



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
CLINTON COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 05-12556

DATE: 7/10/2003

Martin Marietta Materials -Wilson Twp
Alisa Rhodes
4770 Duke Dr, Ste 200
Mason, OH 45040

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA

SWDO



**Permit To Install
Terms and Conditions**

**Issue Date: 7/10/2003
Effective Date: 7/10/2003**

FINAL PERMIT TO INSTALL 05-12556

Application Number: 05-12556
APS Premise Number: 0514010170
Permit Fee: **\$2900**
Name of Facility: Martin Marietta Materials -Wilson Twp
Person to Contact: Alisa Rhodes
Address: 4770 Duke Dr, Ste 200
Mason, OH 45040

Location of proposed air contaminant source(s) [emissions unit(s)]:
**1439 Gleason Rd
Wilson Twp, Ohio**

Description of proposed emissions unit(s):
Limestone Quarry.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

Martin Marietta Materials -Wilson Twp
PTI Application: 05-12556
Issued: 7/10/2003

Facility ID: 0514010170

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
Particulate Emissions	37.17

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F001 - Aggregate Processing and Material Handling which include: Three (3) impact crushers rated at 800 tph each; Four (4) screens; Thirty-four (34) conveyors.	OAC rule 3745-31-05(A)(3) NSPS 40 CFR Part 60, Subpart OOO OAC rule 3745-17-07(B)(1) OAC rule 3745-17-08(B)	10.3 pounds per hour and 9.6 tons per year particulate emissions (PE). See A.2.a. through A.2.g. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(A)(3) The limit based on this rule is less stringent than the particulate limit established above as Best Available Technology (BAT) under 3745-31-05(A)(3). Source is not located in an appendix A area; therefore, no applicable requirements are established.

2. Additional Terms and Conditions

- 2.a Compliance with OAC rule 3745-31-05 (A)(3) shall be demonstrated by the use of water sprays when necessary on crusher(s), screens and transfer points such that the material is maintained in a moist condition during processing. The moisture content shall be sufficient to minimize or eliminate visible emissions of fugitive dust so that compliance with the opacity requirements specified under Section A. are continuously maintained.
- 2.b Fugitive particulate emissions from any transfer point on belt conveyors and from any other emissions point (excluding crushers and truck unloading/loading) where process materials are not saturated, shall not exceed 10 percent opacity, except as provided by rule

40 CFR 60.672.

- 2.c** Fugitive particulate emissions from any crusher where a capture system is not used shall not exceed 15 percent opacity.
- 2.d** The discharge of any visible particulate emissions from wet screening operations and subsequent screening operations, bucket elevators, and belt conveyors that process saturated material in the production line up to the next crusher, grinding mill or storage bin is prohibited.
- 2.e** The discharge of any visible particulate emissions from screening operations, bucket elevators, and belt conveyors in the production line downstream of wet mining operations, where such screening operations, bucket elevators, and belt conveyors process saturated materials up to the first crusher, grinding mill, or storage bin in the production line is prohibited.
- 2.f** The hourly mass emissions limitation outlined above is based upon the emissions unit's potential to emit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to demonstrate compliance with this limit.
- 2.g** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

B. Operational Restrictions

1. The maximum aggregate production rate for this facility shall not exceed 1,500,000 tons per year.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the total aggregate materials produced in this facility.
2. The permittee shall conduct visible emissions evaluations for each piece of affected facility equipment. The visible emission evaluations shall be conducted according to Method 9 methodology as outlined under 40 CFR 60.11. The visible emission performance tests shall be performed during the period of May 1 through September 30.
3. The permittee shall perform daily checks, when equipment is in operation and when the weather

Martin Marietta Materials -Wilson Twp

PTI Application: 05-12556

Issued

Facility ID: 0514010170

Emissions Unit ID: **F001**

conditions allow, for any visible fugitive particulate emissions from each crushing, screening and conveying operation. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. whether the emissions are representative of normal operations;
- b. if the emissions are not representative of normal conditions, the cause of the abnormal emissions;
- c. the estimated total duration of any visible emissions incident which exceeds the specified opacity limitations under Part II. A.; and
- d. any corrective actions taken to eliminate the visible emissions.

The log shall be maintained on-site and available upon request by Ohio EPA representatives.

D. Reporting Requirements

1. The permittee shall submit annual reports that identify any exceedances of the annual production rate limitation for the facility, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year.
2. The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) of any Method 9 evaluation that did not demonstrate compliance with the opacity requirement(s) specified above. The notification shall be in writing and shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days after the exceedance occurs.
3. The permittee shall submit quarterly deviation (excursion) reports which identify the occurrences identified below:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

These reports are due by the date described in Part 1-General Terms and Conditions of this permit under section (A)(2).

4. A screening operation, bucket elevator, or belt conveyor that processes saturated material and is subject to 40 CFR 60.672(h) and subsequently processes unsaturated material shall submit a report of this change within 30 days following such change to the Ohio EPA -Southwest District

Office. This screening operation, bucket elevator, or belt conveyor is then subject to the 10 percent opacity limit in 40 CFR 60.672(b) and the emission test requirements of 40 CFR 60.11 and 60.675.

5. A screening operation, bucket elevator, or belt conveyor that processes unsaturated material but subsequently processes saturated material shall submit a report of this change within 30 days following such change. This screening operation, bucket elevator, or belt conveyor is then subject to the no visible emission limit in 40 CFR 60.672(h).
6. Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
 - a. Construction date (no later than 30 days after such date);
 - b. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
 - c. Actual start-up date (within 15 days of such date); and,
 - d. Date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
P.O. Box 163669
Columbus, Ohio 43216-3669

and

Ohio Environmental Protection Agency
Southwest District Office
DAPC
401 E. Fifth Street
Dayton, Ohio 45402-2911

E. Testing Requirements

1. Compliance with the emissions limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- 1.a Emission Limitation-
10.3 lbs/hr particulates

Applicable Compliance Method-
Compliance shall be determined by multiplying the maximum hourly production rate for each affected facility by the respective emissions factor, as identified below:

<u>No.</u>	<u>Source</u>	<u>Emissions Factors</u> AP-42, Fifth Edition, Table 11-19.2-2
3	Crushers	7.0 E-4 lb/ton;
4	Screens	1.764 E-3 lb/ton; *
34	Conveyors/Hoppers	1.008 E-4 lb/ton; *

* AP-42 Factors have been adjusted to reflect total particulate.

- 1.b Emission Limitation-
9.6 tons/yr particulates

Applicable Compliance Method-
Compliance with the tons per year particulate emissions limitations in section A.1. of these terms and conditions shall be demonstrated by calculations using the emission factors (EF) from AP-42, Table 11.19.2-2, Fifth Edition, September, 1995.

- 1.c Emission Limitation-
0, 10, and 15 percent opacity

Applicable Compliance Method-
Compliance with the visible emissions limitations in section A.1. of these terms and conditions shall be determined by Method 9 and the procedures in 40 CFR 60.11 with the following additions:

- a. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet);
- b. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed; and
- c. For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

- 2. The permittee shall conduct, or have conducted, fugitive particulate emission testing for the

appropriate equipment permitted under emissions unit F001 in accordance with the following requirements:

- a. The emission testing shall be conducted within 60 days after achieving maximum production but no later than 180 days after initial startup.
- b. The emission testing shall be conducted to demonstrate compliance with 40 CFR 60 Subpart OOO;
- c. Compliance with the opacity limits of this permit shall be determined by using US EPA Reference Test Method 9.
- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Southwest District Office;
- e. Not later than 30 days prior to the proposed test date(s), this facility shall submit an Intent to Test notification to the Ohio EPA, Southwest District Office. The Intent to Test notification shall describe in detail the proposed test methods and procedures, the source operating parameters, the time(s) and the date(s) of the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Ohio EPA, Southwest District Office's refusal to accept the results of the opacity test(s).
- f. Personnel from Ohio EPA, Southwest District Office shall be permitted to witness the test(s). Personnel from this facility shall acquire data and information regarding the source operating parameters (including but not limited to, water flow rates and pressure employed for particulate emissions and opacity control at this plant).
- g. A comprehensive written report on the results of the opacity test(s) (including opacity levels and the source operating parameters) shall be submitted to Ohio EPA, Southwest District Office within 30 days following completion of the test(s).

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F002 - Mineral Extraction: Overburden Removal and Blasting	OAC rule 3745-31-05(A)(3)	7.2 tons per year of particulate emissions(PE) See A.2.a., A.2.b., and A.2.c.
	OAC rule 3745-17-08(B)(6)	Source is not located in an appendix A area; therefore, no applicable requirements are established.

2. Additional Terms and Conditions

- 2.a The permittee shall conduct operations in a manner that reduces the disturbance of the land surface area during overburden and mineral removal operations so as to minimize the generation of fugitive particulate emissions.
- 2.b The permittee shall reclaim disturbed area with vegetation as expeditiously as possible to reduce erosion and the generation of fugitive emissions. The facility shall make available to Ohio EPA the plan developed for the Ohio Department of Natural Resources to reclaim disturbed land.
- 2.c The permittee shall reduce the drop height of loading operations into haul vehicles and prevent the overloading of haul vehicles to control the generation of fugitive emissions. If needed, the permittee shall cover the loads to control excessive fugitive emissions.

B. Operational Restrictions

Martin Marietta Materials -Wilson Twp

PTI Application: 05 12556

Issued

Facility ID: 0514010170

Emissions Unit ID: **F002**

1. The maximum number of blasts completed at the facility shall not exceed 150 per calendar year.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain annual records of the number of blasts completed at the facility.
2. The permittee shall maintain annual records of the area, in acres, stripped for overburden activities.
3. The permittee shall maintain annual records of the quantity, in acres, of land reclaimed per year.

D. Reporting Requirements

1. The permittee shall submit annual reports that identify any exceedances of the annual blasting rate limitation for the facility, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- 1.a Emission Limitation-
7.2 tons per year of particulate emissions(PE)

Applicable Compliance Method-

Compliance with the tons per year particulate emissions shall be determined by multiplying the emissions factor identified below by the recordkeeping requirement in Section c.

<u>Source</u>	<u>Emissions Factor</u>
Blasting	49.8 lbs of PE/blast; RACM Table 2.1.4-4
Loading Operations (9/85) *	0.00021 lb of PE/ton; AP-42, Fifth Edition, Table 11-19.2-2
Reclamation Operations	0.04 lb of PE/ton; AP-42, Fifth Edition, Table 11.9-4 (10/98)
Overburden Removal (1/95)	20.2 lbs of PE/VMT; AP-42, Fifth Edition, Table 13.2.3.1

* AP-42 Factors have been adjusted to reflect total particulate emissions (PE)

F. Miscellaneous Requirements

None

17

Martin

PTI A

Issued: 7/10/2003

Emissions Unit ID: **F002**

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F003 - Aggregate Storage Piles (includes loading onto piles, wind erosion, loading out and associated vehicular traffic)	OAC rule 3745-31-05(A)(3)	16.37 tons per year of particulate emissions (PE)
	OAC rule 3745-17-07(B)(6)	See A.2.a through A.2.e. below
	OAC rule 3745-17-08(B)	There shall be no visible particulate emissions from storage pile and associated material handling activities, except for a period of time not to exceed one minute during any sixty-minute observation period.
		Source is not located in an appendix A area; therefore, no applicable requirements are established.

2. Additional Terms and Conditions

- 2.a The permittee shall employ best available technology on all material handling and removal activities for the purpose of ensuring compliance with the above-mentioned applicable requirements. This includes activities used to form, develop and remove material from each storage pile. In accordance with the permittee's permit application, the permittee has committed to prevent the generation of fugitive dust by minimizing the drop height of load-in and load-out vehicles. In addition, fugitive dust from loading and unloading operations will be minimized through the use of water and/or any other suitable dust suppression chemicals to ensure compliance. Nothing in this paragraph shall prohibit the

permittee from employing other control measures to ensure compliance.

- 2.b** The above-mentioned control measure(s) shall be employed for each material handling and removal activity at each storage pile, if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.
- 2.c** The permittee shall employ best available technology for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to maintain individual storage piles to a height that is as low as possible. In addition all storage piles will be established within the quarry pit to reduce the effects of wind erosion. Nothing in this paragraph shall prohibit the permittee from employing other control measures, in addition to the aforementioned practices to ensure compliance.
- 2.d** Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.
- 2.e** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rules 3745-31-05.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile, each day the plant is open for sale of product or is engaged in activity where the operation(s) can cause visible particulate emissions from the storage piles.
2. No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended.
3. The purpose of the inspections is to determine the need for implementing the control measures

specified in this permit for activities used to form, develop and remove material from each storage pile. The inspections shall be performed during representative operating conditions.

4. The permittee may, upon receipt of written approval from the Ohio EPA Southwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
5. The permittee shall maintain records of the following information:
 - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
 - c. the dates the control measures were implemented; and
 - d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in 5.d. shall be kept separately for (i) activities used to form, develop and remove material from each storage pile, and (ii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

6. The permittee shall maintain monthly records of the total tons of sand and aggregate loaded and unloaded from the storage piles.

D. Reporting Requirements

1. The permittee shall submit deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when a control measure, that was to be implemented as a result of an

inspection, was not implemented.

The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

- 1.a Emission Limitation:
16.37 tons per year of particulate emissions(PE)

Applicable Compliance Method:

The annual PE limitation may be determined by the following methodology:

$$\text{LIN} + \text{WE} + \text{LOT} = 16.37 \text{ tons of particulate emissions (PE)/yr}$$

where:

LIN = emissions from loading onto pile (4.21 tons of PE/yr)

WE = emissions from wind erosion (7.95 tons of PE/yr)

LOT = emissions from loading out of pile (4.21 tons of PE/yr)

- 1.a.1. Aggregate load-in and load-out operation (1.5 million tpy), Emission Factor Determination: AP-42 Fifth Edition Chapter 13.2.4 (Revised 01/95)

Equation:

$$E = (k)(0.0032) [(U/5)^{1.3} / (M/2)^{1.4}] \text{ pounds of PE per ton}$$

Where:

k = particle size multiplier (TSP30 = 0.74)

U = mean wind speed (mph)

M = material moisture content (%)

Mean Wind Speed: The thirty-year annual wind speed for selected Ohio cities is 10.2 mph for the Dayton Area. The maximum mean wind speed is given as 11.0 mph for the Mansfield area (RACM, Table 2.1.2-3). Martin Marietta Materials uses the value of 12 mph as a safety value (11.0 mph + 1 mph)

U = mean wind speed (mph) = 12 mph (approximate for southwestern Ohio)

Material Moisture Content: The material moisture content range is given as 0.25% to 4.8% (AP-42, 13.2.4-3). The representative moisture content for Limestone is 2%. as a worst-case scenario, Martin Marietta Materials will use the value of 2% as listed in RACM, Table 2.1.2-2.

M = material moisture content = 2% (worst-case based on limestone material per RACM, Table 2.1.2-2)

Emission Factor Calculation:

The following calculations represent the emission factors for total suspended particulate for aggregate handling at this Limestone plant:

TSP (PM30) Emission Factor $ETSP = (0.74)(0.0032)[(12/5)^{1.3}/(2/2)^{1.4}] = 0.007 \text{ lb/ton grvl}$

- 1.a.2. Maximum Amount of Aggregate Handled: The maximum amount of aggregate produced at the facility is 1,500,000 tons of limestone annually. This value is based on the maximum amount of aggregate that the facility can produce.

Maximum Material Handled to the Storage Piles: 1,500,000 tons/yr

Maximum Material Handled to Truck Loading: 1,500,000 tons/yr

- 1.a.3. Maximum Uncontrolled Particulate Emissions for Aggregate Handling and Storage Piles

Material Load-in Operation (Loading to Storage Piles)

Emissions Unit ID: F003

$$\text{TSP (PM30) Maximum Emissions} = (0.007 \text{ lb/ton})(1,500,000 \text{ ton/yr})/2000 = 5.62 \text{ ton/yr}$$

Material Load-out Operation (Storage Piles => Gravel Trucks)

$$\text{TSP (PM30) Maximum Emissions} = (0.007 \text{ lb/ton})(1,500,000 \text{ ton/yr})/2000 = 5.62 \text{ ton/yr}$$

$$\text{Total TSP (PM30) Maximum Uncontrolled Emissions} = 11.24 \text{ ton/yr}$$

1.a.4. Load-in/Load-out Control Measures:

There are several control methods available to effectively minimize fugitive dust emissions generated from storage pile activities. The primary control measures are enclosures, chemical stabilization, and operating precautions. Typical operating precautions include minimizing the drop heights of the stackers and front-end loaders. Aggregate materials have a natural inherent moisture content that allows for the implementation of operating precautions as an effective control measure.

Implementation of Operating Precaution: 25% average control efficiency (RACM, 1980, Ohio EPA)

1.a.5. Total Maximum Controlled Particulate Emissions for Aggregate Handling and Storage Piles

$$\text{TSP (PM30) Maximum Emissions} = (11.24 \text{ ton TSP/yr})(1-0.25)/2000 = 8.43 \text{ ton/yr}$$

1.b Wind erosion- maximum emission calculations:

The emission factor is taken from "Control of Open Fugitive Dust Sources", USEPA (EPA-450/3-88-008).

$$E = (1.7)(s/1.5)((365 - p)/235)(f/15) = \text{lbs/day/acre (Equation (1))}$$

$$E = (1.7/24)(s/1.5)((365-p)/235)(f/15) = \text{lbs/hr/acre (Equation (2))}$$

Where:

s = material silt content (%)

p = number of days with at least 0.01 inches of precipitation per year
 f = percent of time where the wind is greater than 12 mph

Material Silt Content:

AP-42, Table 13.2.4-3 provides a silt content range of 0.44% to 19% in the development of the Aggregate Handling and Storage Pile equation. RACM lists limestone as 2%, and AP-42 lists "various limestone products" as a mean value of 3.9%. As a worst-case scenario, Martin Marietta Materials will use the mean silt content value of 3.9%. (AP-42, Table 13.2.4-1).

s = material silt content is 3.9% (AP-42, Table 13.2.4-1 "Mean Value" as a worst-case scenario)

Mean Wind Speed:

The above equation calls for the percent of time where the wind is greater than the Mean Wind Speed. The Mean Wind Speed, as discussed previously, is 12 mph (11 mph - Mansfield area + 1 mph - Safety Factor) as a worst-case scenario. Historically, Martin Marietta Materials uses the value of 23% as the "percent of time where the wind is greater than the Mean Wind Speed".

f = percent of time where the wind is greater than 12 mph = 23%

Number of Days with at least 0.01 inch of Precipitation per Year:

The mean number of day with at least 0.01 inch of precipitation per year is based on AP-42, Figure 13.2.2-1 and provides a value of 130 days for the western portion of Ohio.

p = mean number of days with at least 0.01 inch of precipitation per year = 130 days
 (AP-42, Figure 13.2.2-1)

Emission Factor Determination:

The following calculations represent the emission factors for total suspended particulate for wind erosion:

$$\text{TSP (PM30) Emission Factor ETSP} = (1.7/24)(3.9/1.5)((365-130)/235)(23/15) \\ = 0.28 \text{ lb/hr/acre}$$

Maximum Amount of Limestone Storage - Maximum Uncontrolled Wind Erosion Emissions:

The maximum amount of Limestone produced at the facility is 1,500,000 tons annually. This value is based on the maximum amount of aggregate that the facility can produce although product types will vary based on customer demand. The storage piles are assumed, as a worst-case scenario, to be created by radial stackers.

Radial stackers typically can rotate to create a maximum 120 degree arc. Stacker heights are typically designed to be a maximum height of 50 feet.

$$\text{TSP (PM30)} = [(0.28 \text{ lb/hr/acre})(24 \text{ hr/day})(13.12 \text{ acres})(365 \text{ days/yr})]/2000 = 16.23 \text{ ton/yr}$$

Wind Erosion Emission Control Measures:

Due to the naturally occurring moisture content of the storage pile material, it is practical and feasible to maintain the heights of the storage piles. This type of control measure is defined as "Precautionary Measures" in RACM and estimates an average control efficiency of 30% (RACM, 1980, pg. 2-48). The facility's ODNR Mining Permit requires the installation of berms. In addition, the processing plant (and storage piles) will be located 11 feet below the natural elevation. Combined, this provides a "wind break" of approximately 50 feet in height and an additional average control efficiency of 30% (RACM, 1980, pg. 2-48).

Martin Marietta Materials -Wilson Twp

PTI Application: 05-12556

Issued

Facility ID: 0514010170

Emissions Unit ID: F003

Therefore the average control efficiency, achieved by calculating a ratio of emissions controlled per uncontrolled emissions is 51%.

Maximum Controlled Particulate Emissions for Wind Erosion:

$$\begin{aligned} \text{TSP (PM}_{10}\text{)} &= [(0.28 \text{ lb/hr/acre})(24 \text{ hr/day})(13.12 \text{ acres})(365 \text{ days/yr})(1-0.51)]/2000 \\ &= 7.95 \text{ ton/yr} \end{aligned}$$

- 1.c There shall be no visible particulate emissions from the storage piles and associated material handling activities, except for a period of time not to exceed one minute during any sixty-minute observation period.

Applicable Compliance Method

Compliance with the visible emission limitations for the storage piles identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test

27

Marti

PTI A

Issued: 7/10/2003

Emissions Unit ID: **F003**

Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

F. Miscellaneous Requirements

None

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, <u>and/or Equipment</u>	Parking Areas	<u>Applicable Rules/Requirements</u>
F004 - Plant Roadways and Parking Areas	Paved roadways and parking areas	OAC rule 3745-31-05(A)(3)
		OAC rule 3745-17-07(B)(4)
		OAC rule 3745-17-08(B)
	Unpaved Roadways and	OAC rule 3745-31-05(A)(3)

Applicable Emissions
 Limitations/Control Measures

Best available technology that are sufficient to minimize or eliminate visible emissions of fugitive dust (see Sections A.2.c, and A.2.d through A.2.i)

Particulate emissions (PE) shall not exceed 4.0 tons per year.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05.

There shall be no visible particulate emissions from any paved roadway or parking area, except for a period of one minute during any 60 minute observation period.

Source is not located in an appendix A area; therefore, no applicable requirements are established.

OAC rule 3745-17-07(B)(5)

Best available technology (BAT) that is sufficient to minimize or eliminate visible emissions of fugitive dust (see Sections A.2.c., through A.2.k.)

OAC rule 3745-17-08(B)

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05.

Source is not located in an appendix A area; therefore, no applicable requirements are established.

Particulate emissions (PE) shall not exceed 15.85 tons per year.

There shall be no visible particulate emissions from any unpaved roadway or parking area, except for a period of time not to exceed three minutes during any sixty-minute observation.

2. Additional Terms and Conditions

- 2.a** All paved and unpaved roadways and parking areas that are covered by this permit and subject to the above-mentioned requirements are listed below:
- 2.b** The permittee shall employ best available technology on the unpaved roadways and loading areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved roadways and parking areas by monthly application of chemical stabilizers and daily application of water to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- 2.c** The permittee shall employ best available technology on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the paved roadways and parking areas by applying water and/or wet sweeping at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing equally or more effective control measures to ensure compliance.
- 2.d** Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled with the control measure(s) specified above for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain types of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas. As of the issuance of this permit, BAT for paved roadways is no visible particulate emissions from any paved roadway or parking area, except for a period of one minute during any 60-minute observation period.
- 2.e** The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved or unpaved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

- 2.f** The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- 2.g** Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported. Signs instructing the owner and/or operator of all on-road, open-bodied vehicles to cover loaded aggregate materials shall be placed in conspicuous areas.
- 2.h** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.
- 2.i** The use of used oil as a dust suppressant is prohibited per OAC rule 3745-279-82.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform daily inspections of the paved and unpaved roadways and parking areas. The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions.

No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.
2. The permittee may, upon receipt of written approval from the Ohio EPA Southwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
3. The permittee shall maintain records of the following information:
 - a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
 - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;

- c. the dates the control measures were implemented; and
 - d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.
4. A maximum speed limit of 15 miles per hour for vehicular traffic shall be posted at the entrance and exit of this facility.
 5. The permittee shall apply chemical dust suppressants to unpaved roadways during freezing conditions when the application of water is not practical or safe. Implementation of this control measure may be suspended when sufficient moisture content exists such that emissions limitations are in compliance with those established in Part II. A.1.
 6. The permittee shall water plant roadways at a minimum of once per day, unless it is below freezing or unless precipitation precludes the need for watering. Paved roadways (if ever applicable) shall be swept weekly, or as needed.

D. Reporting Requirements

1. The permittee shall submit deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation-
Particulate emissions (PE) from paved roadways shall not exceed 4.0 ton/yr.

Applicable Compliance Method-
Compliance shall be determined by multiplying the vehicle travel miles per year times a

calculated AP-42 emission factor and a control efficiency for water flushing:

Paved roadways AP-42, Fifth Edition, Chapter 13.2.1 (10/97)

$$EF = k(sL/2)^{0.65} (W/3)^{1.5} \text{ lbs/VMT}$$

k = particle size multiplier = 0.082 lb of PE/VMT (PM-30 Table 13.2.1-1 AP-42)

sL = silt loading on road surface = 4.3 gr/ft² (Table 13.2.1-5)

W = average vehicle weight (tons) = 29.3

VMT = (1,500,000 tons/yr)(truck/ 29.3 tons) (0.19 miles) = 9,727 VMT/yr

$$EF = 0.082(4.3/2)^{0.65} (29.0/3)^{1.5} = 4.12 \text{ lbs of PM-30/VMT}$$

(4.12 lbs/VMT) (9,727 VMT/yr) (1 ton/ 2,000 lbs) = 20.02 tons of PE/yr

Annual emissions = 20.02 tons of PE/yr * (1 - 0.80 for water application) = 4.0 tons PE/yr

Notes: 1. Average vehicle weight in this case is a weighted average of vehicle mix anticipated at the site. Vehicles were assumed to be fully-loaded during their entire time on site. 2. Site specific silt loading was not available; therefore, a worst-case value was chosen which reflects, according to the applicant, an emission rate that reflects the controllability of the roadway material.

- b. Emission Limitation-
Particulate emissions (PE) from unpaved roadways shall not exceed 15.85 tons/yr.

Applicable Compliance Method-

Compliance shall be determined by multiplying the vehicle travel miles per year times a calculated AP-42 emission factor and a control efficiency for dust suppression:

UNPAVED ROADWAYS: MAXIMUM EMISSION CALCULATIONS

Emission Factor Determination: AP-42 Chapter 13.2.2 (9/98). Equation represents industrial unpaved roadways.

$$\text{Emission Factor} = EC = \left[\left(\frac{k}{12} \right)^a \left(\frac{W}{3} \right)^b \right] / \left(\frac{M}{0.2} \right)^c \left[\frac{365 - p}{365} \right]$$

Where:

k = particle size multiplier; 10 for PM30 and 2.6 for PM10

a = empirical constant; 0.8 for PM30 and 0.8 for PM10

b = empirical constant; 0.5 for PM30 and 0.4 for PM10

c = empirical constant; 0.4 for PM30 and 0.3 for PM10

M = surface material moisture content (%) = 0.2%

s = surface material silt content (%) = 4.8%

W = mean vehicle weight (tons) = 29.3 tons

p = number of days with at least 0.01 inch of precipitation per year = 130 days/yr

EC = 9.66 lbs of PE / VMT

VMT = 65, 619 VMT/yr

MUER = Maximum Uncontrolled Emission Rate = (EC x VMT) / 2000 lb/ton
= 316.95 tpy of PE

CE = control efficiency from dust suppressants, road oiling, surface improvements
and speed reductions = 95%

MCER = Maximum Controlled Emission Rate = MUER (1 - CE)
= 15.85 tons of PE/year

c. Emission limitation-

There shall be no visible emissions except for a period not to exceed one minute during any 60 minute observation period from paved roadways.

Applicable Compliance Method-

Compliance with the emission limitation for the paved roadways and parking areas shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources," as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

d. Emission limitation-

There shall be no visible emissions except for a period of time not to exceed three minutes during any sixty-minute observation period from unpaved roadways.

Applicable Compliance Method-

Compliance with the emission limitation for the unpaved roadways and parking areas shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources," as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

35

Marti

PTI A

Issued: 7/10/2003

Emissions Unit ID: **F004**

F. Miscellaneous Requirements

None