HO-05</b>					
FR-01 Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>LS-02/BA-12</b>					
Coarse Truck Loadout/Sack <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>LS-04</b>					
Truck Loadout from BN-15 <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>LS-05</b>					
Truck Loadout from BN-16 <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>BA-14</b>					
3x20 Coarse Sack <sup>b</sup>	25	0.02	0.0024	2.19	0.26
<b>BA-15</b>					
Finished Coarse Sack Bagger <sup>b</sup>	9	0.02	0.0024	0.79	0.09
<b>BC-01</b>					
Dryer Feed Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BN-09</b>					
3/8 Storage Bin <sup>b</sup>	10	0.02	0.0024	0.88	0.11
<b>FE-01</b>					
Dryer Feed Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
			<b>Total</b>	20.5	2.66

**Notes:**

AP-42 Emission Factor References:

a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)

b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations****Summary Table**

Company Name: Unimin Corporation  
 Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001  
 CP: 029-15387  
 Plt ID: 029-00022  
 Reviewer: ERG/AAB  
 Date: October 2, 2007

## Potential Emissions in Tons/Year

	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Dryer Combustion	0.10	0.41	0.03	5.41	0.30	4.54
Drying Circuit (including DR-01, BC-09, and DD-01)	175	175	-----	-----	-----	-----
Screening and Storage Circuit	58.0	14.1	-----	-----	-----	-----
Bagging and Bulk Loadout Circuit	57.9	10.7	-----	-----	-----	-----
Fines Circuit	0.88	0.11	-----	-----	-----	-----
Sand Sizing Circuit	1.60	0.24	-----	-----	-----	-----
Uncontrolled emission units	20.5	2.66				
<b>Total</b>	<b>314</b>	<b>203</b>	<b>-----</b>	<b>5.41</b>	<b>0.30</b>	<b>4.54</b>

## Controlled Emissions in Tons/Year

	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Dryer Combustion	0.10	0.41	0.03	5.41	0.30	4.54
Drying Circuit	1.83	1.79	-----	-----	-----	-----
Screening and Storage Circuit	5.8E-01	1.4E-01	-----	-----	-----	-----
Bagging and Bulk Loadout Circuit	5.8E-01	1.1E-01	-----	-----	-----	-----
Fines Circuit	8.8E-03	1.1E-03	-----	-----	-----	-----
Sand Sizing Circuit	1.6E-02	2.4E-03	-----	-----	-----	-----
Uncontrolled emission units	20.5	2.66				
<b>Total</b>	<b>23.52</b>	<b>5.11</b>	<b>0.03</b>	<b>5.41</b>	<b>0.30</b>	<b>4.54</b>

**Notes:** The controlled emissions were calculated using a 99% control efficiency for the baghouses.

## Limited PTE in Tons/Year

	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Dryer Combustion	0.58	0.14	-----	-----	-----	-----
Drying Circuit	13.10	13.10	-----	-----	-----	-----
Screening and Storage Circuit	12.0	12.0	-----	0.0	0.0	0.0
Bagging and Bulk Loadout Circuit	1.62	1.62	-----	-----	-----	-----
Fines Circuit	1.62	1.62	0.0	5.4	0.3	4.5
Sand Sizing Circuit	2.19	2.19	0.00	0.00	0.00	0.00
Uncontrolled emission units	20.5	2.66				
<b>Total</b>	<b>52</b>	<b>33.3</b>	<b>0.03</b>	<b>5.41</b>	<b>0.30</b>	<b>4.54</b>

**Notes:** Limited emissions based on 326 IAC 2-2 and 326 IAC 2-8 emission limits included in the FESOP.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP)

#### Source Background and Description

Source Name: Unimin Corporation  
Source Location: 137 Franklin Street, Aurora, Indiana 47001  
County: Dearborn  
SIC Code: 3295  
Operation Permit No.: F029-15387-00022  
Permit Reviewer: ERG/AAB

The Office of Air Quality (OAQ) has reviewed a FESOP application from Unimin Corporation relating to an olivine processing facility.

#### Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) drying circuit constructed in 1988 and consisting of the following units:
- (1) One (1) natural gas-fired rotary dryer, identified as DR-01, with a maximum heat input capacity of 12.6 MMBtu per hour and a maximum olivine throughput of 20 tons per hour.
  - (2) One (1) belt conveyor, identified as BC-09, with a maximum throughput capacity of 3 tons of olivine per hour.
  - (3) One (1) de-duster drum, identified as DD-01, with a maximum capacity of 3 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-01. DC-01 has a grain loading of 0.0166 grains/actual standard cubic feet, an air flow rate of 9,300 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (b) One (1) screening and intermediate storage circuit constructed in 1988 and consisting of the following units:
- (1) One (1) crusher, identified as CR-01, with a maximum capacity of 20 tons of olivine per hour.
  - (2) Six (6) belt conveyors, identified as BC-02, BC-03, BC-04, BC-05, BC-06, and BC-11. BC-02, BC-03 and BC-06 each have a maximum capacity of 20 tons of olivine per hour. BC-04 and BC-11 each have a maximum capacity of 10 tons of olivine per hour. BC-05 has a maximum capacity of 15 tons of olivine per hour.
  - (3) Four (4) bucket elevators, identified as BE-01, BE-03, BE-04, and BE-07, having a maximum capacity of 20, 15, 5, and 8 tons of olivine per hour, respectively.

- (4) Two (2) storage bins, identified as BN-10 and BN-11, with a maximum capacity of 13 and 10 tons of olivine, respectively.
- (5) Two (2) vibratory screens, identified as VS-01 and VS-02, each with a maximum capacity of 20 tons of olivine per hour.
- (6) One (1) coarse paper bagging unit, identified as BA-05, with a maximum capacity of 5 tons per hour.

BN-10 and BC-05 are controlled by dust collector DC-06. DC-06 has an outlet grain loading of 0.02 grains per dry standard cubic foot and an air flow rate of 1,500 cubic feet per minute. All other units are controlled by baghouse DC-02, which has a grain loading of 0.0137 grains/actual standard cubic feet, an air flow rate of 9,700 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (c) One (1) sand sizing circuit constructed in 1988 and consisting of the following units:
  - (1) One (1) elevator, identified as BE-02, with a maximum capacity of 15 tons of sand per hour.
  - (2) One (1) storage bin, identified as BN-08, with a maximum capacity of 11 tons of sand.
  - (3) One (1) drop out bin, identified as BN-12, with a maximum capacity of 5 tons of sand.

These units are controlled by one (1) baghouse, identified as DC-03. DC-03 has an air flow rate of 3,500 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (d) One (1) bagging and bulk loadout process constructed in 1988 and consisting of the following units:
  - (1) Four (4) belt conveyors, identified as BC-07, BC-08, BC-12, and BC-13, having a maximum capacity of 60, 30, 10 and 20 tons of olivine per hour, respectively.
  - (2) Three (3) bucket elevators, identified as BE-05, BE-06, and BE-08 with a maximum capacity of 60, 3, and 40 tons of olivine per hour, respectively.
  - (3) Ten (10) storage bins, identified as BN-01, BN-02, BN-03, BN-04, BN-05, BN-06, BN-07, BN-14, BN-15 (constructed in 2003) and BN-16. Storage bins BN-02, BN-04, BN-05, and BN-06 each have a maximum capacity of 11 tons of olivine per hour. Storage bins BN-14, BN-15 and BN16 each have a maximum capacity of 40 tons of olivine per hour. Storage bins BN-01, BN-03, and BN-07 have a maximum capacity of 10, 5, and 1 tons of olivine per hour, respectively.
  - (4) Two (2) bagger surge bins, identified as SB-01 and SB-02, each with a maximum capacity of 30 tons of olivine per hour.
  - (5) Two (2) truck loadouts, identified as LS-01 and LS-03, with a maximum capacity of 60 tons of olivine per hour and 5 tons of flour per hour, respectively.
  - (6) One (1) paper/bulk sack bagger and one (1) paper bagger, identified BA-01/BA-11 and BA-02 respectively, each with a maximum capacity of 9 tons per hour.
  - (7) Two (2) vibratory screens, identified as VS-04 and VS-05, having a maximum capacity of 9 and 10 tons per hour of olivine, respectively.

These units are controlled by one (1) baghouse, identified as DC-04. DC-04 has an air flow rate of 1,200 actual cubic feet per minute, and an actual collection efficiency of 99%.

- (e) One (1) fines circuit constructed in 1988 and consisting of the following units:
- (1) One (1) bin, identified as BN-13, with a maximum capacity of 5 tons of olivine per hour.
  - (2) One paper/bulk sack bagger, identified as BA-03/BA-13, with a maximum capacity of 5 tons of olivine per hour.

These units are controlled by one (1) baghouse, identified as DC-05. DC-05 has an air flow rate of 750 actual cubic feet per minute, and an actual collection efficiency of 99%.

### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

### **New Emission Units and Pollution Control Equipment Receiving Advance Source Modification**

There are no new emission units or pollution control equipment requiring advance source modification.

### **Insignificant Activities**

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) One (1) natural gas-fired space heater with a maximum heat input capacity of 0.35 MMBtu per hour.
- (b) Combustion source flame used for safety purging on startup.
- (c) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (d) Cleaners and solvents characterized as follows:
  - (1) having a vapor pressure equal to or less than 2 kPa; 15 mmHg; or 0.3 psi measured at 38 degrees C; or
  - (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mmHg; or 0.1 psi measured at 20 degrees C,

the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months. [326 IAC 8-3-2]

- (e) Maintenance activities including: grinding machine, brazing equipment, cutting torches, and welding equipment.
- (f) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (g) Paved and unpaved roads and parking lots with public access [326 IAC 6-5]
- (h) Air dryer blowdown.
- (i) One (1) emergency portable gasoline pump.

- (j) One (1) compressor dryer.
- (k) One (1) dry screening quality control laboratory.
- (l) Activities with emissions equal to or less than 5 pounds per hour of particulate matter:
  - (1) Two (2) loadout spouts, identified as LS-04 and LS-05, each having a maximum capacity of 60 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (2) One (1) plant feed hopper, identified as HO-01, with a maximum capacity of 20 tons of olivine. [326 IAC 6.5-1-2]
  - (3) Four (4) waste totes, identified as HO-02, HO-03, HO-04, and HO-05, each with a maximum capacity of 1 ton. [326 IAC 6.5-1-2]
  - (4) One (1) coarse truck loadout/sack, identified as LS-02/BA-12, with a maximum capacity of 60 tons per hour. [326 IAC 6.5-1-2]
  - (5) Two (2) coarse sack baggers, identified as BA-14 and BA-15, having a maximum capacity of 25 and 9 tons per hour, respectively. [326 IAC 6.5-1-2]
  - (6) One (1) feeder conveyor and one (1) belt conveyor, identified as FE-01 and BC-01, respectively, each having a maximum capacity of 20 tons of olivine per hour. [326 IAC 6.5-1-2]
  - (7) One (1) storage bin, identified as BN-09, having a maximum capacity of 10 tons of olivine per hour. [326 IAC 6.5-1-2]
- (m) One (1) diesel storage tank, with a maximum capacity of 300 gallons, constructed in 2003.

### Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) PC (15) 1718, issued on November 7, 1988;
- (b) OP 015-11-92-0141, issued on December 19, 1988;
- (c) PC (15) 1839, issued on May 7, 1990;
- (d) Administrative Amendment 029-6639-00022, issued on October 4, 1996;
- (e) Registration 029-6221-00022, issued on August 26, 1996;
- (f) Exemption 029-8656-00022, issued on March 24, 1998;
- (g) Administrative Amendment 029-6251-00022 (Transfer of Ownership), issued on February 3, 1999;
- (h) Notice-Only Change (029-10888) to Registration 029-6221-00022, issued on May 19, 1999;
- (i) Response to Review Request 029-11965-00022, issued on March 29, 2000;
- (j) Registration 029-11736-00022, issued on March 30, 2000;

- (k) Notice-Only Change (029-12232) to Registration 029-11736-00022, issued on May 31, 2000; and
- (l) Second Notice-Only Change (029-14417) to Registration 029-11736-00022, issued on June 27, 2001.

All conditions from previous approvals were incorporated into this FESOP.

### Enforcement Issue

- (a) IDEM is aware that the source failed to submit a timely Title V permit application prior to December 14, 1996.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the Title V permit rules.

### Recommendation

The staff recommends to the Commissioner that the FESOP be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete FESOP application for the purposes of this review was received on January 14, 2002. Additional information was received on March 8, 2002, April 26, 2002, May 7, 2002, June 4, 2002, November 25, 2002, and September 9, 2004.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 8).

### Potential To Emit for the Source

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	295
PM-10	201
SO <sub>2</sub>	0.03
VOC	0.3
CO	4.54
NOx	5.41
Total HAPs	Negligible

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM-10 is greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

- (b) Pursuant to 326 IAC 2-8, this source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict PTE to below Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP).
- (c) Fugitive Emissions  
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

**Potential to Emit After Issuance**

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Federally Enforceable State Operating Permit.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Drying Circuit	1.93	2.2	0.03	0.30	4.54	5.41	Negligible
Screening & Storage Circuit	57.4	13.8	0	0	0	0	0
Bagging & Bulk Loadout Circuit	59.1	11.0	0	0	0	0	0
Sand Sizing Circuit	1.6	0.24	0	0	0	0	0
Fines Circuit	0.88	0.11	0	0	0	0	0
Insignificant Activities	19.1	2.37	0	Less than 5	0	0	0
Total Emissions	140	29.5	0.03	Less than 5.3	4.54	5.41	Negligible

**County Attainment Status**

The source is located in Dearborn County.

Pollutant	Status
PM-10	Attainment
PM-2.5	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

**Note:** On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

- (a) The part of Dearborn County in which this source is located has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions.

Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability - Entire Source section.

- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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 emissions and NOx are considered when evaluating the rule applicability relating to ozone. The part of Dearborn County in which this source is located has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section.
- (c) Dearborn County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section.

### **Federal Rule Applicability**

- (a) The requirements of the New Source Performance Standard, 40 CFR 60, Subpart OOO (Nonmetallic Mineral Processing Plants) (326 IAC 12) are not included in this FESOP. This source processes the mineral olivine, which is a magnesium iron silicate having the chemical formula  $(Mg, Fe)_2SiO_4$ . This mineral does not meet the definition of a nonmetallic mineral provided in 40 CFR 60.671.
- (b) The requirements of the New Source Performance Standard, 40 CFR 60, Subpart LL (Standards of Performance for Metallic Mineral Processing Plants) (326 IAC 12) are not included in this FESOP. This plant does not meet the definition of a metallic mineral processing plant and olivine does not meet the definition of metallic concentrate provided in 40 CFR 60.381. Although olivine contains iron, the process is concentrating the olivine but is not concentrating iron in olivine to increase the commercial value for iron.
- (c) The requirements of the New Source Performance Standards, 40 CFR 60, Subpart K, Ka, and Kb (326 IAC 12) are not included in this FESOP. The diesel storage tank has a capacity of 300 gallons, which is less than the applicability thresholds for these NSPS.
- (d) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit for this source.
- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 61 and 63, and 326 IAC 14 and 20) included in this permit for this source.

### **State Rule Applicability - Entire Source**

#### **326 IAC 2-6 (Emission Reporting)**

This source is located in Dearborn County, is not required to operate under a Part 70 permit, and does not have lead emissions of five (5) tons per year. Therefore, only the additional information request provisions in 326 IAC 2-6-5 apply to this source.

#### **326 IAC 5-1 (Opacity Limitations)**

The source is not located in Lawrenceburg Township. 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:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4. [This source is not located in Lawrenceburg Township.]

- (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.

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to 326 IAC 6-4, the source shall not generate fugitive dust to the extent that some portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

326 IAC 6-5 (Fugitive Particulate Emission Limitations)

This source was constructed after December 13, 1985 and is a source of fugitive particulate emissions. Therefore they are subject to 326 IAC 6-5. The fugitive particulate matter emissions shall be controlled according to the following plan:

- (a) All travel surfaces within the plant are paved. These paved roads shall either be swept or sprayed with a suitable and effective dust suppressant as needed and at least daily (unless there has been measurable rainfall during the last 24 hours). The Permittee shall keep records of the sweeping/spraying, stating when the sweeping/spraying was conducted and who the individual was that conducted it.
- (b) All bulk materials shall be stored within three-sided buildings on paved pads and under tarps when not in use.
- (c) General good housekeeping practices shall be followed throughout the plant, with particular attention paid to cleaning the area around the perimeter of the aggregate piles.
- (d) Fugitive particulate matter emissions resulting from outdoor conveying of aggregate material such as, but not limited to, sand, gravel, stone, grain, and coal, by equipment such as belt conveyors and bucket elevators shall be controlled. The Permittee shall apply water or suitable and effective chemical dust suppressant at the feed and/or intermediate points as needed to minimize visible emissions.
- (e) Fugitive particulate matter emissions resulting from transportation of aggregate material by truck, front end loaders, or similar vehicles shall be controlled. The Permittee shall either tarp the vehicle or spray the materials in the vehicle with a suitable and effective dust suppressant as needed.
- (f) Fugitive particulate matter emissions resulting from the loading and unloading operations of the material from storage facilities such as bins, hoppers, and silos, onto or out of vehicles, shall be controlled. The Permittee shall enclose the material loading/unloading area.

326 IAC 2-2 (Prevention of Significant Deterioration)

This source was construction in the 1980s, is not one of the 28 listed source categories, and has the potential to emit before controls greater than 250 tons per year of PM. However, the source installed baghouses on each of the emissions units at this source. Therefore, the actual PM and PM10 emissions have always been less than the 250 ton per year PSD major source threshold. In order to make these control devices practically enforceable, IDEM, OAQ has included the following PM limits in this permit:

In order to render the requirements of 326 IAC 2-2 not applicable, the emissions of PM shall be limited as follows:

Facility	Baghouse	PM Emission Limit (lbs/hour)
Drying Circuit	BC-01	0.42
Screening and Intermediate Storage Circuit	DC-02	12.8
	DC-06	0.306
Sand Sizing Circuit	DC-03	0.365
Bagging and Bulk Loadout	DC-04	13.5
Fines Circuit	DC-05	0.201

Compliance with these limitations ensures that the PM emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period and makes the source minor for 326 IAC 2-2 (Prevention of Significant Deterioration).

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this olivine crushing, screening, and conveying facility emits less than 10 tons per year of a single HAP and less than 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-8-4 (FESOP)

The potential to emit PM10 before controls is greater than 100 tons per year. The source has elected to limit the PM10 emissions to less than 100 tons per year, thereby making the requirements of 326 IAC 2-7 (Part 70 Permit Program) not applicable.

Pursuant to 326 IAC 2-8-4, the emissions of PM-10 shall be limited as follows:

Facility	Baghouse	PM10 Emission Limit (lbs/hour)
Drying Circuit	BC-01	0.41
Screening and Intermediate Storage Circuit	DC-02	3.1
	DC-06	0.048
Sand Sizing Circuit	DC-03	0.055
Bagging and Bulk Loadout	DC-04	2.51
Fines Circuit	DC-05	0.025

Compliance with these limitations ensures that the PM10 emissions from the entire source do not exceed 100 tons per twelve (12) consecutive month period and makes 326 IAC 2-7 (Part 70 Permit Program) not applicable.

326 IAC 6.5-3 (Dearborn County Particulate Matter Emission Limitations)

This source is not one of the sources listed in 326 IAC 6.5-3; therefore, this source is not subject to 326 IAC 6.5-3.

326 IAC 6.5-1-2 (Particulate Emission Limitations)

This source is subject to the requirements of 326 IAC 6.5-1-2 because it is located in Dearborn County and has potential emissions greater than 100 tons per year and actual emissions greater than 10 tons per year.

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Emission Limitations), the particulate matter emissions from each emission unit at this source, including the insignificant activities, shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (gr/dscf)).

#### 326 IAC 6-3-2 (Particulate Emission Limitations)

This source is subject to 326 IAC 6.5-1-2(a). Pursuant to 326 IAC 6-3-1(c)(3), 326 IAC 6-3-2 does not apply if the facility is subject to a more stringent particulate emission limitation under 326 IAC 6.5.

### **State Rule Applicability - Solvent Degreasing Operations**

#### 326 IAC 8-3 (Organic Solvent Degreasing Operations)

The degreasing operations were built after January 1, 1980 but prior to July 1, 1990. Therefore, only the provisions of 326 IAC 8-3-2 apply to the degreasing operations.

### **Testing Requirements**

Within 180 days of issuance of this permit, the Permittee shall perform PM and PM10 testing of the baghouses controlling emissions from the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit using methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing.

These stack tests are required to document compliance with 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (PSD).

### **Compliance Requirements**

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

The drying circuit, screening process and intermediate storage circuit, bagging and bulk loadout process, fines circuit, and the sand sizing circuit have applicable compliance monitoring conditions as specified below:

- (a) Visible emissions notations of the baghouse stack exhausts shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions

are normal or abnormal. 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. 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. 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. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

- (b) The Permittee shall record the pressure drop across the baghouses used in conjunction with the drying circuit, screening process and intermediate storage circuit, bagging and bulk loadout process, fines circuit, and the sand sizing circuit at least once per shift when the rotary dryer, crushing and screen process, bagging and bulk loadout process, and the sand system are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range 2.0 to 4.5 inches of water or the range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances shall be considered a deviation from this permit.

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.

- (c) 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. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (d) 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. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

- (e) In the event that bag failure is observed in a multi-compartment 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.
- (f) An inspection shall be performed each calendar quarter of all bags controlling the drying circuit, screening and intermediate storage circuit, sand sizing circuit, bagging and bulk loadout, and fines circuit. All defective bags shall be replaced.

These monitoring conditions are necessary because the baghouses for the drying circuit, screening process and intermediate storage circuit, bagging and bulk loadout process, fines

circuit, and the sand sizing circuit must operate properly to ensure compliance with 326 IAC 6.5-1-2(a) (Particulate Emission Limitations), 326 IAC 2-8 (FESOP), and 326 IAC 2-2 (PSD).

Note that IDEM, OAQ has included requirements to conduct visible emission notations and pressure drop readings once per shift and quarterly baghouse inspections. Although the monitoring requirements are more frequent than typically required, IDEM believes these requirements are necessary because this source has a history of leaking baghouses due to poor maintenance.

## **Conclusion**

The operation of this olivine processing facility shall be subject to the conditions of FESOP F029-15387-00022.

**Appendix A: Emission Calculations**  
**12.6 MMBtu/hr Rotary Dryer**  
**Natural Gas Combustion Only**  
**MMBTU/HR<100**  
**Dryer**

Company Name: Unimin Corporation  
 Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001  
 CP: 029-15387  
 Plt ID: 029-00022  
 Reviewer: ERG/AAB  
 Date: November 15, 2006

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
12.6	108

	Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NO <sub>x</sub>	VOC	CO	HAPS
	1.9	7.6	0.6	100.0	5.5	84.0	1.89
				**see below			
Potential to Emit in tons/yr	0.10	0.41	0.03	5.41	0.30	4.54	0.10

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 7/98)

\*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

\*\*Emission Factors for NO<sub>x</sub>: Uncontrolled = 100, Low NO<sub>x</sub> Burner = 50, Low NO<sub>x</sub> Burners/Flue gas recirculation = 32

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF - 1,000,000 Cubic Feet of Gas

**Methodology**

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF) x 1 ton/2,000 lbs

Appendix A: Emission Calculations

Dryer Circuit

Company Name: Unimin Corporation

Address City IN Zip: 137 Franklin Street, Aurora, Indiana

CP: 029-15387

Plt ID: 029-00022

Reviewer: ERG/AAB

Date: November 15, 2006

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	Controlled PM Emissions* (tons/yr)	PTE PM-10 (tons/yr)	Controlled PM-10 Emissions* (tons/yr)
<b>DR-01</b> Rotary Dryer**	20	2	2	175	1.75	175	1.75
<b>BC-09 (inactive)</b> DD-01 Discharge*	3	0.003	0.0011	0.04	0.04	0.01	0.02
<b>DD-01 (inactive)</b> De-duster drum*	3	0.003	0.0011	0.04	0.04	0.01	0.02
<b>Total</b>				175	1.83	175	1.79

\* The rotary dryer is equipped with a baghouse for particulate emissions, which has a control efficiency of 99%.

AP-42 Emission Factor References

\* - Conveyor Transfer Point, Table 11.19.2-2 (8/04)

\*\* - Sand Dryer, Table 11.19.1-1 (11/95)

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Controlled PM/PM-10 Emissions (tons/yr) = Uncontrolled PTE PM/PM-10 (tons/yr) \* (1-Control Efficiency %)

Appendix A: Emission Calculations  
 Screening and Intermediate Storage Circuit  
 Company Name: Unimin Corporation  
 Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001  
 CP: 029-15387  
 Plt ID: 029-00022  
 Reviewer: ERG/AAB  
 Date: November 15, 2006

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BC-02</b> Dryer Discharge Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BC-03</b> CR-01 Discharge Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BC-04</b> BC-11 Discharge Conveyor <sup>a</sup>	10	0.003	0.0011	0.13	0.05
<b>BC-05</b> Belt Conveyor <sup>a</sup>	15	0.003	0.0011	0.20	0.07
<b>BC-06</b> BN-10 Discharge Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BC-11</b> Belt Conveyor <sup>a</sup>	10	0.003	0.0011	0.13	0.05
<b>BE-01</b> Elevator Feed to VS-01, -02 <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BE-03</b> Elevator Feed to Fractionator <sup>a</sup>	15	0.003	0.0011	0.20	0.07
<b>BE-04</b> BA-03 Feed Conveyor <sup>a</sup>	5	0.003	0.0011	0.07	0.02
<b>BE-07 (inactive)</b> Elevator Feed to BC-04 <sup>a</sup>	8	0.003	0.0011	0.11	0.04
<b>BN-10</b> -16 Storage Bin <sup>b</sup>	13	0.02	0.0024	1.14	0.14
<b>BN-11</b> 3x20 Storage Bin <sup>b</sup>	10	0.02	0.0024	0.88	0.11
<b>VS-01</b> Vibratory Screen <sup>c</sup>	20	0.30	0.072	26.28	6.31
<b>VS-02</b> Vibratory Screen <sup>c</sup>	20	0.30	0.072	26.28	6.31
<b>CR-01</b> Oversize Crusher <sup>d</sup>	20	0.0054	0.0024	0.47	0.21
<b>BA-05</b> Coarse Paper Bagging <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>Total</b>				<b>57.4</b>	<b>13.8</b>

**Notes:**

- AP-42 Emission Factor References:  
 a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)  
 b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25  
 c - Fines Screening, Table 11.19.2-2 (8/04)  
 d - Tertiary Crushing, Table 11.19.2-2 (8/04)

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Appendix A: Emission Calculations

Sand Sizing Circuit

Company Name: Unimin Corporation

Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001

CP: 029-15387

Plt ID: 029-00022

Reviewer: ERG/AAB

Date: November 15, 2006

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BE-02</b> Elevator Feed to Kice <sup>a</sup>	15	0.003	0.0011	0.20	0.07
<b>BN-08</b> DC-03 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-12</b> DC-03 Drop Out Bin <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>Total</b>				1.60	0.24

**Notes:**

AP-42 Emission Factor References:

a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)

b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BC-01</b>					
Dryer Feed Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BC-07</b>					
Feed to BE-05 Conveyor <sup>a</sup>	60	0.003	0.0011	0.79	0.29
<b>BC-08</b>					
Feed to Bag Bins <sup>a</sup>	30	0.003	0.0011	0.39	0.14
<b>BC-12</b>					
Feed to VS-05 <sup>a</sup>	10	0.003	0.0011	0.13	0.05
<b>BC-13</b>					
Feed to Bagging or BE-07 <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>BE-05</b>					
Elevator Feed to Loadout <sup>a</sup>	60	0.003	0.0011	0.79	0.29
<b>BE-06 (inactive)</b>					
De-dust Elevator <sup>a</sup>	3	0.003	0.0011	0.04	0.01
<b>BE-08</b>					
Elevator Feed to BN-15 <sup>a</sup>	40	0.003	0.0011	0.53	0.19
<b>BN-01</b>					
4x10 Storage Bin <sup>b</sup>	10	0.02	0.0024	0.88	0.11
<b>BN-02</b>					
70 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-03</b>					
10x8 Storage Bin <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>BN-04</b>					
Free Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-05</b>					
30 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-06</b>					
120 Storage Bin <sup>b</sup>	11	0.02	0.0024	0.96	0.12
<b>BN-07</b>					
200 DC-01 Discharge Bin <sup>b</sup>	1	0.02	0.0024	0.09	0.01
<b>BN-09</b>					
3/8 Storage Bin <sup>b</sup>	10	0.02	0.0024	0.88	0.11
<b>BN-14</b>					
Bulk Loadout Bin <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>BN-15</b>					
Bulk Bin from BE-09	40	0.02	0.0024	3.50	0.42
<b>BN-16</b>					
Bulk Bin from BE-05 <sup>b</sup>	40	0.02	0.0024	3.50	0.42
<b>SB-01</b>					
BA-02 Bagger Bin <sup>b</sup>	30	0.02	0.0024	2.63	0.32
<b>SB-02</b>					
BA-02 Bagger Bin <sup>b</sup>	30	0.02	0.0024	2.63	0.32
<b>LS-01</b>					
Truck Loadout <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>LS-03</b>					
Flour Truck Loadout <sup>b</sup>	5	0.02	0.0024	0.44	0.05
<b>BA-01/BA-11</b>					
Paper Bags/Sack from SB-01 <sup>b</sup>	9	0.02	0.0024	0.79	0.09
<b>BA-02</b>					
Paper Bagger from SB-02 <sup>b</sup>	9	0.02	0.0024	0.79	0.09
<b>FE-01</b>					
Dryer Feed Conveyor <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>VS-04</b>					
Vibratory Screen <sup>c</sup>	9	0.30	0.072	11.8	2.84
<b>VS-05</b>					
Vibratory Screen <sup>c</sup>	10	0.30	0.072	13.1	3.15
			<b>Total</b>	59.3	11.0

**Notes:**

AP-42 Emission Factor References:

a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)

b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25

c - Fines Screening, Table 11.19.2-2 (8/04)

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Appendix A: Emission Calculations

Fines Circuit

Company Name: Unimin Corporation

Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001

CP: 029-15387

Plt ID: 029-00022

Reviewer: ERG/AAB

Date: November 15, 2006

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>BN-13</b> Feed to BA-05 Bulk Bagging	5	0.02	0.0024	0.44	0.05
<b>BA-03/BA-13</b> #200 Flour Paper/Sack	5	0.02	0.0024	0.44	0.05
			<b>Total</b>	0.88	0.11

AP-42 Emission Factor Reference:

Bulk Loading (SCC 3-05-025-06), Fire Version 6.25

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

Appendix A: Emission Calculations

Fugitive Sources

Company Name: Unimin Corporation

Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001

CP: 029-15387

Plt ID: 029-00022

Reviewer: ERG/AAB

Date: November 15, 2006

Process Unit	Maximum Capacity (tons/hr)	PM Emission Factor (lb/ton)	PM-10 Emission Factor (lb/ton)	PTE PM (tons/yr)	PTE PM-10 (tons/yr)
<b>HO-01</b> Plant Feed Hopper <sup>a</sup>	20	0.003	0.0011	0.26	0.10
<b>HO-02</b> DC-02 Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>HO-03</b> DC-02 Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>HO-04</b> VS o/s Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>HO-05</b> FR-01 Waste Tote <sup>a</sup>	1	0.003	0.0011	0.01	0.00
<b>LS-02/BA-12</b> Coarse Truck Loadout/Sack <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>LS-04</b> Truck Loadout from BN-15 <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>LS-05</b> Truck Loadout from BN-16 <sup>b</sup>	60	0.02	0.0024	5.26	0.63
<b>BA-14</b> 3x20 Coarse Sack <sup>b</sup>	25	0.02	0.0024	2.19	0.26
<b>BA-15</b> Finished Coarse Sack Bagger <sup>b</sup>	9	0.02	0.0024	0.79	0.09
<b>Total</b>				19.1	2.37

**Notes:**

AP-42 Emission Factor References:

a - Conveyor Transfer Point, Table 11.19.2-2 (8/04)

b - Bulk Loading (SCC 3-05-025-06), Fire Version 6.25

**Methodology**

PTE PM/PM-10 (tons/yr) = Maximum Capacity (tons/hr) \* Emission Factor (lb/ton) \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emission Calculations****Summary Table**

Company Name: Unimin Corporation  
 Address City IN Zip: 137 Franklin Street, Aurora, Indiana 47001  
 CP: 029-15387  
 Plt ID: 029-00022  
 Reviewer: ERG/AAB  
 Date: November 15, 2006

Potential Emissions in Tons/Year

	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Dryer Combustion	0.10	0.41	0.03	5.41	0.30	4.54
Drying Circuit (including DR-01, BC-09, and DD-01)	175	175	-----	-----	-----	-----
Screening and Storage Circuit	57.4	13.8	-----	-----	-----	-----
Bagging and Bulk Loadout Circuit	59.3	11.0	-----	-----	-----	-----
Fines Circuit	0.88	0.11	-----	-----	-----	-----
Sand Sizing Circuit	1.60	0.24	-----	-----	-----	-----
<b>Total</b>	<b>295</b>	<b>201</b>	<b>-----</b>	<b>5.41</b>	<b>0.30</b>	<b>4.54</b>

Controlled Emissions in Tons/Year

	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Dryer Combustion	0.10	0.41	0.03	5.41	0.30	4.54
Drying Circuit	1.83	1.79	-----	-----	-----	-----
Screening and Storage Circuit	5.7E-01	1.4E-01	-----	-----	-----	-----
Bagging and Bulk Loadout Circuit	5.9E-01	1.1E-01	-----	-----	-----	-----
Fines Circuit	8.8E-03	1.1E-03	-----	-----	-----	-----
Sand Sizing Circuit	1.6E-02	2.4E-03	-----	-----	-----	-----
<b>Total</b>	<b>3.13</b>	<b>2.45</b>	<b>0.03</b>	<b>5.41</b>	<b>0.30</b>	<b>4.54</b>

**Notes:** The controlled emissions were calculated using a 99% control efficiency for the baghouses.

Limited PTE in Tons/Year

	PM	PM10	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
Dryer Combustion	0.57	0.14	-----	-----	-----	-----
Drying Circuit	1.83	1.79	-----	-----	-----	-----
Screening and Storage Circuit	57.4	13.8	-----	0.0	0.0	0.0
Bagging and Bulk Loadout Circuit	59.1	11.0	-----	-----	-----	-----
Fines Circuit	0.88	0.11	0.0	5.4	0.3	4.5
Sand Sizing Circuit	1.60	0.24	0.00	0.00	0.00	0.00
<b>Total</b>	<b>121</b>	<b>27.1</b>	<b>0.03</b>	<b>5.41</b>	<b>0.30</b>	<b>4.54</b>

**Notes:** Limited emissions based on 326 IAC 2-2 and 326 IAC 2-8 emission limits included in the FESOP.