



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: September 17, 2007
RE: Victor Oolitic Stone Co. / 105-22369-00043
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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100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
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New Source Review and Minor Source Operating Permit OFFICE OF AIR QUALITY

**Victor Oolitic Stone Company
7850 Victor Pike
Bloomington, Indiana 47402**

(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.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages. 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 2-6.1-6, applicable to these 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 MSOP under 326 IAC 2-6.1.

Operation Permit No.: M105-22369-00043	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: September 17, 2007 Expiration Date: September 17, 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 and A.2 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 stationary limestone quarry and milling operation.

Source Address:	7850 Victor Pike, Bloomington, Indiana 47402
Mailing Address:	P.O. Box 668, Bloomington, IN 47402
General Source Phone Number:	(812) 824-2621
SIC Code:	3281
County Location:	Monroe
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source 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

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

- (a) Drilling and blasting operations, identified as Drill-1, constructed in 1988, shifting approximately 50,000 cubic feet of material per blast;
- (b) Explosives, identified as Ex-1, constructed in 1988, using approximately 23 pounds per hour of Ammonium Nitrate Fuel Oil (ANFO) and 1 pound per hour of Dynamite;
- (c) Bulldozing and grading, identified as Grade-1, constructed in 1988, operating at a maximum rate of 1,000 hours per year;
- (d) Truck loading, identified as Truck-1, constructed in 1988, with a maximum capacity of 114 tons per hour of limestone and overburden, combined, controlled by the residual moisture left over from wet cutting;
- (e) Paved and unpaved roads, identified as Paved-1 and Unpaved-1, respectively, constructed in 1988, controlled using dust suppression sprays;
- (f) Eighteen (18) propane or liquified petroleum gas, or butane-fired combustion sources, each with a maximum heat input capacity equal to or less than six million (6,000,000) Btu per hour, consisting of the following units:
 - 1. Two (2) heaters, identified as 48" saw building Space Ray and Sill Line #2 Space Ray, each rated at 0.212 MMBtu/hr, constructed in 1983;

2. Eight (8) heaters, identified as 48" saw building Verber-Ray Overhead-1, 48" saw building Verber-Ray Overhead-2, Sill Line #2 - Verber-Ray Overhead-1, Sill Line #2 - Verber-Ray Overhead-2, 440 Building Verber-Ray Overhead-1, 440 Building Verber-Ray Overhead-2, 440 Building Verber-Ray Overhead-3, 440 Building Verber-Ray Overhead-4, each rated at 0.13 MMBtu/hr, constructed in 1998;
 3. One (1) heater, identified as 72" Saw Building Overhead Sterling, rated at 0.15 MMBtu/hr, constructed in 2001;
 4. One (1) heater, identified as 86" Saw Dayton Overhead, rated at 0.08 MMBtu/hr, constructed in 2002;
 5. Six (6) heaters, identified as 440 Building Dayton Overhead-1, 440 Building Dayton Overhead-2, Belt Mill Overhead Armstrong-1, Belt Mill Overhead Armstrong-2, Belt Mill Enerco-1, and Belt Mill Enerco-2, constructed in 2004;
- (g) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (h) Limestone cutting equipments where aqueous cutting coolant continuously floods the machining interface, identified as Cut-1, constructed in 1988, used to cut limestone into moveable blocks in the quarry, with a maximum capacity of 45.5 tons of limestone per hour and negligible PM emissions;
- (i) Limestone cutting equipments where aqueous cutting coolant continuously floods the machining interface, identified as Mill-1, constructed in 1988, used to cut limestone blocks to customer specification for sale, with a maximum capacity of 45.5 tons of limestone per hour and negligible PM emissions;
- (j) Ten (10) kerosene-fired combustion sources, each with a maximum heat input capacity equal to or less than two million (2,000,000) Btu per hour, consisting of the following units:
1. One (1) heater, identified as 440 Building Reddy Heater, rated at 0.11 MMBtu/hr, constructed in 1999;
 2. Five (5) heaters, identified as Warehouse master. Sill #1 Master. Sill #2 Master, Outside Sill Line #2 Master, and Top Pitching Machine Building Master, each rated at 0.6 MMBtu/hr, constructed in 2000;
 3. One (1) heater, identified as 440 Building Master, rated at 0.6 MMBtu/hr, constructed in 2001;
 4. One (1) heater, identified as 72" Saw Building, rated at 0.35 MMBtu/hr, constructed in 2001;
 5. One (1) heater, identified as Polebarn Master, rated at 0.15 MMBtu/hr, constructed in 2002;
 6. One (1) heater, identified as Field Saw Building Tradesman, rated at 0.6 MMBtu/hr, constructed in 2003;
- (k) Fuel storage tanks, collectively identified as Fuel-1, consisting of the following units:
1. One (1) gasoline storage tank, identified as T-1, constructed in 2005, with a maximum capacity of 550 gallons;

2. One (1) diesel fuel storage tank, identified as T-2, constructed in 2005, with a maximum capacity of 550 gallons;
3. Three (3) kerosene storage tanks, identified as T-3, T-4, and T-6, constructed in 2005, each with a maximum capacity of 300 gallons;
4. One (1) kerosene storage tank, identified as T-5, constructed in 1994, with a maximum capacity of 300 gallons;
5. One (1) diesel fuel storage tank, identified as T-7, constructed in 2005, with a maximum capacity of 300 gallons;
6. One (1) diesel fuel storage tank, identified as T-8, constructed in 2005, with a maximum capacity of 1000 gallons;
7. Two (2) used oil storage tanks, identified as T-9 and T-14, constructed in 1985, each with a maximum capacity of 300 gallons;
8. Four (4) oil storage tanks, identified as T-10, T-11, T-12, and T-15, constructed in 2000, each with a maximum capacity of 275 gallons.
9. One (1) diesel fuel storage tank, identified as T-14, constructed in 2005, with a maximum capacity of 4,000 gallons.

SECTION B GENERAL CONDITIONS

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

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 2-1.1-1) shall prevail.

B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

-
- (a) This permit, M105-22369-00043, 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]

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

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

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

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

B.7 Duty to Provide Information

-
- (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

- (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 Notification [326 IAC 2-6.1-5(a)(5)]

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

Compliance Branch, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.10 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 (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
MC 61-53 IGCN 1003
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.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M105-22369-00043 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.12 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

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 ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.13 Permit Renewal [326 IAC 2-6.1-7]

- (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 2-6.1-7. Such information shall be included in the application for each emission unit at this source. 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least ninety (90) days 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 2-6.1 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.14 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by 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 Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.15 Source Modification Requirement

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

B.16 Inspection and Entry

[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][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 permitted 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.17 Transfer of Ownership or Operational Control [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 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
MC 61-53 IGCN 1003
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 notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.18 Annual Fee Payment [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.
- (b) 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.19 Credible Evidence [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 2-6.1-5(a)(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 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to 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.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]

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]

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 plan submitted on December 9, 2005. The plan is included as Attachment A.

C.8 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
MC 61-52 IGCN 1003
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. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

C.9 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
MC 61-53 IGCN 1003
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.10 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 2-6.1-5(a)(2)]

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] [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.13 Instrument Specifications [326 IAC 2-1.1-11]

- (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

C.14 Response to Excursions or Exceedances

- (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.15 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 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 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 2-6.1-5(a)(2)]

C.16 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 Quality (OAQ) 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 OAQ, 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.17 General Record Keeping Requirements [326 IAC 2-6.1-5]

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

- (a) 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
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (b) 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.
- (c) 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).
- (d) 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.
- (e) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Drilling and blasting operations, identified as Drill-1, constructed in 1988, shifting approximately 50,000 cubic feet of material per blast;
- (b) Explosives, identified as Ex-1, constructed in 1988, using approximately 23 pounds per hour of Ammonium Nitrate Fuel Oil (ANFO) and 1 pound per hour of Dynamite;
- (c) Bulldozing and grading, identified as Grade-1, constructed in 1988, operating at a maximum rate of 1,000 hours per year;
- (d) Truck loading, identified as Truck-1, constructed in 1988, with a maximum capacity of 114 tons per hour of limestone and overburden, combined, controlled by the residual moisture left over from wet cutting;
- (e) Paved and unpaved roads, identified as Paved-1 and Unpaved-1, respectively, constructed in 1988, controlled using dust suppression sprays;
- (f) Limestone cutting equipments where aqueous cutting coolant continuously floods the machining interface, identified as Cut-1, constructed in 1988, used to cut limestone into moveable blocks in the quarry, with a maximum capacity of 45.5 tons of limestone per hour and negligible PM emissions;
- (g) Limestone cutting equipments where aqueous cutting coolant continuously floods the machining interface, identified as Mill-1, constructed in 1988, used to cut limestone blocks to customer specification for sale, with a maximum capacity of 45.5 tons of limestone per hour and negligible PM emissions;

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Particulate Matter [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emitted from the facilities listed below shall be limited as stated, 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:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Emission Unit/Activity	Process Weight Rate (ton/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
drilling and blasting operations, identified as Drill-1	114.0	52.6
bulldozing and grading, identified as Grade-1	68.5	47.6
truck loading, identified as Truck-1	114.0	52.6

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

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Victor Oolitic Stone Company
Address:	7850 Victor Pike
City:	Bloomington, Indiana 47402
Phone #:	(812) 824-2621
MSOP #:	M105-22369-00043

I hereby certify that Victor Oolitic Stone Company is :	<input type="checkbox"/> still in operation.
	<input type="checkbox"/> no longer in operation.
I hereby certify that Victor Oolitic Stone Company is :	<input type="checkbox"/> in compliance with the requirements of MSOP M105-22369-00043.
	<input type="checkbox"/> not in compliance with the requirements of MSOP M105-22369-00043.

Authorized Individual (typed):
Title:
Signature:
Date:

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

Noncompliance:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER - 317 233-6865

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 PERM 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: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
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: _____

*SEE PAGE 2

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 QUALITY**

**MINOR SOURCE OPERATING PERMIT (MSOP)
CERTIFICATION**

Source Name: Victor Oolitic Stone Company
Source Address: 7850 Victor Pike, Bloomington, Indiana 47402
Mailing Address: P.O. Box 668, Bloomington, IN 47402
MSOP Permit No.: M105-22369-00043

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 Notification
- 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:

ATTACHMENT A

Victor Oolitic Stone Company Fugitive Dust Control Plan

- (a) Water is applied to all paved roads on an as need basis to maintain dust control.
- (b) Water is applied to all unpaved roads on an as need basis to maintain dust control.
- (c) Fugitive particulate matter emissions from the bulldozing and grading operation will be controlled through the application of water on an as need basis.
- (d) Fugitive particulate matter emissions from the truck loading process are controlled by residual moisture left over from wet cutting of limestone. Additional water will be applied on an as need basis.

**Indiana Department of Environmental Management
Office of Air Quality**

**Addendum to the
Technical Support Document (TSD) for a
New Source Review and
Minor Source Operating Permit (MSOP)**

Source Background and Description

Source Name:	Victor Oolitic Stone Company
Source Location:	7850 Victor Pike, Bloomington, IN 47402
County:	Monroe
SIC Code:	3281
Operation Permit No.:	M105-22369-00043
Permit Reviewer:	Julia Handley/EVP

On August 3, 2007, the Office of Air Quality (OAQ) had a notice published in the Herald Times, Bloomington, Indiana, stating that Victor Oolitic Stone Company had applied for a Minor Source Operating Permit (MSOP) to operate a limestone quarry and milling operation. The notice also stated that OAQ proposed to issue a MSOP for this operation and provided information on how the public could review the proposed MSOP 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 MSOP should be issued as proposed.

On August 9, 2007, Victor Oolitic Stone Company submitted comments on the proposed permit. The summary of the comments and corresponding responses is as follows (additions in bold, deletions in ~~strikeout~~):

Comment 1:

Regarding Condition D.1.3, 326 IAC 1-6-3 requires that a PMP 1) identify individuals responsible for inspecting, maintaining, and repair emission control devices 2) a description of the items that will be inspected and the schedule of the inspections 3) identification and quantification of replacement parts that will be maintained in inventory to ensure quick replacement. Emission units Drill-1, Ex-1, Grade-1, and Truck-1 do not have control devices, and therefore, the first portion of the PMP requirement does not apply. Additionally, the second and third portions of the PMP requirement do not seem to have any bearing on the emissions from the listed units. For instance, there are no inspections that would ensure no excess emissions from the explosion operations, and there are no spare parts that would effect excess emissions from the drilling operations. Victor Oolitic could keep spare drills on-site, but this does not seem to be the intent of the preventative maintenance plan.

Mill-1 and Cut-1 are insignificant activities (machining where an aqueous cutting coolant continuously floods the machining interface), and it does not seem like a PMP would be appropriate for an insignificant activity.

As far as Paved-1 and Unpaved-1, it seems that a fugitive dust plan would be a more appropriate means of ensuring no excess emissions as opposed to a preventative maintenance plan. Even though they use dust suppression control, this is still not a typical piece of control equipment where preventative maintenance could be performed. The PMP requirements and benefits do not seem to lend themselves to these types of operations.

Response 1:

IDEM, OAQ agrees that, in this specific case, the emission units in Section D.1 do not need to have a PMP because there is no preventive maintenance needed that would affect emissions. Condition D.1.2 - Preventive Maintenance Plan has been removed from the permit.

~~D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]~~

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

Comment 2:

The operations requiring visible emissions are batch operations (Drill-1, Grade-1, and Truck-1). Condition D.1.3(a) of the permit requires records stating whether emissions are normal or abnormal. Condition D.1.3(b) defines "normal" for processes operated continuously, however, "normal" is never defined of batch processes. If the company records emissions are normal or abnormal, this would not be enforceable because normal is not defined.

Additionally, the only emissions from the above referenced units are fugitive emissions, and it does not seem like the intent of the visible emission requirements if for these types of operations. 326 IAC 2-6.1-5(a)(2) states that permits issued under this rule shall contain the following: "Monitoring.... requirements that assure reasonable information is provided to evaluate compliance consistent with the permit terms and conditions..." Condition D.1.1 establishes allowable emission rates for Drill-1, Grade-1, and Truck-1, however, it does not seem reasonable that a visible emission notation for these fugitive dust sources will assist with evaluating compliance with the permit terms and conditions (the allowable emissions rates).

Response 2:

IDEM, OAQ agrees that visible emission notations for drilling and blasting operations, identified as Drill-1, bulldozing and grading, identified as Grade-1, and truck loading, identified as Truck-1, should not be required for uncontrolled, fugitive operations. Conditions D.1.3 and D.1.4 have been removed from the permit.

~~D.1.3 Visible Emissions Notations~~

- ~~(a) Visible emission notations of the drilling and blasting operations, identified as Drill-1, bulldozing and grading, identified as Grade-1, and truck loading, identified as Truck-1, shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.~~
- ~~(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.~~
- ~~(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~
- ~~(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.~~

- (e) ~~If abnormal emissions are observed, the Permittee shall take reasonable response 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.1.4 Record Keeping Requirement~~

- (a) ~~To document compliance with Condition D.1.3, the Permittee shall maintain daily records of visible emission notations of the drilling and blasting operations, identified as Drill-1, bulldozing and grading, identified as Grade-1, and truck loading, identified as Truck-1. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).~~
- (b) ~~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**

Technical Support Document (TSD) for a New Source Review
and Minor Source Operating Permit

Source Background and Description

Source Name:	Victor Oolitic Stone Company
Source Location:	7850 Victor Pike, Bloomington, IN 47402
County:	Monroe
SIC Code:	3281
Operation Permit No.:	M105-22369-00043
Permit Reviewer:	Julia Handley/EVP

The Office of Air Quality (OAQ) has reviewed a Minor Source Operating Permit (MSOP) application from Victor Oolitic Stone Company relating to the operation of a limestone quarry and milling operation.

History

On December 9, 2005, Victor Oolitic Stone Company submitted an application to the OAQ requesting a Minor Source Operating Permit (MSOP).

Emission Units and Pollution Control Equipment Constructed and Operated without a Permit

The source consists of the following emission units that were constructed and operated without a permit:

- (a) Drilling and blasting operations, identified as Drill-1, constructed in 1988, shifting approximately 50,000 cubic feet of material per blast;
- (b) Explosives, identified as Ex-1, constructed in 1988, rated at 23 pounds per hour of Ammonium Nitrate Fuel Oil (ANFO) and 1 pound per hour of Dynamite;
- (c) Bulldozing and grading, identified as Grade-1, constructed in 1988, operating at a maximum rate of 1,000 hours per year;
- (d) Truck loading, identified as Truck-1, constructed in 1988, with a maximum capacity of 114 tons per hour of limestone and overburden, combined, controlled by the residual moisture left over from wet cutting;
- (e) Paved and unpaved roads, identified as Paved-1 and Unpaved-1, respectively, constructed in 1988, controlled using dust suppression sprays;
- (f) Eighteen (18) propane or liquified petroleum gas, or butane-fired combustion sources, each with a maximum heat input capacity equal to or less than six million (6,000,000) Btu per hour, consisting of the following units:
 1. Two (2) heaters, identified as 48" saw building Space Ray and Sill Line #2 Space Ray, each rated at 0.212 MMBtu/hr, constructed in 1983;

2. Eight (8) heaters, identified as 48" saw building Verber-Ray Overhead-1, 48" saw building Verber-Ray Overhead-2, Sill Line #2 - Verber-Ray Overhead-1, Sill Line #2 - Verber-Ray Overhead-2, 440 Building Verber-Ray Overhead-1, 440 Building Verber-Ray Overhead-2, 440 Building Verber-Ray Overhead-3, 440 Building Verber-Ray Overhead-4, each rated at 0.13 MMBtu/hr, constructed in 1998;
 3. One (1) heater, identified as 72" Saw Building Overhead Sterling, rated at 0.15 MMBtu/hr, constructed in 2001;
 4. One (1) heater, identified as 86" Saw Dayton Overhead, rated at 0.08 MMBtu/hr, constructed in 2002;
 5. Six (6) heaters, identified as 440 Building Dayton Overhead-1, 440 Building Dayton Overhead-2, Belt Mill Overhead Armstrong-1, Belt Mill Overhead Armstrong-2, Belt Mill Enerco-1, and Belt Mill Enerco-2, constructed in 2004;
- (g) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (h) Limestone wet cutting equipment with aqueous cutting coolant continuously floods the machining interface, identified as Cut-1, constructed in 1988, used to cut limestone into moveable blocks in the quarry, with a maximum capacity of 45.5 tons of limestone per hour and negligible PM emissions;
- (i) Limestone wet cutting equipment with aqueous cutting coolant continuously floods the machining interface, identified as Mill-1, constructed in 1988, used to cut limestone blocks to customer specification for sale, with a maximum capacity of 45.5 tons of limestone per hour and negligible PM emissions;
- (j) Ten (10) kerosene-fired combustion sources, each with a maximum heat input capacity equal to or less than two million (2,000,000) Btu per hour, consisting of the following units:
1. One (1) heater, identified as 440 Building Reddy Heater, rated at 0.11 MMBtu/hr, constructed in 1999;
 2. Five (5) heaters, identified as Warehouse master. Sill #1 Master. Sill #2 Master, Outside Sill Line #2 Master, and Top Pitching Machine Building Master, each rated at 0.6 MMBtu/hr, constructed in 2000;
 3. One (1) heater, identified as 440 Building Master, rated at 0.6 MMBtu/hr, constructed in 2001;
 4. One (1) heater, identified as 72" Saw Building, rated at 0.35 MMBtu/hr, constructed in 2001;
 5. One (1) heater, identified as Polebarn Master, rated at 0.15 MMBtu/hr, constructed in 2002;
 6. One (1) heater, identified as Field Saw Building Tradesman, rated at 0.6 MMBtu/hr, constructed in 2003;
- (k) Fuel storage tanks, collectively identified as Fuel-1, consisting of the following units:
1. One (1) gasoline storage tank, identified as T-1, constructed in 2005, with a maximum capacity of 550 gallons;

2. One (1) diesel fuel storage tank, identified as T-2, constructed in 2005, with a maximum capacity of 550 gallons;
3. Three (3) kerosene storage tanks, identified as T-3, T-4, and T-6, constructed in 2005, each with a maximum capacity of 300 gallons;
4. One (1) kerosene storage tank, identified as T-5, constructed in 1994, with a maximum capacity of 300 gallons;
5. One (1) diesel fuel storage tank, identified as T-7, constructed in 2005, with a maximum capacity of 300 gallons;
6. One (1) diesel fuel storage tank, identified as T-8, constructed in 2005, with a maximum capacity of 1000 gallons;
7. Two (2) used oil storage tanks, identified as T-9 and T-14, constructed in 1985, each with a maximum capacity of 300 gallons;
8. Four (4) oil storage tanks, identified as T-10, T-11, T-12, and T-15, constructed in 2000, each with a maximum capacity of 275 gallons.
9. One (1) diesel fuel storage tank, identified as T-14, constructed in 2005, with a maximum capacity of 4,000 gallons.

Existing Approvals

There have been no previous approvals issued to this source.

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled "Emission Units and Pollution Control Equipment Constructed and Operated without a Permit".
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Monroe County

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Attainment
SO ₂	Attainment
NO _x	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Monroe County has been classified as 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 a 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 emissions are considered when evaluating the rule applicability relating to ozone. Monroe County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx 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.
- (c) Monroe County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (d) 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.
- (f) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(gg)(1) or 326 IAC 2-7-1(22) 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 or Title V applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	317.67
PM-10	86.84
SO ₂	0.97
VOC	0.12
CO	5.22
NO _x	6.30

HAPs	tons/year
Single HAP	negligible
Total	negligible

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than 100 tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of PM and PM10 is greater than 25 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Process/emission unit	Potential To Emit (tons/year)						
	PM	PM ₁₀	CO	NOx	VOC	SO ₂	HAPs
<u>nonfugitive facilities</u>							
kerosene fuel oil combustion	0.30	0.50	0.75	3.01	0.05	0.85	-
LPG combustion	0.08	0.08	0.41	2.44	0.06	0.01	-
<u>fugitive facilities</u>							
drilling			-	-	-	-	-
blasting	3.70	1.94	-	-	-	-	-
explosives	0.08	0.04	4.05	0.85	0.01	0.10	-
bulldozing and grading of material	113.78	25.57	-	-	-	-	-
loading of materials	21.36	10.10	-	-	-	-	-
paved roads*	12.98	2.53	-	-	-	-	-
unpaved roads*	76.21	21.78				-	-
Total nonfugitive emissions	0.38	0.58	1.16	5.45	0.11	0.86	-
Total fugitive emissions	159.51	42.35	4.05	0.85	0.01	0.10	-

*Potential to emit after application of practically enforceable controls (the fugitive dust plan)

- (a) This existing source is not a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(gg)(1) or 326 IAC 2-7-1(22) 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 or Title V applicability.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons per year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) The requirements of the New Source Performance Standard 326 IAC 12, 40 CFR 60.670, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) were not included in this permit. This source does not meet the definition of a nonmetallic mineral processing plant because it does not contain any equipment used to crush or grind any nonmetallic material.

- (b) The fifteen (15) storage tanks, identified as T-1 through T-15, are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels" because each tank has a storage capacity less than 75 cubic meters (m³) (19,813 gallons). Therefore pursuant to 40 CFR 60.110b(a), they are not subject to this rule and the requirements of this rule are not included in the permit for these facilities.
- (c) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included for this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is not a major source for Prevention of Significant Deterioration, 326 IAC 2-2. Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are not counted toward the determination of PSD applicability. The potential to emit of each criteria pollutant from nonfugitive facilities is less than 250 tons per year. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter counties, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

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

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

The operation of this stationary limestone quarry and milling operation will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

This rule requires that the source 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 6-5 (Fugitive Particulate Matter Emissions Limitations)

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on December 9, 2005. The plan consists of:

- (a) Water is applied to all paved roads on an as need basis to maintain dust control.
- (b) Water is applied to all unpaved roads on an as need basis to maintain dust control.
- (c) Fugitive particulate matter emissions from the bulldozing and grading opeartion will be controlled through the application of water on an as need basis.
- (d) Fugitive particulate matter emissions from the truck loading process are controlled by residual moisture left over from wet cutting of limestone. Additional water will be applied on an as need basis.

State Rule Applicability – Individual Facilities

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emitted from the facilities listed below shall be limited as stated, 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

Emission Unit/Activity	Process Weight Rate (ton/hr)	Allowable Emissions (326 IAC 6-3-2) (lb/hr)
drilling and blasting operations, identified as Drill-1,	114.0	52.6
bulldozing and grading, identified as Grade-1	68.5	47.6
truck loading, identified as Truck-1	114.0	52.6

The limestone cutting operations, Cut-1 and Mill-1, are not subject to the requirements of 326 IAC 6-3-2 because they have no potential PM emissions.

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

The requirements of this rule apply to stationary sources located in the counties listed in 326 IAC 6.5-1-1. This source is located in Monroe County which is not one of the specifically listed counties in 326 IAC 6.5-1-1(a). Therefore, this rule is not applicable to this source.

326 IAC 7 (Sulfur Dioxide Rules)

The LPG and kerosene fired heaters are not subject to 326 IAC 7-1.1 because they each have potential SO₂ emissions of less than twenty five (25) tons per year or ten (10) pounds per hour.

326 IAC 8-1-6

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compound (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8. Since the facilities at this source have the potential to emit less than 25 tons per year VOC, they are not subject to 326 IAC 8-1-6.

Recommendation

The staff recommends to the Commissioner that the MSOP 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 application for the purposes of this review was received on December 9, 2005.

Conclusion

The operation of this limestone quarry and milling operation shall be subject to the conditions of the attached MSOP No. 105-22369-00043.

Company Name:
 Plant Location:
 County:
 Permit Reviewer:

Victor Oolitic Stone Company
 7850 Victor Pike, Bloomington, IN 47402
 Monroe
 Julia Handley/EVP

KEROSENE FUEL OIL COMBUSTION

**Heat Input Capacity
 MMBtu/hr**

Warehouse	0.6
Sill Line #1	0.6
Polebarn	0.15
Sill Line #2	0.6
Top Pitching Machine Bldg	0.6
Outside Sill Line #2	0.6
Field Saw Building	0.6
72" Saw Building	0.35
440 Building	0.6
440 Building	0.11

Total Heat Input Capacity **4.81** MMBtu/hr

**Potential Throughput
 kgals/year
 300.97**

S = Weight % Sulfur
0.04

	Pollutant					
	PM*	PM10	CO	NOx	VOC	SO2
Emission Factor in lb/kgal	2.0	3.3	5.0	20.0	0.34	5.68
Potential Emission in tons/yr	0.30	0.50	0.75	3.01	0.05	0.85

	HAPs - Metals				
	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu	4.0E-06	3.0E-06	3.0E-06	3.0E-06	9.0E-06
Potential Emission in tons/yr	8.43E-05	6.32E-05	6.32E-05	6.32E-05	1.90E-04

	HAPs - Metals (continued)			
	Mercury	Manganese	Nickel	Selenium
Emission Factor in lb/mmBtu	3.0E-06	6.0E-06	3.0E-06	1.5E-05
Potential Emission in tons/yr	6.32E-05	1.26E-04	6.32E-05	3.16E-04
	TOTAL HAPS			0.001 tons per year

*PM emission factor is filterable PM only. PM10 is filterable and condensable PM.
 From EPA guidance document dated 4/6/99: "Area Source Category Abstract - Fuel Oil and Kerosene Combustion" -
 "Distillate Fuel emission factors may also be used for kerosene"
 Assuming a kerosene heating value of 140 MMBtu/1000 gal
 TOC Emission Factor from AP42 - Table 1.1-3: "Emission Factors for TOC from Uncontrolled Fuel Oil Combustion"

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu
 Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98
 Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
 No data was available in AP-42 for organic HAPs.

LPG COMBUSTION

**Heat Input Capacity
MMBtu/hr**

48" saw building	Verber-Ray Overhead	0.13
48" saw building	Verber-Ray Overhead	0.13
48" saw building	Space-Ray	0.212
86" Saw	Scheu Product	0.08
Sill Line #2	Verber-Ray Overhead	0.13
Sill Line #2	Verber-Ray Overhead	0.13
Sill Line #2	Space-Ray	0.212
72" Saw Building	Overhead Sterling	0.15
440 Building	Dayton Overhead	0.06
440 Building	Dayton Overhead	0.06
440 Building	Verber-Ray Overhead	0.13
440 Building	Verber-Ray Overhead	0.13
440 Building	Verber-Ray Overhead	0.13
440 Building	Verber-Ray Overhead	0.13
Belt Mill	Overhead Armstrong	0.31
Belt Mill	Overhead Armstrong	0.31
Belt Mill	Enerco	0.125
Belt Mill	Enerco	0.125

**Potential Throughput
kgals/year**

SO2 Emission factor = 0.10 x S
S = Sulfur Content =

Total Heat Input Capacity
MMBtu/hr **2.68**

256.96

1.08 grams/100ft³

	Pollutant					
	PM*	PM10*	CO	NOx	VOC**	SO2
Emission Factor in lb/kgal	0.6	0.6	3.2	19.0	0.5	0.108
Potential Emission in tons/yr	0.08	0.08	0.41	2.44	0.06	0.01

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.
**The VOC value given is TOC.

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)
(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

No Emission Factors listed for Hazardous Air Pollutants.

LIMESTONE QUARRY AND MILLING FUGITIVE OPERATIONS DATA

Name of Minerals	Amounts (tpy)		Characteristics	
	Shifted by Blasting	Total Handled	Moisture (%)	Silt (%)
Limestone	400,000	400,000	0.2	1.0
Overburden	600,000	600,000	2.0	7.5
TOTAL	1,000,000	1,000,000		

Moisture and Silt contents taken from AP-42 Section 13.2.4, Table 13.2.4-1: "Typical Silt and Moisture Contents of Materials at Various Industries".

DRILLING AND BLASTING INFO

Blast per year	253	number
Holes per Blast - Average	23	number
Holes drilled per year	5,693	Number of holes per year
Area Shifted per Blast - Average	1,250	square foot per blast - average
Area Shifted per Year	316,250	square foot per year
Amount shifted by blasting	1,000,000	Tons Ore, Waste & Overburden

DRILLING

By Number of Holes Drilled
Annual Throughput 5,693 Holes Drilled

Emission Factors (pounds per hole)		Emissions - tons per year	
PM	PM ₁₀	PM	PM ₁₀
1.3	0.68	3.70	1.94

Drilling Emission factor from AP 42 Table 11.9-4 for drilling.
PM10 emission factor based on scaling factor from Table 11.9-2

BLASTING

Area Shifted per Blast - Average 1,250 square foot per blast - average
Area Shifted per Year 316,250 square foot per year

Emission Factors (pounds per blast) *		Emissions - tons per year Em = EmFac * Blast per Year	
PM	PM ₁₀	PM	PM ₁₀
0.619	0.322	0.08	0.04

Blasting Emission factor from AP 42 Table 11.9-1 for blasting

$$* \text{EmFac} = k * 0.000014 * A^{1.5}$$

k = Aerodynamic Factor

PM = 1.00

PM₁₀ = 0.52

A = Area Shifted per Blast - Average

EXPLOSIVES

Explosive Type	Composition	Amount tons/ year
ANFO	Ammonium Nitrate, Fuel Oil	100
Dynamite, Straight	Nitroglycerine, Sodium Nitrate, Wood Pulp, Calcium Carbonate	5

Emission Factor pounds per ton				Emission Rate ton per year			
CO	NOx	VOC (Methane)	SO2	CO	NOx	TOG	SO2
67	17	0	2	3.35	0.85	0.00	0.10
281	0	2.5	0	0.70	0.00	0.01	0.00
TOTAL				4.05	0.85	0.01	0.10

Explosives emission factors from AP-42 Chapter 13.3, Table 13.3-1

BULLDOZING AND GRADING OF MATERIAL

Emissions from Bulldozing

Material	Control		Hours of Operations	Emission Factors		Uncontrolled Emissions (tpy)	
	Type	Efficiency (%)		PM	PM ₁₀	PM	PM ₁₀
Overburden	None	0.000	8760	25.978	5.837	113.78	25.57
TOTAL						113.78	25.57

Bulldozing emission factor from AP-42 Table 11.9-1.

PM Emission Factors (pounds per hours of operations)

$$EmFac = 5.7 * (s)^{1.2} / (M)^{1.3}$$

s = silt content (%)

M = Moisture content (%)

PM10 Emission Factors (pounds per hours of operations)

$$EmFac = .75 * 1 * (s)^{1.5} / (M)^{1.4}$$

s = silt content (%)

M = Moisture content (%)

Emissions from Grading

Material	Control		Hours of Operations	Emission Factors		Uncontrolled Emissions (tpy)	
	Type	Efficiency (%)		PM	PM ₁₀	PM	PM ₁₀
Overburden	None	0.000	8760	12.649	3.060	55.40	13.40
TOTAL						55.40	13.40

Bulldozing emission factor from AP-42 Table 11.9-1.

PM Emission Factors (pounds per hours of operations)

$$EmFac = 0.040 * (s)^{2.5}$$

S = mean speed (miles per hour) = 10

PM10 Emission Factors (pounds per hours of operations)

$$EmFac = .60 * 0.51 * (s)^{2.0}$$

S = mean speed (miles per hour) = 10

Note: the bulldozing and grading operations are mutually exclusive, therefore the unlimited pte is based on worst case emissions resulting from bulldozing.

LOADING OF MATERIALS AT MINE / QUARRY / PIT

Material	Amount Loaded tpy	Emission Factors	
		PM	PM ₁₀
Limestone	400,000	0.101	0.048
Overburden	600,000	0.004	0.002

Emission Factor From AP-42 Chapter 11.9, Table 11.9-4

Material	Control		Uncontrolled Emissions (tpy)	
	Type	Efficiency (%)	PM	PM ₁₀
Limestone	water	0.000	20.15	9.53
Overburden	none	0.000	1.20	0.57
TOTAL			21.36	10.10

The following calculations determine the amount of emissions created by loading of materials, based on 8,760 hours of use and AP-42, Section 13.2.4, Equation 1. The emission factor for calculating PM/PM10 emissions is calculated as follows:

$$E = k * (0.0032)^{((U/5)^{1.3} / ((M/2)^{1.4}))}$$

where k = 0.74 (particle size multiplier for PM)

0.35 (particle size multiplier for PM10)

U = 7.5 mph mean wind speed

M = material moisture content (%)

PAVED ROADS

Vehicle type	Weigh (tons) Mean	Distance Traveled Miles per Year	Silt Loading grams / sq meter	Emission Factors	
				PM	PM ₁₀
Semi	30.0	8,000.0	8.2	6.488	1.266

Vehicle Type	Efficiency (%)	Uncontrolled Emissions (tpy)		Controlled Emissions (tpy)	
		PM	PM ₁₀	PM	PM ₁₀
Semi	50.000	25.95	5.06	12.98	2.53
TOTAL		25.95	5.06	12.98	2.53

The following calculations determine the amount of emissions created by vehicle traffic on paved roads, based on use and USEPA's AP-42, 5th Edition, Section 13.2.1. Silt loading value taken from AP-42 Section 13.2.1: Paved Roads, Table 13.2.1-4 for quarry industry

Emission Factors pounds / vmt

$$EmFac = k * (sL / 2)^{0.65} * (W / 3)^{1.5}$$

k = Aerodynamic Factor

Aerodynamic factor

sL = Silt Loading (%)

PM =

0.082

W = Mean weight (tons)

PM₁₀ =

0.016

UNPAVED ROADS - ENTRAINED DUST - UNCONTROLLED

Vehicle type	Vehicle Weigh (tons)	Distance Traveled Miles per Year	Silt Loading %	Emission Factors (lb/mile)	
				PM	PM ₁₀
VO Haul Trucks	75.0	25,000.0	8.3	10.595	3.013
Customer Trucks	30.0	5,000.0	10	7.993	2.359

Vehicle Type	Efficiency (%)	Uncontrolled Emissions (tpy)		Controlled Emissions (tpy)	
		PM	PM ₁₀	PM	PM ₁₀
VO Haul Trucks	50.000	132.44	37.66	66.22	18.83
Customer Trucks	50.000	19.98	5.90	9.99	2.95
TOTAL		152.42	43.56	76.21	21.78

Calculations based on use and USEPA's AP-42, 5th Edition, Section 13.2.2., equation 1a
Silt loading value taken from AP-42 Section 13.2.: Unpaved Roads, Table 13.2.2-1 for quarry industry

$$E_f = k \cdot (s/12)^a \cdot (W/3)^b \cdot [(365-P)/365]$$

- where k = 1.5 (particle size multiplier for PM-10)
- k= 4.9 (particle size multiplier for PM)
- s= mean % silt content of unpaved roads
- a= 0.9 Constant for PM-10
- a= 0.7 Constant for PM
- b= 0.45 Constant for PM and PM-10
- W= tons average vehicle weight
- P= 125 number of days with at least 0.01 in of precipitation

TOTAL UNCONTROLLED POTENTIAL EMISSIONS

EMISSION SOURCE / OPERATION / ACTIVITY	CRITERIA EMISSIONS (tons per year)					
	PM	PM ₁₀	CO	NOx	VOC	SO ₂
NONFUGITIVE						
KEROSENE FUEL OIL COMBUSTION	0.30	0.50	0.75	3.01	0.05	0.85
LPG COMBUSTION	0.08	0.08	0.41	2.44	0.06	0.01
FUGITIVE						
DRILLING	3.70	1.94	-	-	-	-
BLASTING	0.08	0.04	-	-	-	-
EXPLOSIVES	-	-	4.05	0.85	0.01	0.10
BULLDOZING AND GRADING OF MATERIAL	113.78	25.57	-	-	-	-
LOADING OF MATERIALS MINE / QUARRY / PIT	21.36	10.10	-	-	-	-
PAVED ROADS - ENTRAINED DUST	25.95	5.06	-	-	-	-
UNPAVED ROADS - ENTRAINED DUST	152.42	43.56	-	-	-	-
TOTAL	317.67	86.84	5.22	6.30	0.12	0.97

TOTAL CONTROLLED POTENTIAL EMISSIONS

EMISSION SOURCE / OPERATION / ACTIVITY	CRITERIA EMISSIONS (tons per year)					
	PM	PM ₁₀	CO	NOx	VOC	SO _x
NONFUGITIVE						
KEROSENE FUEL OIL COMBUSTION	0.30	0.50	0.75	3.01	0.05	0.85
LPG COMBUSTION	0.08	0.08	0.41	2.44	0.06	0.01
FUGITIVE						
DRILLING	3.70	1.94	-	-	-	-
BLASTING	0.08	0.04	-	-	-	-
EXPLOSIVES	-	-	4.05	0.85	0.01	0.10
BULLDOZING AND GRADING OF MATERIAL	113.78	25.57	-	-	-	-
LOADING OF MATERIALS	21.36	10.10	-	-	-	-
PAVED ROADS - ENTRAINED DUST	12.98	2.53	-	-	-	-
UNPAVED ROADS - ENTRAINED DUST	76.21	21.78	-	-	-	-
TOTAL	228.49	62.53	5.22	6.30	0.12	0.97