

NEW SOURCE CONSTRUCTION PERMIT and SOURCE SPECIFIC OPERATING AGREEMENT (SSOA) OFFICE OF AIR MANAGEMENT

Blackwell Moore, Inc. (Portable)

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: SSOA 105-11879-05182	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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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 Management (OAM). 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 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a portable limestone crushing operation.

Authorized Individual: Carol Blackwell
Initial Source Address: 335 West Dillman Lane, Bloomington, Indiana 47403
Mailing Address: 335 West Dillman Lane, Bloomington, Indiana 47403
Phone Number: 812-824-7391
SIC Code: 1422
Initial County Location: Monroe
County Status: Attainment for all criteria pollutants
Source Status: Source Specific Operating Agreement
Minor Source, under PSD and Emission Offset Rules

A.2 Emissions units and Pollution Control Equipment Summary

This portable source is approved to construct and operate the following emissions units and pollution control devices:

- (a) one (1) jaw crusher, identified as unit A, with a maximum capacity to process 400 tons per hour of limestone;
- (b) two (2) radial stacking conveyors, identified as units B and E, each with a maximum throughput capacity of 400 tons per hour of limestone;
- (c) one (1) 2-deck scalping screen, identified as unit C, with a maximum throughput capacity of 400 tons per hour of limestone;
- (d) four (4) discharge conveyors, identified as units D, N, O, and P, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (e) four (4) stub and radial stacking conveyor pairs, identified as units F1 and F2, I1 and I2, J1 and J2, and L1 and L2, respectively, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (f) one (1) impactor crusher with 3 D screen, identified as unit G, with a maximum capacity to process 300 tons per hour of limestone;
- (g) one (1) discharge conveyor and one (1) stub conveyor, identified as units H1 and H2, respectively, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (h) two (2) radial stacking conveyors, identified as units K and M, each with a maximum throughput capacity of 300 tons per hour of limestone; and

- (i) one (1) portable three-deck scalping screen, identified as unit S1 and S2, with a maximum throughput capacity of 300 tons per hour of limestone.

A.3 SSOA Applicability [326 IAC 2-9-1]

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 Management (OAM) for a Source Specific Operating Agreement (SSOA).

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

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, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding Condition B.7, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Source Specific Operating Agreement Program [326 IAC 2-9]

This document shall also become a source specific operating agreement pursuant to 326 IAC 2-9-1 when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emissions units were constructed as proposed in the application. The emissions units covered in the New Source Construction Permit may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (d) The operating agreement will be subject to annual operating permit fees pursuant to 326 IAC 2-9-8 (Crushed stone processing plants).

B.7 NSPS Reporting Requirement

Pursuant to the New Source Performance Standards (NSPS), Part 60.670 - 60.676, Subpart OOO, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

- (a) Commencement of construction date (no later than 30 days after such date);
- (b) Actual start-up date (within 15 days after such date); and
- (c) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

The application and enforcement of these standards have been delegated to the IDEM OAM. The requirements of 40 CFR Part 60 are also federally enforceable.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 Source Status [326 IAC 2-2] [40 CFR 52.21][326 IAC 2-3][326 IAC 2-9]

Pursuant to 326 IAC 2-9-8(b)(2):

- (a) The source annual throughput shall be less than one million (1,000,000) tons per year.
- (b) This source shall not emit particulate matter in excess of or equal to twenty-five (25) tons per year excluding fugitive emissions.
- (c) The total source potential to emit fugitive and non-fugitive particulate matter is limited to less than 100 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 and the requirements of 326 IAC 2-3 (Emission Offset) will not apply.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (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;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 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 Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-7-6(2)]

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, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAM, shall issue a revised permit.

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

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 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 thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

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). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 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 plan submitted on February 10, 2000. The plan consists of:

- (a) Paved roads, unpaved roads and parking lots shall be controlled by spraying with water. The frequency of application shall be on an as needed basis.
- (b) Open aggregate piles consisting of crushed rock or other materials shall be controlled by spraying with water on an as needed basis.
- (c) Fugitive particulate matter emissions resulting from outdoor conveying of aggregate material by equipment such as belt conveyors shall be controlled by spraying with water on an as needed basis.
- (d) Fugitive particulate matter emissions resulting from the transferring of aggregate material, such as crushed rock, from drop points shall be controlled by spraying with water on an as needed basis.
- (e) Fugitive particulate matter emissions resulting from transportation of aggregate material, such as crushed rock, by truck or similar vehicles shall be controlled by maintaining the vehicle body in such condition that prevent leaks of aggregate material.
- (f) Fugitive particulate matter emissions resulting from loading and unloading of the material

from storage shall be controlled by spraying with water on an as needed basis to minimize visible emissions.

- (g) Fugitive particulate matter emissions resulting from material handling operations such as screening and mixing shall be controlled by spraying with water on an as needed basis.

"As needed basis" means the frequency of application necessary to minimize visible particulate matter emissions for the above control items.

- (h) Records shall be kept and maintained to document all control activities to be implemented in accordance with this control plan. Records shall be retained for 3 years and shall be available upon request by the commissioner.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. 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, OAM.

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 Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3]

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, or other approved methods as specified in this permit.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test

- (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 corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.
- (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, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.14 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.15 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

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- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
 - (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
 - (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
 - (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
 - (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
 - (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.16 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information 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 kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. 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 written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;

- (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "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 Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (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, OAM, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

- (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) 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.

Portable Source Requirement

C.18 Relocation of Portable Sources [326 IAC 2-14-4] [326 IAC 2-6.1-6(d)(2)]

- (a) This permit is approved for operation in all areas of Indiana except in severe nonattainment areas for ozone (at the time of this permit's issuance these areas are Lake and Porter Counties). This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2 and 40 CFR 52.21, and Emission Offset requirements in 326 IAC 2-3. A thirty (30) day advance notice of relocation must be given to IDEM, OAM, and a "Relocation Site Approval" letter must be obtained before relocating.
- (b) The Permittee shall also notify the applicable local air pollution control agency when relocating to, or from, one the following:
 - (1) Madison County - (Anderson Office of Air Management)
 - (2) City of Evansville plus four (4) miles beyond the corporate limits but not outside Vanderburgh County - (Evansville EPA)
 - (3) City of Gary - (Gary Division of Air Pollution)
 - (4) City of Hammond - (Hammond Department of Environmental Management)
 - (5) Marion County - (Indianapolis Air Pollution Control Agency)
 - (6) St. Joseph County - (St. Joseph County Health Department)
 - (7) Vigo County - (Vigo County Air Pollution Department)
- (c) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.
- (d) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (e) 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.
- (f) 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

Emissions Unit Description:

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

- (a) one (1) jaw crusher, identified as unit A, with a maximum capacity to process 400 tons per hour of limestone;
- (b) two (2) radial stacking conveyors, identified as units B and E, each with a maximum throughput capacity of 400 tons per hour of limestone;
- (c) one (1) 2-deck scalping screen, identified as unit C, with a maximum throughput capacity of 400 tons per hour of limestone;
- (d) four (4) discharge conveyors, identified as units D, N, O, and P, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (e) four (4) stub and radial stacking conveyor pairs, identified as units F1 and F2, I1 and I2, J1 and J2, and L1 and L2, respectively, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (f) one (1) impactor crusher with 3 D screen, identified as unit G, with a maximum capacity to process 300 tons per hour of limestone;
- (g) one (1) discharge conveyor and one (1) stub conveyor, identified as units H1 and H2, respectively, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (h) two (2) radial stacking conveyors, identified as units K and M, each with a maximum throughput capacity of 300 tons per hour of limestone; and
- (i) one (1) portable three-deck scalping screen, identified as unit S1 and S2, with a maximum throughput capacity of 300 tons per hour of limestone.

Emission Limitations and Standards

D.1.1 Annual Throughput [326 IAC 2-9-8]

Pursuant to 326 IAC 2-9-8 (Crushed stone processing plants), the source annual throughput shall be less than one million (1,000,000) tons per year.

D.1.2 Number of Facilities [326 IAC 2-9-8]

Pursuant to 326 IAC 2-9-8 (Crushed stone processing plants), the source shall have no more than six (6) crushers, thirteen (13) screens, and one (1) conveying operation.

D.1.3 Opacity [326 IAC 2-9-8] [326 IAC 12] [40 CFR 60.670, Subpart OOO]

Pursuant to 326 IAC 2-9-8 (Crushed stone processing plants) and New Source Performance Standards, 326 IAC 12 (40 CFR 60.670, Subpart OOO) "Standards of Performance for Nonmetallic Mineral Processing Plants visible emissions shall comply with the following standards:

- (a) The visible emissions from the screening and conveying operations shall not exceed an average of ten (10%) opacity in twenty-four (24) consecutive readings in a six (6) minute period. Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 9.
- (b) The visible emissions from the crushing operation shall not exceed an average of fifteen percent (15%) opacity in twenty-four (24) consecutive readings in a six (6) minute period. Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 9.
- (c) These limits will also satisfy the requirements of 326 IAC 5-1 (Opacity Limitations).

D.1.4 Opacity [326 IAC 2-9-8]

Fugitive particulate matter (PM) emissions shall be controlled by applying water on all storage piles and unpaved roadways on an "as needed" basis, such that the following visible emission conditions are met:

- (a) The visible emissions from any storage pile shall not exceed twenty percent (20%) in twenty-four (24) consecutive readings in a six (6) minute period. This limitation shall not apply during periods when application of control measures are ineffective or unreasonable due to sustained high wind speeds. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.
- (b) The visible emissions from unpaved roadways shall not exceed an average instantaneous opacity of twenty percent (20%). Average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:
 - (1) The first reading shall be taken at the time of emission generation.
 - (2) The second reading shall be taken five (5) seconds after the first.
 - (3) The third reading shall be taken five (5) seconds after the second reading, or ten (10) seconds after the first reading.

The three (3) readings shall be taken approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.

D.1.5 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the aggregate dropping, crushing, screening, conveying, and truck loading and unloading operations shall not exceed 66.31 pounds per hour when operating at a process weight rate of 800,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements

D.1.6 Dust Suppression for Crushing, Screening and Conveying Operations [326 IAC 2-9-8]

Pursuant to 326 IAC 2-9-8 (Crushed stone processing plants), the crushing, screening, and conveying operations shall be equipped with dust collectors, unless a wet or continuous wet suppression system is used to comply with conditions D.1.3 (a) and D.1.3 (b) of this operating agreement.

D.1.7 Particulate Matter [326 IAC 2-9-8]

Pursuant to 326 IAC 2-9-8 (Crushed stone processing plants), all equipment that generate particulate matter (PM) emissions and any associated control devices shall be operated and maintained at all times of plant operation, in such a manner as to meet all of the requirements of this Source Specific Operating Agreement.

D.1.8 Testing Requirements [326 IAC 3-6] [40 CFR 60.675(c), Subpart OOO]

Within 60 days after achieving the maximum production rate, but not later than 180 days after initial startup, the Permittee shall perform opacity testing on the crushing, screening, and conveying operations to determine compliance with the NSPS, Subpart OOO pursuant to 326 IAC 3-6, 40 CFR 60.675(c) and 40 CFR 60.11 utilizing Method 9 (40 CFR 60, Appendix A), or other methods as approved by the Commissioner. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance.

Record Keeping and Reporting Requirements

D.1.9 Record Keeping Requirements [326 IAC 2-9-8]

Pursuant to 326 IAC 2-9-8 (Crushed stone processing plants), the source shall keep annual throughput records of the crushed stone operation at the site on a calendar year basis. These records shall be maintained for a minimum period of five (5) years, and made available upon request of the Office of Air Management (OAM).

D.1.10 Annual Notice [326 IAC 2-9-8]

The source shall provide an annual notice to the commissioner stating that the source is in operation and certifying that its operations are in compliance with this Source Specific Operating Agreement. This report shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than January 30 of each year, in the format attached.

D.1.11 Reporting Requirements [326 IAC 2-9-8]

Any exceedance of any requirement contained in this operating agreement shall be reported, in writing, within one (1) week of its occurrence. Said report shall include information on the actions

taken to correct the exceedance, including measures to reduce emissions, in order to comply with the established limits. If an exceedance is the result of a malfunction, then the provisions of 326 IAC 1-6 apply.

Source Specific Operating Agreement Annual Notification
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This form should be used to comply with the notification requirements under 326 IAC 2-9.

Company Name:	Blackwell Moore, Inc.
Address:	335 West Dillman Lane
City:	Bloomington, Indiana 47403
Contact Person:	Carol Blackwell
Phone #:	812-824-7391
SSOA #:	S 105-11879-05182

I hereby certify that Blackwell Moore, Inc. is still in operation and is in compliance with the requirements of Source Specific Operating Agreement (SSOA) S 105-11879-05182.

Name (typed):
Title:
Signature:
Date:

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Blackwell Moore, Inc. PHONE NO. (812) 824-7391
LOCATION: (CITY AND COUNTY) Bloomington, Monroe County
PERMIT NO. S105-11879 AFS PLANT ID: 105-05182 AFS POINT ID: _____ INSP: Joe Foyst
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION:

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for a New Source Construction and Source Specific Operating Agreement

Source Name: Blackwell Moore, Inc.
Initial Source Location: 335 West Dillman Lane, Bloomington, Indiana 47403
Initial County: Monroe
Operation Permit No.: S 105-11879-05182
SIC Code: 1422
Permit Reviewer: Trish Earls/EVP

On March 30, 2000, the Office of Air Management (OAM) had a notice published in The Herald Time, Bloomington, Indiana, stating that Blackwell Moore, Inc. had applied for a Source Specific Operating Agreement (SSOA) to operate a portable limestone crushing operation. The notice also stated that OAM proposed to issue a permit for this installation 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 24, 2000, a letter containing comments on the proposed SSOA was received from Dennis and Susan Knapczyk, the owners of a neighboring tree farm. The summary of their comments and the corresponding responses is as follows:

Comment #1

The following comments are taken directly from the letter sent to IDEM from Dennis and Susan Knapczyk:

“During the summer, the leaves on the trees and ground vegetation on their property nearest the plant are continuously covered with a thick blanket of dust. When it rains, the dust washes into the soil and is replaced in a day or two with another thick layer of dust.” They have observed that “the trees closest to the rock crushing operation have not grown nearly as well as those growing under the same conditions, but much farther away.”

“The plant is located on top of a hill and our land slopes downward from the plant, eventually draining into Clear Creek. When there is a heavy rain, the tiny streams that run through our woods have a milky, muddy quality due to the dust build-up washing off the vegetation. There are low lying areas in our woods where the water pools, and in these locations it seems the accumulation of dust in the soil has inhibited almost all vegetation from growing.”

“During windy conditions there is a cloud of dust surrounding the area where the plant is located. Depending on the direction of the wind, it is not unusual to have to drive through a heavy fog of dust blowing over Highway 37 or over Dillman Road. Both roads are about a quarter mile from the plant. Visibility along Dillman Lane, which leads to the rock crushing plant and to our property, is almost zero at times when the plant is in operation. On a personal note, our family feels it is prevented from walking through a large portion of our woods when the rock crushing plant is in operation because of the large volume of dust we would have to breathe.”

“In light of these and probably other adverse effects the Blackwell Moore operation is having on air quality, we think that further study is needed before the current permit is renewed and definitely before the company is allowed to increase emissions. Our feeling is that the current permitted rate of emissions is already much too high for the conditions under which the rock crushing plant operates and that IDEM should markedly reduce the allowed throughput of limestone.”

They also state several other factors which they believe compound the impact of air emissions produced by the rock crushing operation which are as follows:

“The rock crusher is located on top of one of the highest hills in the area and is a totally open operation. Both the rock crushing process itself and the great piles of dust that the company stores nearby for sale are particularly prone to producing emissions during windy conditions.”

“The company has bull-dozed all the trees on top of the hill that might otherwise have shielded the rock crushing operation from the wind.”

“The company carries on blasting of the hillside in this same area which both adds to the amount and spreading of emissions and expands the openness of the operation.”

“The rock crushing is carried out in an entirely graveled area that includes a working quarry. Well over 100 tri-axle trucks a day might go to the plant to fill up with stone and several semis might go to the same area to load up with limestone blocks. Plus, there is the heavy equipment that is used in the operation of both businesses. This large volume of heavy traffic constantly churns up more dust that spreads to the surrounding area. Moreover, since the tri-axes carry uncovered loads, additional dust often blows from them.”

They state that they feel there are remedial measures that Blackwell Moore should be required to make before it qualifies for the permit. Some of these include:

- a. moving the plant to a lower lying area that would be more shielded from the wind;
- b. enclose the rock crusher in a shed-like building to keep the operation out of the wind;
- c. storing the large piles of dust and stone in bins or walled compartments;
- d. paving over the road to the plant and the areas where the operation is taking place.”

They also state that they read the fugitive dust control plan that Blackwell Moore submitted with its permit request that contains its own approach for controlling air emissions. They state “...these measures largely depend on spreading or spraying water over certain areas or certain components of the operation. In considering Blackwell Moore’s application, please be aware of these two considerations:

a. The company already tried some of the approaches it has outlined but these have achieved very poor results. For example, a crew periodically sprays water on Dillman Lane, the road to the plant, but this process, while reducing blowing dust to some extent, never totally controls the problem. Typically, the company waits much too long before it sprays the road, and the limited benefits of this process last only a very short time.”

“b. The company may not have a continuous and accessible supply of water sufficient to carry out the remedial measures it proposes. Currently the company leases property from us to gain access to the water in Clear Creek, but the lease ends this fall, and...we are hesitant about renewing the lease because of the negative impact the operation is having on our property.”

Response #1

In response to the above comments, Brent Blackwell submitted a letter on behalf of Blackwell Moore, Inc. (BMI) to IDEM, OAM on May 22, 2000. In the letter, Blackwell Moore refuted most of the claims made by Dennis and Susan Knapczyk. BMI did agree that paving the county road leading to their plant would be the best solution to minimize dust from the roadway but stated that since it is a county road it is not theirs to pave. They also state that regarding having a sufficient water supply to carry out the proposed dust control measures, they have an alternative site available for creek access which will provide them with a sufficient water supply.

To investigate the validity of the arguments presented on both sides, the OAM requested that a field inspection of the plant be performed by an OAM Air Compliance inspector. On May 25, 2000, an inspection was performed of the crushed stone operation by an OAM Air Compliance inspector. The inspector's findings, which are taken from the field inspection report, are as follows:

1. Process Description: The production of crushed stone.
2. Equipment: Two (2) crushers and ten (10) conveyors.
3. Control Equipment: A wet suppression system using seven (7) spray bars.
 - a. Control Efficiency: Unknown.
4. Applicable Rules: 326 IAC 5-1 & 6-4.
5. Observations: The plant was in operation.
6. Compliance Status: No violations were determined.
7. Additional Comments: Mr. Feller (Plant Manager) said that the stone that they were crushing at the time was damp enough that they didn't need to have water turned on to the spray bars to keep the dust suppressed. No exceedances of the opacity limits in paragraphs 6 and 7 of their current SSOA (S 093-10049-05182) were observed. Mr. Feller said that they had watered the roads for 1.5 hours in the morning. The roads were beginning to dry out during the inspection. Mr. Feller said that the water truck driver was ill that afternoon. There was very little truck traffic in or out of the plant. The access road to this plant is marked as a county road on the maps furnished by BMI.

Additional background information in the field inspection report stated that in a letter dated January 26, 2000, BMI reported that they had an annual throughput of crushed stone in 1999 of 503,210 tons which exceeds the limit of 400,000 tons in their current permit. Therefore, BMI applied for a permit on February 10, 2000 to increase the crushed stone throughput limit. Because there was an exceedance of their limit on the annual throughput of crushed stone, a Referral to Enforcement will be sent to the Office of Enforcement so that appropriate action can be taken.

The conclusion of the inspector as stated in the field inspection report is as follows:

Conclusion: There were no violations of the air pollution rules or this company's permit conditions determined during this inspection.

This source is subject to the requirements of 326 IAC 6-4 (Fugitive Dust Emissions) which does not allow fugitive dust to escape beyond the property line or boundaries of the property on which the source is located and 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations) which specifies control measures to control fugitive dust emissions. The control measures specified in 326 IAC 6-5-4, and specified in this permit, are considered reasonably available control measures (RCM). The source is also subject to the requirements of 326 IAC 5-1-2 (Opacity Limitations), 326 IAC 2-9-8 (Crushed stone processing plants), and the New Source Performance Standard, 326 IAC 12, 40 CFR 60.670, Subpart OOO. Each of these rules specifies opacity or visible emission limitations that must be complied with. These rules are intended to minimize the particulate matter emissions from this type of operation.

In the field inspection report it was concluded by the inspector that there were no violations of the air pollution rules. Therefore, based on the inspector's report and his conclusion and recommendation, and because the source is in compliance with all applicable state and federal emission limits, there is no legal basis for denial of this permit by IDEM, OAM. Thus, IDEM, OAM will issue the proposed permit.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a New Source Construction and Source Specific Operating Agreement (SSOA)

Source Background and Description

Source Name: Blackwell Moore, Inc.
Initial Source Location: 335 West Dillman Lane, Bloomington, Indiana 47403
Initial County: Monroe
SIC Code: 1422
Operation Permit No.: S 105-11879-05182
Permit Reviewer: Trish Earls/EVP

The Office of Air Management (OAM) has reviewed an application from Blackwell Moore, Inc. relating to the construction and operation of a portable limestone crushing operation.

Permitted Emission Units and Pollution Control Equipment

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

- (a) one (1) jaw crusher, identified as unit A, with a maximum capacity to process 400 tons per hour of limestone;
- (b) two (2) radial stacking conveyors, identified as units B and E, each with a maximum throughput capacity of 400 tons per hour of limestone;
- (c) one (1) 2-deck scalping screen, identified as unit C, with a maximum throughput capacity of 400 tons per hour of limestone;
- (d) four (4) discharge conveyors, identified as units D, N, O, and P, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (e) four (4) stub and radial stacking conveyor pairs, identified as units F1 and F2, I1 and I2, J1 and J2, and L1 and L2, respectively, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (f) one (1) impactor crusher with 3 D screen, identified as unit G, with a maximum capacity to process 300 tons per hour of limestone;
- (g) one (1) discharge conveyor and one (1) stub conveyor, identified as units H1 and H2, respectively, each with a maximum throughput capacity of 300 tons per hour of limestone;
- (h) two (2) radial stacking conveyors, identified as units K and M, each with a maximum throughput capacity of 300 tons per hour of limestone; and

- (i) one (1) portable three-deck scalping screen, identified as unit S1 and S2, with a maximum throughput capacity of 300 tons per hour of limestone.

Note: This source was previously issued a SSOA (S093-10049-05182) on September 3, 1998, for a limited annual throughput less than 400,000 tons per year. The source has now increased production and has requested that their annual throughput limit be increased to less than 1,000,000 tons per year. Based on this increased throughput, allowable PM emissions are greater than 25 tons per year, therefore, a construction permit is required.

Unpermitted Emission Units and Pollution Control Equipment

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

Existing Approvals

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

- (a) SSOA No. S093-10049-05182, issued on September 3, 1998.

All conditions from previous approvals were incorporated into this permit except the following:

- (a) SSOA No. S093-10049-05182, issued on September 3, 1998.

Conditions 1 and 2

1. The crushed stone operation shall have no more than four (4) crushers, seven (7) screens, and one (1) conveying operation.
2. The crushed stone operation annual throughput shall be less than four hundred thousand (400,000) tons per year.

Reason not incorporated:

The source has requested that their annual throughput limit be increased to less than 1,000,000 tons per year. This will still make the source a lower tier crushed stone operation under 326 IAC 2-9 (Source Specific Operating Agreement (SSOA)), however, the source will now fall under Category 2 instead of Category 1 under 326 IAC 2-9-8(b) (Crushed Stone Processing Plants). Therefore, the above conditions no longer apply.

Stack Summary

There are no stacks associated with the emission units that comprise this source.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation 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.

A complete application for the purposes of this review was received on February 10, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (3 pages).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit 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, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
Fugitive PM	44.86
Non-fugitive PM	56.97
Fugitive PM-10	44.86
Non-fugitive PM-10	56.97
SO ₂	0.0
VOC	0.0
CO	0.0
NO _x	0.0

There are no HAP emissions from this source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM and PM-10 are equal to or greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-5.1-3, a construction permit is required.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Aggregate Dropping*	2.92	2.92	0.0	0.0	0.0	0.0	0.0
Screening*	7.50	7.50	0.0	0.0	0.0	0.0	0.0
Crushing*	0.80	0.80	0.0	0.0	0.0	0.0	0.0
Conveyor Transfers*	5.04	5.04	0.0	0.0	0.0	0.0	0.0
Truck Loading and Unloading	0.03	0.03	0.0	0.0	0.0	0.0	0.0
Storage	0.50	0.50	0.0	0.0	0.0	0.0	0.0
Transporting	10.11	10.11	0.0	0.0	0.0	0.0	0.0
Total Emissions	26.89	26.89	0.0	0.0	0.0	0.0	0.0

* Non-fugitive point sources.

Note: Limited emissions are based on a limited limestone throughput of less than 1,000,000 tons per year which is equivalent to an operating schedule of 2,500 hours per year based on the maximum throughput capacity of 400 tons per hour. Allowable emissions from non-fugitive point sources shall be less than 25 tons per year.

County Attainment Status

The source is initially located in Monroe County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Monroe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Monroe 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 and 40 CFR 52.21.

Portable Source

- (a) Initial Location
This is a portable source and its initial location is 335 West Dillman Lane, Bloomington, Indiana 47403.
- (b) PSD and Emission Offset Requirements
The emissions from this portable source were reviewed under the requirements of the Prevention of Significant Deterioration (PSD), 326 IAC 2-2, 40 CFR 52.21, and Emission Offset, 326 IAC 2-3.

Source Status

Existing Source PSD and Emission Offset Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	Less than 100
PM10	Less than 100
SO ₂	Less than 100
VOC	Less than 100
CO	Less than 100
NO _x	Less than 100

- (a) This existing portable source is **not** a major stationary source because no attainment

regulated pollutant is emitted at a rate of 250 tons per year or more, no nonattainment regulated pollutant is emitted at a rate of 100 tons per year, and it is not in one of the 28 listed source categories.

- (b) These emissions were based on the SSOA No. S105-10049-05182, issued on September 3, 1998.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification	26.89	26.89	0.0	0.0	0.0	0.0
PSD and Offset Threshold Level	100	100	100	100	100	100

- (a) This modification to an existing minor portable source is not major because the emission increase is less than the PSD and Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply and pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.
- (b) Fugitive Emissions
 Since there is an applicable New Source Performance Standard for this source, the fugitive particulate matter (PM) emissions are counted toward determination of PSD and Emission Offset applicability.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit **S-105-11879-05182**, is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or
- (c) any combination of HAPs is greater than or equal to 25 tons/year.

This source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict its PTE to below the Title V emission levels. Therefore, this source has concurrently applied on February 10, 2000 for a Source Specific Operating Agreement (SSOA) under 326 IAC 2-9-8(b)(2). This source will therefore maintain its SSOA operating status and comply with the federally enforceable throughput limits under 326 IAC 2-9-8.

Federal Rule Applicability

- (a) This limestone processing plant is subject to the New Source Performance Standard 326 IAC 12, 40 CFR 60.670 through 60.676, Subpart OOO. This rule requires the particulate emissions from:
 - (1) the crushing operations to be limited to fifteen percent (15%) opacity or less, and
 - (2) the screening and conveying operations to be limited to ten percent (10%) or less.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326

IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), which would require the source to submit an annual emission statement. Pursuant to this rule, any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is enforceable. This portable source, which is initially located in Monroe County, has accepted federally enforceable operation conditions limiting the throughput of limestone to this source, which limits emissions of PM-10, to below 100 tons per year, therefore, 326 IAC 2-6 does not apply.

326 IAC 2-9-8 (Crushed stone processing plants)

The facilities and processes of this source shall be granted the Source Specific Operating Agreement provided that:

- (a) The source annual throughput shall be less than one million (1,000,000) tons per year.
- (b) This source does not emit particulate matter in excess of or equal to twenty-five (25) tons per year excluding fugitive emissions.
- (c) The source shall utilize at most six (6) crushers, thirteen (13) screens, and a conveying operation.
- (d) Records of the annual throughput, based on a calendar year, shall be prepared and maintained. These records shall be maintained for a minimum period of five (5) years, and made available, upon request, to the Office of Air Management (OAM).
- (e) The source shall use wet process or continuous wet suppression "as needed" to meet the opacity requirements.
- (f) All equipment that generate particulate matter (PM) emissions and any emission control devices shall be operated and maintained at all times of plant operation in such a manner as to meet all of the requirements of this Source Specific Operating Agreement.
- (g) The visible emissions from the screening and conveying operations shall not exceed an average of ten (10%) opacity in twenty-four (24) consecutive readings in a six (6) minute period. Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 9.
- (h) The visible emissions from the crushing operation shall not exceed an average of fifteen percent (15%) opacity in twenty-four (24) consecutive readings in a six (6) minute period. Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 9.
- (i) The fugitive particulate matter (PM) emissions shall be controlled by applying water on storage piles and unpaved roadways on an "as needed" basis, such that the following visible emission conditions are met:
- (j) The visible emissions from any storage pile shall not exceed twenty percent (20%) in

twenty-four (24) consecutive readings in a six (6) minute period. This limitation shall not apply during periods when application of control measures are ineffective or unreasonable due to sustained high wind speeds. The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.

- (k) The visible emissions from unpaved roadways shall not exceed an average instantaneous opacity of twenty percent (20%). Average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

- (1) The first reading shall be taken at the time of emission generation.
- (2) The second reading shall be taken five (5) seconds after the first.
- (3) The third reading shall be taken five (5) seconds after the second reading, or ten (10) seconds after the first reading.

The three (3) readings shall be taken approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand at least fifteen (15) feet, but no more than one-fourth (1/4) mile, from the plume and at approximately right angles to the plume.

- (l) The source shall provide an annual notice to the commissioner stating that the source is in operation and certifying that its operations are in compliance with this Source Specific Operating Agreement. This report shall be submitted to:

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than January 30 of each year, in the format attached.

- (m) Any exceedance of any requirement contained in this operating agreement shall be reported, in writing, within one (1) week of its occurrence.

326 IAC 5-1 (Opacity Limitations)

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

- (a) Opacity shall not exceed an average of thirty percent (30%) 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.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property

line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is subject to 326 IAC 6-5 for fugitive particulate matter emissions. Pursuant to 326 IAC 6-5, for any new source which has not received all the necessary preconstruction approvals before December 13, 1985, a fugitive dust control plan must be submitted, reviewed and approved. The fugitive dust control plan for this source includes the following:

- (a) Paved roads, unpaved roads and parking lots shall be controlled by spraying with water. The frequency of application shall be on an as needed basis.
- (b) Open aggregate piles consisting of crushed rock or other materials shall be controlled by spraying with water on an as needed basis.
- (c) Fugitive particulate matter emissions resulting from outdoor conveying of aggregate material by equipment such as belt conveyors shall be controlled by spraying with water on an as needed basis.
- (d) Fugitive particulate matter emissions resulting from the transferring of aggregate material, such as crushed rock, from drop points shall be controlled by spraying with water on an as needed basis.
- (e) Fugitive particulate matter emissions resulting from transportation of aggregate material, such as crushed rock, by truck or similar vehicles shall be controlled by maintaining the vehicle body in such condition that prevent leaks of aggregate material.
- (f) Fugitive particulate matter emissions resulting from loading and unloading of the material from storage shall be controlled by spraying with water on an as needed basis to minimize visible emissions.
- (g) Fugitive particulate matter emissions resulting from material handling operations such as screening and mixing shall be controlled by spraying with water on an as needed basis.

"As needed basis" means the frequency of application necessary to minimize visible particulate matter emissions for the above control items.

- (h) Records shall be kept and maintained to document all control activities to be implemented in accordance with this control plan. Records shall be retained for 3 years and shall be available upon request by the commissioner.

State Rule Applicability - Individual Facilities

326 IAC 6-1 (Nonattainment Area Limitations)

This source is not subject to the requirements of this rule because, although it is a portable source which can be located in any of the counties listed in section 7 of the rule, and actual PM emissions are greater than 10 tons per year, none of the operations at this source are enclosed or vented through a stack, therefore, it would not be practical to measure emissions from these operations.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the aggregate dropping, crushing, screening, conveying, and truck loading and unloading operations shall not exceed 66.31 pounds per hour based on the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Potential PM emissions from the aggregate dropping, crushing, screening, conveying, and truck loading and unloading operations is 13.0 pounds per hour, therefore, the source is in compliance with this rule.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

None of the listed air toxics will be emitted from this source.

Conclusion

The construction and operation of this portable limestone crushing operation shall be subject to the conditions of the attached proposed **New Source Construction and Source Specific Operating Agreement S 105-11879-05182**.

**Appendix A: Emission Calculations
Crushed Stone Processing Operations**

Company Name: Blackwell Moore, Inc.
Address City IN Zip: 335 West Dillman Lane, Bloomington, Indiana 47403
CP: 105-11879
Plt ID: 105-05182
Reviewer: Trish Faris
Date: February 10, 2000

** emissions before controls **

Storage								0.50 tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting								44.26 tons/yr	AP-42 Ch. 13.2.2 (Supplement E, 9/98)
Aggregate Dropping	400 ton/hr x	0.0058 lb/ton	/ 2000 lb/ton x	8760 hr/yr =				10.22 tons/yr	AP-42 Ch. 13.2.4 (Fifth edition, 1/95)
Screening	400 ton/hr x	0.0150 lb/ton	/ 2000 lb/ton x	8760 hr/yr =				26.28 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Primary Crushing	400 ton/hr x	0.0007 lb/ton	/ 2000 lb/ton x	8760 hr/yr =				1.23 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Secondary Crushing	300 ton/hr x	0.0012 lb/ton	/ 2000 lb/ton x	8760 hr/yr =				1.58 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Conveyor Transfer Point	400 ton/hr x	0.00072 lb/ton	/ 2000 lb/ton x	8760 hr/yr x	2 Transfer Pts. =			2.52 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Conveyor Transfer Point	300 ton/hr x	0.00072 lb/ton	/ 2000 lb/ton x	8760 hr/yr x	16 Transfer Pts. =			15.14 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Truck Unloading	400 ton/hr x	8E-06 lb/ton	/ 2000 lb/ton x	8760 hr/yr =				0.01 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Truck Loading	400 ton/hr x	0.00005 lb/ton	/ 2000 lb/ton x	8760 hr/yr =				0.09 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Total emissions before controls:								101.82 tons/yr	

This source will limit its annual throughput of crushed stone to less than 1,000,000 tons per year to comply with the requirements of 326 IAC 2-9-8 (SSOA).

Storage								0.50 tons/yr	AP-42 Ch.11.2.3 (Fourth edition, no update)
Transporting								10.11 tons/yr	AP-42 Ch. 13.2.2 (Supplement E, 9/98)
Aggregate Dropping	400 ton/hr x	0.0058 lb/ton	/ 2000 lb/ton x	2500 hr/yr =				2.92 tons/yr	AP-42 Ch. 13.2.4 (Fifth edition, 1/95)
Screening	400 ton/hr x	0.0150 lb/ton	/ 2000 lb/ton x	2500 hr/yr =				7.50 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Primary Crushing	400 ton/hr x	0.0007 lb/ton	/ 2000 lb/ton x	2500 hr/yr =				0.35 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Secondary Crushing	300 ton/hr x	0.0012 lb/ton	/ 2000 lb/ton x	2500 hr/yr =				0.45 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Conveyor Transfer Point	400 ton/hr x	0.00072 lb/ton	/ 2000 lb/ton x	2500 hr/yr x	2 Transfer Pts. =			0.72 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Conveyor Transfer Point	300 ton/hr x	0.00072 lb/ton	/ 2000 lb/ton x	2500 hr/yr x	16 Transfer Pts. =			4.32 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Truck Unloading	400 ton/hr x	8E-06 lb/ton	/ 2000 lb/ton x	2500 hr/yr =				0.00 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Truck Loading	400 ton/hr x	0.00005 lb/ton	/ 2000 lb/ton x	2500 hr/yr =				0.03 tons/yr	AP-42 Ch. 11.19.2 (Fifth edition, 1/95)
Total limited emissions:								26.89 tons/yr	

A construction permit is needed since potential emissions after application of SSOA emission limits exceed 25 tons per year.

** emissions after controls **

Storage	0.50 tons/yr x	50.0% emitted after controls =	0.25 tons/yr
Transporting	10.11 tons/yr x	50.0% emitted after controls =	5.05 tons/yr
Aggregate Dropping	2.92 tons/yr x	50.0% emitted after controls =	1.46 tons/yr
Screening	7.50 tons/yr x	50.0% emitted after controls =	3.75 tons/yr
Primary Crushing	0.35 tons/yr x	50.0% emitted after controls =	0.18 tons/yr
Secondary Crushing	0.45 tons/yr x	50.0% emitted after controls =	0.23 tons/yr
Conveyor Transfer Point	0.72 tons/yr x	50.0% emitted after controls =	0.36 tons/yr
Conveyor Transfer Point	4.32 tons/yr x	50.0% emitted after controls =	2.16 tons/yr
Truck Unloading	0.00 tons/yr x	50.0% emitted after controls =	0.00 tons/yr
Truck Loading	0.03 tons/yr x	50.0% emitted after controls =	0.01 tons/yr
Total emissions after controls:			13.44 tons/yr

** storage **

Storage emissions, which result from wind erosion, are determined by the following calculations:

$$E_f = 1.7 \cdot (s/1.5) \cdot (365-p) / 235 \cdot (f/15)$$

$$= 1.85 \text{ lb/acre/day}$$

where s = 1.6 % silt content of material

p = 125 days of rain greater than or equal to 0.01 inches

f = 15 % of wind greater than or equal to 12 mph

$$E_p (\text{storage}) = E_f \cdot sc \cdot (40 \text{ cuft/ton}) / (2000 \text{ lb/ton}) / (43560 \text{ sqft/acre}) / (25 \text{ ft}) \cdot (365 \text{ day/yr})$$

$$= 0.50 \text{ tons/yr}$$

where sc = 40 ,000 tons storage capacity

** unpaved roads **

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (Supplement E, 9/98).

I. CAT 769B Haul Dump Truck

2 trip/hr x
 0.2 mile/trip x
 2 (round trip) x
 8760 hr/yr potential = 7008 miles per year
 2500 hr/yr limited = 2000 miles per year

$$E_f = k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M/0.2)^c]$$

$$= 3.67 \text{ lb/mile}$$

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
 s = 4.8 mean % silt content of unpaved roads
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)
 W = 45 tons average vehicle weight
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)

$$\frac{3.67 \text{ lb/mi} \times 7008 \text{ mi/yr}}{2000 \text{ lb/ton}} = 12.87 \text{ tons/yr potential}$$

$$\frac{3.67 \text{ lb/mi} \times 2000 \text{ mi/yr}}{2000 \text{ lb/ton}} = 3.67 \text{ tons/yr limited}$$

II. CAT 769C Haul Dump Truck

2 trip/hr x
 0.2 mile/trip x
 2 (round trip) x
 8760 hr/yr potential = 7008 miles per year
 2500 hr/yr limited = 2000 miles per year

$$E_f = k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M/0.2)^c]$$

$$= 3.91 \text{ lb/mile}$$

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
 s = 4.8 mean % silt content of unpaved roads
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)
 W = 52 tons average vehicle weight
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)

$$\frac{3.91 \text{ lb/mi} \times 7008 \text{ mi/yr}}{2000 \text{ lb/ton}} = 13.70 \text{ tons/yr potential}$$

$$\frac{3.91 \text{ lb/mi} \times 2000 \text{ mi/yr}}{2000 \text{ lb/ton}} = 3.91 \text{ tons/yr limited}$$

III. Euclid R85 Haul Dump Truck

2 trip/hr x
 0.1 mile/trip x
 2 (round trip) x
 8760 hr/yr potential = 3504 miles per year
 2500 hr/yr limited = 1000 miles per year

$$E_f = k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M/0.2)^c]$$

$$= 5.05 \text{ lb/mile}$$

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)
 s = 4.8 mean % silt content of unpaved roads
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)
 W = 99 tons average vehicle weight
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)

$$\frac{5.05 \text{ lb/mi} \times 3504 \text{ mi/yr}}{2000 \text{ lb/ton}} = 17.69 \text{ tons/yr potential}$$

$$\frac{5.05 \text{ lb/mi} \times 1000 \text{ mi/yr}}{2000 \text{ lb/ton}} = 2.52 \text{ tons/yr limited}$$

** aggregate handling **

The following calculations determine the amount of emissions created by dropping of material, based on 8760 hours of use and AP-42 13.2.4 (Fifth edition, 1/95).

$$E_f = k \cdot (0.0032)^k \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

= 0.0058 lb/ton

where k = 0.74 (particle size multiplier)
U = 10 mile/hr mean wind speed
M = 2 % material moisture content

The following calculations determine compliance with 326 IAC 6-3-2 for process weight rates greater than or equal to 30 tons per hour:

$$\text{limit} = 55 \cdot (400^{0.11}) - 40 = 66.31 \text{ lb/hr}$$
$$13.44 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 3.07 \text{ lb/hr} \quad (\text{will comply})$$