

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part III" and before "I. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part II - Specific Facility Terms and Conditions

a State and Federally Enforceable Section

1. This facility is subject to the applicable requirements specified in OAC Chapter 3745-25. In accordance with Ohio EPA Engineering Guide #64, the emission control action programs, as specified in OAC rule 3745-25-03, shall be developed and submitted within 60 days after receiving notification from the Ohio EPA.
2. Ironrock Capital, Inc. is a major stationary source for PSD with respect to SO₂.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

b State Only Enforceable Section

1. The following insignificant emissions units are located at this facility:

F003 - Meredith ceramic glaze application process;
P007 - tunnel drier #1;
P008 - tunnel drier #2;
P009 - QC laboratory; and
P901 - mixing and blending.

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, as well as any emission limitations and/or control requirements contained within a permit to install for the emissions unit.

- [Go to Part III for Emissions Unit F001](#)
- [Go to Part III for Emissions Unit F004](#)
- [Go to Part III for Emissions Unit P004](#)
- [Go to Part III for Emissions Unit P005](#)
- [Go to Part III for Emissions Unit P006](#)
- [Go to Part III for Emissions Unit P011](#)
- [Go to Part III for Emissions Unit P012](#)
- [Go to Part III for Emissions Unit P014](#)
- [Go to Part III for Emissions Unit P015](#)
- [Go to Part III for Emissions Unit P017](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: F001 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
paved parking areas (see Additional Term and Condition A.I.2.a)	OAC rule 3745-17-07(B)(4)	no visible particulate emissions except for 6 minutes during any 60-minute period
	OAC rule 3745-17-08(B), (B)(8)	reasonably available control measures (see Additional Terms and Conditions A.I.2.c, A.I.2.d, and A.I.2.h)
unpaved roadways and parking areas (see Additional Term and Condition A.I.2.b)	OAC rule 3745-17-07(B)(5)	no visible particulate emissions except for 13 minutes during any 60-minute period
	OAC rule 3745-17-08(B), (B)(2)	reasonably available control measures (see Additional Terms and Conditions A.I.2.e and A.I.2.h)

2. Additional Terms and Conditions

- a. The paved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:
 - (a) paved roadways:
 - none
 - paved parking areas:
 - office parking
- b. The unpaved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:
 - unpaved roadways:
 - east road, west road, plant entrance
 - unpaved parking areas:
 - none
- c. The permittee shall employ reasonably available control measures 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 clean the paved roadways and parking areas by sweeping with a broom at sufficient frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control

measures to ensure compliance.

- d. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved parking areas onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- e. The permittee shall employ reasonably available control measures on all unpaved 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 unpaved roadways and parking areas with oil and resurface the unpaved roadways and parking areas at sufficient frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- f. The control measures shall be implemented at frequencies that will minimize or eliminate visible emissions of fugitive dust generated by vehicular traffic and ensure compliance with the above-mentioned visible emission limitations, and the needed frequencies of implementation shall be determined by the permittee's inspections. It is further understood that on any specific day 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 minimize or eliminate visible emissions of fugitive dust generated by vehicular traffic and to ensure compliance with the above-mentioned visible emission limitations.
- g. 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 considered as a paved roadway or parking area, and controlled with the control measure specified above for paved surfaces. Such unpaved roadway or parking area shall remain subject to the visible emission limitation for unpaved roadways and parking areas.
- h. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary to minimize or eliminate visible emissions of fugitive dust.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform inspections of the roadways and parking areas in accordance with the following frequencies:
 - paved roadways and parking areas minimum inspection frequency
 - office parking monthly
 - unpaved roadways and parking areas minimum inspection frequency
 - east road, west road, plant entrance once every two weeks

The purpose of the inspections is to determine the need for implementing the control measures specified in section A.1.2. 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 minimize or eliminate visible emissions of fugitive dust generated by vehicular traffic and to ensure compliance with the above-mentioned visible emission limitations. 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 inspection is within one week.

The permittee may, upon receipt of written approval from the Canton City Health Department, Air Pollution Control Division, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to minimize or eliminate visible emissions of fugitive dust generated by vehicular traffic and to ensure compliance with the above-mentioned visible emission limitations.
2. 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 which 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.

The information required in section A.III.2.d shall be kept separately for (i) the paved roadways and parking areas and (ii) the unpaved roadways and parking areas and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

- 1. The permittee shall submit quarterly 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.
- 2. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.I.c.ii.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

- 1. Compliance with the emission limitations for the paved and unpaved roadways and parking areas identified above shall be determined utilizing Test Method 22 of 40 CFR, Part 60, Appendix A in accordance with OAC rule 3745-17-03(B)(4).

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: F001 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
paved parking areas	none	none
unpaved roadways and parking areas	none	none

2. Additional Terms and Conditions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

- 1. If there are no deviations during a calendar quarter that must be reported pursuant to section A.IV of this permit, the permittee shall submit a quarterly report, in accordance with paragraph B.8 of the General Terms and Conditions, which states that no deviations occurred during that quarter.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: F004 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
Raw fireclay and raw shale receiving, each with a maximum processing capacity of 80 TPH, including truck dumping, conveying and transferring of raw materials (includes one raw fireclay truck dump receiving hopper with partial enclosure and water sprays serviced by the truck dump fabric filter (DCF004) with exhaust inside the building, one raw shale truck dump receiving hopper with partial enclosure and water sprays serviced by DCF004, and apron feed conveyor, with transfer to existing conveyors for each truck dump receiving hopper).	OAC rule 3745-31-05(A)(3) (PTI 15-1146)	1.50 lbs/hr of particulate emissions from the stack of the truck dump fabric filter
		0.416 tpy of particulate emissions from the stack of the truck dump fabric filter
		See A.I.2.a below.
		See A.I.2.b below.
	OAC rule 3745-17-07(B)	See A.I.2.b below.
	OAC rule 3745-17-07(A)	reasonably available control measures (RACM) for the truck unloading operation, the apron feed conveyor, and the conveyor transfer point
	OAC rule 3745-17-08	See A.I.2.c below.
		See A.I.2.d below.

OAC rule 3745-17-11

2. **Additional Terms and Conditions**

- a. i. During dumping of raw materials into the raw fireclay and raw shale truck dump receiving hoppers, there shall be no visible particulate emissions of fugitive dust from the 3-sided partial enclosures which exceed 10% opacity as a 3-minute average.
- (a) ii. The raw fireclay and raw shale truck dump receiving hoppers shall be serviced by water sprays and a fabric filter that has a collection efficiency that is sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the points of capture to the extent possible with good engineering design. The truck dump receiving hoppers shall be serviced by the truck dump fabric filter, DCF004. The fabric filter shall be vented inside the building, and there shall be no visible particulate emissions at the outlet of the fabric filter.
- iii. Any belt conveyors that are not contained in a totally enclosed building shall be covered.
- b. i. The visible particulate emissions of fugitive dust resulting from the operation of the apron feed conveyor and the transfer of raw materials to existing conveyors shall not exceed 20% opacity as a 3-minute average.
- ii. For the dumping of raw materials into the truck dump receiving hoppers, the visible particulate emissions of fugitive dust limitation required by OAC rule 3745-17-07(A) is less stringent than the visible particulate emissions of fugitive dust limitation established pursuant to the best available technology requirements required by OAC rule 3745-31-05.
- c. For the following operations associated with this emissions unit, RACM shall be:
 - i. for the truck dumping operations, partial enclosures shall be used for each of the shale and fireclay truck dump receiving hoppers, with water sprays in each partial enclosure for the control of particulate emissions from each of the truck dump receiving hoppers with partial enclosures during dumping, and a fabric filter (DCF004) with a collection efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the points of capture (shale partial enclosure and fireclay partial enclosure) with good engineering design.
 - ii. for the apron feed conveyor #1, the conveyor shall be located inside a building (total enclosure);
 - iii. for the transfer points from the apron feed conveyor #1 to the existing conveyors, the transfer points shall be located inside a building (total enclosure); and
 - iv. for any belt conveyors not in a building, the belt conveyors shall be covered so as to minimize or eliminate visible particulate emissions of fugitive dust from the belt conveyors to the extent possible with good engineering design.
- d. The raw fireclay and raw shale truck dump receiving hoppers, the apron feed conveyor #1, and the transfer points from the apron feed conveyor #1 to the existing conveyors are subject to OAC rule 3745-17-11. The particulate emission limitation required by this applicable rule is less stringent than the particulate emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

- 1. The permittee shall process no more than 200,000 tons of raw material per calendar year in this emissions unit.
- 2. The pressure drop across the baghouse shall be maintained within the range of 2 to 4 inches of water while the emissions unit is in operation.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall maintain weekly records of the amount of material unloaded in this emissions unit, in tons.
- 2. The permittee shall perform weekly visible emissions checks for the following equipment and operations, when the emissions unit is in operation and when the weather conditions allow:
 - a. for each receiving hopper, check for any visible particulate emissions of fugitive dust outside the 3-sided enclosure serving this truck dumping operation when the truck dumping is taking place;
 - b. for the apron feed conveyor #1, check for any visible particulate emissions of fugitive dust around the conveyor when the conveyor is transporting material;
 - c. for the apron feed conveyor #1 transfer point, check for any visible particulate emissions of fugitive dust at the transfer points when the conveyor is transporting material; and

d. for each stack, check for any visible particulate emissions when the equipment that the stack is serving is in 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. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
 4. The permittee shall maintain a daily record of the hours of operation for this emissions unit.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed at any of the locations identified in section A.III.2 and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Canton City Health Department, Air Pollution Control Division by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit annual reports that include the amount of material unloaded, in tons, during the previous calendar year. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
4. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.I.c.ii.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

1.50 lbs/hr of particulate emissions from the stack of the truck dump fabric filter

Applicable Compliance Method:

Compliance shall be demonstrated based upon the stack testing requirements specified in section A.V.2.
 - b. Emission Limitation:

0.416 tpy of particulate emissions from the stack of the truck dump fabric filter

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the hourly emission limitation of 1.5 lbs/hr by the actual annual hours of operation, and then dividing by 2000 lbs/ton.
 - c. Emission Limitation:

During dumping of raw materials into the truck dump receiving hoppers, there shall be no visible particulate emissions of fugitive dust which exceed 10% opacity as a 3-minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon visible particulate emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.
 - d. Emission Limitation:

no visible particulate emissions at the outlet of the fabric filter

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Method 22 and OAC rule 3745-17-03(B)(4).

e. Emission Limitation:

The visible particulate emissions of fugitive dust resulting from the operation of the apron feed conveyor and the transfer of raw materials to existing conveyors shall not exceed 20% opacity as a 3-minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon visible particulate emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted on an annual basis.

b. The emission testing shall be conducted to demonstrate compliance with the visible particulate emissions of fugitive dust limitation for visible emissions resulting from loading operations at the truck dump receiving hoppers and to demonstrate compliance with the allowable hourly mass emission rate for particulate matter.

c. The following test method(s) shall be employed to demonstrate compliance: for visible particulate emissions of fugitive dust, Method 9 of 40 CFR Part 60, Appendix A and, for the allowable hourly mass emission rate for particulate matter, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

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 Canton City Health Department, Air Pollution Control Division.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).

Personnel from the appropriate Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control Division within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Canton City Health Department, Air Pollution Control Division.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. Note that this emissions unit is not subject to 40 CFR Part 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants as is indicated in 40 CFR 60.672(d).

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: F004 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or

control measures (if any) may 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>
---	--------------------------------------	--

2. **Additional Terms and Conditions**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. **Operational Restrictions**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. **Monitoring and/or Record Keeping Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. **Reporting Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P004 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

natural gas-fired tunnel kiln to produce unglazed quarry tile; kiln #1; maximum input capacity 11.2 mmBtu/hr; maximum raw material feed rate 3.97 TPH; tile production capacity 3.67 TPH, vented to a common stack for emissions units P004, P005, P006,	OAC rule 3745-17-07	See A.I.2.a below.
	OAC rule 3745-17-11	See A.I.2.b below.
	OAC rule 3745-18-06(E)(1)	See A.I.2.c below.

and P014 OAC rule 3745-31-05 See A.I.2.d and A.I.2.e below.
(PTI 15-1173)

2. Additional Terms and Conditions

- a. Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
- b. The particulate emission limitation required by OAC rule 3745-17-11 is less stringent than the particulate emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- c. The sulfur dioxide (SO₂) emission limitation required by OAC rule 3745-18-06(E)(1) is less stringent than the SO₂ emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- d. The following emission limitations shall apply to emissions units P004 (kiln #1), P005 (kiln #2), P006 (kiln #3), and P014 (kiln #4) combined, pursuant to PTI 15-1173:
 - 21.65 lbs/hr of particulate emissions
 - 94.14 tpy of particulate emissions
 - 16.06 lbs/hr of nitrogen oxides (NO_x)
 - 70.34 tpy of NO_x
 - 76.65 lbs/hr of SO₂
 - 12,877 lbs/wk of SO₂
 - 306.53 tpy of SO₂
 - 6.5 lbs/hr of fluorides
 - 28.47 tpy of fluorides
- e. The height of the stack serving emissions unit P004 shall be a minimum of 45 meters from the ground level.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. The permittee shall burn only natural gas as fuel in this emissions unit.
2. The total amount of sulfur in the raw materials used in emissions units P004, P005, P006, and P014 shall not exceed 8,220 pounds in any one week. The amount of sulfur shall be determined by multiplying the tons of raw material (dry weight) used in a week times the weighted-average sulfur content of the raw materials. See section A.VI.2. for an explanation of the calculation of this weekly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission factor changes.
3. The total amount of sulfur fed to emissions units P004, P005, P006, and P014 shall not exceed 97,900 pounds in any one quarter. The amount of sulfur shall be determined by multiplying the tons (dry weight) of raw materials fed to these emissions units during that quarter times the weighted-average sulfur content of the raw materials. See section A.VI.2. for an explanation of the calculation of this quarterly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission factor changes.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform checks at least once every two week period and within 15 days of the last check performed when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
2. For each day during which the permittee burns a fuel other than natural gas in emissions units P004, P005, P006, or P014, the permittee shall maintain a record of the emissions unit ID(s) and the type and quantity of fuel burned.
3. The permittee shall comply with the following monitoring and record keeping requirements for the purpose of determining the weekly and average hourly SO₂ emissions from emissions units P004, P005, P006, and P014 combined:
 - a. The following procedures shall be used to obtain a representative sample of the total daily amount of

fireclay and shale fed to emissions units P004, P005, P006, and P014:

- i. Daily samples shall be taken of the raw materials (fireclay and shale) used in tile production. A daily grab sample of fireclay shall be taken from the belt conveyor leading from one of the two ground fireclay storage tanks which feed the conveyor belts which feed the pug mixers. A daily grab sample of shale shall be taken from the belt conveyor leading from one of the two ground shale storage tanks which feed the conveyor belts which feed the pug mixers. One of these pug mixers supplies mixed raw materials to emissions units P004 and P005 and the other pug mixer supplies mixed raw materials to emissions units P006 and P014.
 - ii. The two individual daily samples from the conveyor belts shall be mixed in proportion to the daily production rates in emissions units P004, P005, P006, and P014 to obtain a representative daily composite sample.
 - iii. The daily composite sample shall be placed in a composite bottle with lid to produce a weekly composite sample. The weekly composite shall be mixed thoroughly so that a sample may be taken from the bottle to represent the whole week's production from the four emissions units.
 - iv. The permittee shall maintain the following daily records:
 - (a) the production schedule indicating what product is being produced in each of the four kilns including the amount, in grams, of the clay and shale used to make the daily composite sample;
 - (b) the production rate of each product being produced, and the number of kiln cars processed per day in each kiln; and
 - (c) the total daily production rate.
 - v. The permittee shall maintain weekly records of the production schedules indicating what products are produced in emissions units P004 and P005 combined, and indicating what products are produced in emissions units P006 and P014 combined.
- b. The following procedures shall be used to determine the sulfur content of each weekly composite sample:
- i. The weekly composite sample shall be analyzed for sulfur content each week.
 - ii. The weekly composite sample shall be analyzed using the permittee's Laboratory Equipment Corporation (LECO) analysis equipment that utilizes ASTM Test Method D1552 or E350-97 to determine the corrected, weighted-average sulfur content of the raw materials.
 - iii. For quality assurance of the LECO equipment and its analytical methods, the permittee shall perform a calibration test before the weekly composite sample is analyzed for sulfur content. Two standard rings with known sulfur concentration shall be analyzed for sulfur content utilizing the LECO equipment. The two sulfur content results shall be averaged to obtain the calibration correction factor. The analysis of the weekly composite sample shall utilize the calibration correction factor to obtain the corrected, weighted-average, sulfur content result.
- b. iv. The permittee shall maintain the following weekly records:
- (a) the value of the corrected, weighted-average sulfur content of the raw materials used to make tile that week;
 - (b) for each of the four weeks in which duplicate samples are collected, the value for the weighted-average sulfur content of the raw materials used to make tile that week;
 - (c) the sulfur concentration of the rings used to calibrate the LECO equipment each week;
 - (d) the measured sulfur concentrations of the calibration rings; and
 - (e) the calibration correction factors.
- c. The following procedures shall be used for the sampling and analysis of the tile processed in emissions units P004, P005, P006, and P014 during the emission tests:
- i. From each kiln, the permittee shall collect one piece of unfired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that will be located in the firing section of each kiln during each of the three hours of the next day's emissions testing. The set of unfired samples from each hour of the testing shall be crushed and mixed together.
 - ii. The twelve mixed samples (one from each hour from each kiln) of uncured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur entering each kiln in the uncured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
 - iii. From each kiln, the permittee shall collect one piece of fired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that was located in the firing section of each kiln during each of the three hours of the emission testing. The set of fired samples from each hour of the testing shall be crushed and mixed together.

- c. iv. The twelve mixed samples (one from each hour from each kiln) of cured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur exiting each kiln in the cured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
- c. v. The sulfur converted to SO₂ (out the stack) to the sulfur (in the feed) emission factor (the sulfur emission factor), that is, the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S), shall be calculated by averaging the three individual sulfur emission factors from each of the three hours of the SO₂ emission testing required in Section A.V.2. The individual sulfur emission factors shall be calculated by taking the sulfur in the feed (lbs S/hr) minus sulfur retained in the fired tile (sulfur not converted to SO₂) (lbs S/hr), and dividing by the sulfur in the feed (lbs S/hr) for each hour to give a ratio for each of the three individual testing hours. The sulfur retained in the fired tile (lbs S/hr) shall be determined by subtracting the measured sulfur content (lbs S/hr) of the fired tile from the unfired tile used during the hour of the emission test. The amount of sulfur in the feed (lbs S/hr) shall be determined from the sulfur content measurement of the unfired tile used during the hour of the emission test. The three individual sulfur emission factors shall be averaged together to obtain the sulfur emission factor (lbs S/lbs S).
- The weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio).
- c. vi. The permittee shall maintain the following records:
- the sulfur content of the crushed and mixed unfired sample from each hour of the test;
 - the calculations performed to obtain the sulfur emission factor; and
 - the final sulfur emission factor.
4. The permittee shall maintain records of the following information for emissions units P004, P005, P006, and P014, combined:
- the total amount of sulfur in the raw materials used in the combined emissions unit in any one week, calculated by multiplying the tons of feed (dry weight) to the combined emissions units during that week times the weighted-average sulfur content for that week;
 - the weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio);
 - the average SO₂ emission rate from the combined emissions units (lbs SO₂/hr) calculated as the weekly amount of sulfur usage in the combined emissions units (lbs S) times the current sulfur emission factor, divided by the hours of operation for the combined emissions units for the week; and
 - the total amount of sulfur in the raw materials used in the combined emissions units in any one quarter calculated by summing the weekly values of the total amount of sulfur in the raw materials used in the combined emissions units (from A.III.4.a. above) of all the weeks during that quarter.
5. The sulfur emission factor to be used in determining the pounds of SO₂ emitted per week, the average pounds of SO₂ emitted per hour, the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per week, and the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per quarter shall be based upon the most recent emissions testing. The change from the old sulfur emission factor to the new one shall take place at the start of the quarter immediately following the quarter in which the emissions testing took place.
6. The permittee shall maintain a monthly record of the hours of operation for emissions units P004, P005, P006, and P014, combined.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

- The permittee shall submit quarterly written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous 3-month period.
- The permittee shall submit quarterly deviation (excursion) reports that include an identification of each week during which the average hourly SO₂ emissions from the raw materials used in tile production in emissions units P004, P005, P006, and P014, combined, exceeded 76.65 lbs/hr. The actual average hourly SO₂ emissions for each such week shall also be reported.
- The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs. It shall not be necessary to submit a deviation report for any quarter in which no deviations occurred.
- The permittee shall submit quarterly deviation (excursion) reports that identify each week during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.2 (current value of 8,220 pounds) and the actual pounds

of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such week.

5. The permittee shall submit quarterly deviation (excursion) reports that identify each quarter during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.3 (current value of 97,900 pounds) and the actual pounds of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such quarter.
6. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c.ii, except as noted in A.IV.3 above.
7. The permittee shall also submit annual reports which specify the total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, in tons, for the previous calendar year. The total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, shall be calculated using production records and the most recent stack testing results. These reports shall be submitted by January 31 of each year.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be demonstrated based upon visible particulate emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

21.65 lbs/hr of particulate emissions for emissions units P004, P005, P006, and P014, combined.

Applicable Compliance method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.

c. Emission Limitation:

94.14 tpy of particulate emissions for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.

d. Emission Limitation:

16.06 lbs/hr of NO_x for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.

e. Emission Limitation:

70.34 tpy of NO_x for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.

f. Emission Limitation:

76.65 lbs/hr of SO₂ for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6 and OAC rule 3745-18-04(A) while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised. Compliance shall also be demonstrated based upon the monitoring and record keeping requirements specified in sections A.III.3 and A.III.4.

g. Emission Limitation:

306.53 tpy of SO₂ for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon: the monitoring and record keeping requirements in sections A.III.3.c and A.III.5 to determine the final sulfur emission factor; the monitoring and record keeping requirements in sections A.III.3 and A.III.4 to determine the weekly SO₂ emission rate from the combined emissions units; and, summing the weekly SO₂ emission rate over the weeks of the calendar year to determine the actual SO₂ emissions, in tons.

h. Emission Limitation:

6.5 lbs/hr of fluorides for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 13A while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.

i. Emission Limitation:

28.47 tpy of fluorides for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.

2. The permittee shall conduct, or have conducted, emission testing for emissions units P004, P005, P006, and P014 in accordance with the following requirements:

- a. The emission testing shall be conducted no later than 6 months after issuance of the permit and within 27 to 33 months after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the visible particulate emission limitation in section A.I.2.a and with the allowable, hourly mass emission rates for particulates, SO₂, NO_x, and fluorides in section A.I.2.d.
- c. The following test methods shall be employed to demonstrate compliance with the visible particulate emissions limitation and the allowable mass emission rates:
 - for visible particulate emissions - Method 9 of 40 CFR Part 60, Appendix A;
 - for particulates - Methods 1 through 5 of 40 CFR Part 60, Appendix A;
 - for SO₂ - Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;
 - for NO_x - Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A; and
 - for fluorides (total gaseous and particulate fluorides which do not include fluorocarbons) - Methods 1 through 4 and 13A of 40 CFR Part 60, Appendix A.
- d. The following parameters, at a minimum, shall be monitored or analyzed and recorded during the emission testing: the process weight rate of each kiln, in pounds per hour; the sulfur content, in weight-percent sulfur of the raw materials used to make tile in each kiln; the amount of sulfur, in pounds, entering each kiln in the uncured tile in each of the three hours of the test; the sulfur content, in weight percent sulfur of the fired tile made in each kiln; and the amount of sulfur, in pounds, exiting each kiln in the cured tile in each of the three hours of the test.
- e. If emissions unit P005 is operating as a tunnel kiln, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, the test(s) shall be conducted while emissions units P004, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air

Pollution Control Division, except as noted directly below.

If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, if required, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).

- e. Personnel from the Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control Division within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Canton City Health Department, Air Pollution Control Division.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. Following are the calculations for the permitted amount of sulfur in the feed.

The sulfur converted to SO₂ (out the stack) to sulfur (in feed) emission factor, the sulfur emission factor, relates the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S).

The sulfur EF = sulfur (out the stack)/sulfur (in the feed) = pounds of S converted to SO₂/pound of S in the feed

The sulfur EF = 0.783 pound of S converted to SO₂/pound of S in the feed, from the 6/15/00 emission testing results

The PT1 allowable SO₂ emissions = 306.53 tons SO₂ emitted /year

The PT1 allowable SO₂ emissions = (306.53 tons SO₂ emitted/year) X (2000 lbs/ton)

The PT1 allowable SO₂ emissions = 613,060 lbs SO₂ emitted/year

Using the sulfur emission factor and stoichiometry,

613,060 lbs SO₂ emitted/year = (0.783 lb S emitted/lb S in the feed) X (Allowable lbs S in the feed) X (1 mole S emitted/32 lbs S emitted) X (1 mole SO₂ emitted/1 mole S emitted) X (64 lbs SO₂ emitted/mole SO₂ emitted)

Solving the above equation for the Allowable lbs S in the feed,

Allowable lbs S in the feed = (613,060 lbs SO₂ emitted/year) X (1 lb S in the feed/0.783 lb S emitted) X (32 lbs S emitted/mole S emitted) X (mole S emitted/mole SO₂ emitted) X (mole SO₂ emitted/64 lbs SO₂ emitted)

Allowable lbs S in the feed = 391,481 lbs S in the feed per year

Allowable lbs S in the feed = (391,481 lbs S/year) X (1 year/4 quarters) = 97870 lbs S/quarter

rounding

Allowable lbs S in the feed = 97,900 lbs S/quarter

The PT1 allowable SO₂ emissions = 12,877 lbs SO₂ emitted/week

Again, using the sulfur emission factor and stoichiometry and solving for the Allowable lbs S in the feed,

Allowable lbs S in the feed = (12,877 lbs SO₂ emitted/week) X (1 lb S in the feed/0.783 lb S emitted) X (32 lbs S emitted/mole S emitted) X (mole S emitted/mole of SO₂ emitted) X (mole SO₂ emitted/64 lbs SO₂ emitted)

Allowable lbs S in the feed = 8,223 lbs S in the feed

rounding

Allowable lbs S in the feed = 8,220 lbs S in the feed

The rounded values are the values used in this permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P004 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. Additional Terms and Conditions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P005 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
natural gas-fired tunnel kiln to produce unglazed quarry tile; kiln #2; maximum input capacity 11.2 mmBtu/hr; maximum raw material feed rate 3.97 TPH; tile production capacity 3.67 TPH, vented to a common stack for emissions units P004, P005, P006, and P014.	OAC rule 3745-17-07	See A.I.2.a below.
	OAC rule 3745-17-11	See A.I.2.b below.
	OAC rule 3745-18-06(E)(1)	See A.I.2.c below.
	OAC rule 3745-31-05 (PTI 15-1173)	See A.I.2.d and A.I.2.e below.

This kiln may be operated as a natural gas-fired shuttle batch kiln, with a reducing atmosphere, firing unglazed quarry tiles as an alternate operating scenario.

2. Additional Terms and Conditions

- a. Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
- b. The particulate emission limitation required by OAC rule 3745-17-11 is less stringent than the particulate emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- c. The sulfur dioxide (SO₂) emission limitation required by OAC rule 3745-18-06(E)(1) is less stringent than the SO₂ emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- d. The following emission limitations shall apply to emissions units P004 (kiln #1), P005 (kiln #2), P006 (kiln #3), and P014 (kiln #4) combined, pursuant to PTI 15-1173:
 - 21.65 lbs/hr of particulate emissions
 - 94.14 tpy of particulate emissions
 - 16.06 lbs/hr of nitrogen oxides (NO_x)
 - 70.34 tpy of NO_x
 - 76.65 lbs/hr of SO₂
 - 12,877 lbs/wk of SO₂
 - 306.53 tpy of SO₂
 - 6.5 lbs/hr of fluorides
 - 28.47 tpy of fluorides
- e. The height of the stack serving emissions unit P004 shall be a minimum of 45 meters from the ground level.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. The permittee shall burn only natural gas as fuel in this emissions unit.
2. The total amount of sulfur in the raw materials used in emissions units P004, P005, P006, and P014 shall not exceed 8,220 pounds in any one week. The amount of sulfur shall be determined by multiplying the tons of raw material (dry weight) used in a week times the weighted-average sulfur content of the raw materials. See section A.VI.2. for an explanation of the calculation of this weekly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission factor changes.
3. The total amount of sulfur fed to emissions units P004, P005, P006, and P014 shall not exceed 97,900 pounds in any one quarter. The amount of sulfur shall be determined by multiplying the tons (dry weight) of raw materials fed to these emissions units during that quarter times the weighted-average sulfur content of

the raw materials. See section A.VI.2. for an explanation of the calculation of this quarterly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission factor changes.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

*****THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.*****

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform checks at least once every two week period and within 15 days of the last check performed when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
2. For each day during which the permittee burns a fuel other than natural gas in emissions units P004, P005, P006, or P014, the permittee shall maintain a record of the emissions unit ID(s) and the type and quantity of fuel burned.
3. The permittee shall comply with the following monitoring and record keeping requirements for the purpose of determining the weekly and average hourly SO₂ emissions from emissions units P004, P005, P006, and P014 combined:
 - a. The following procedures shall be used to obtain a representative sample of the total daily amount of fireclay and shale fed to emissions units P004, P005, P006, and P014:
 - i. Daily samples shall be taken of the raw materials (fireclay and shale) used in tile production. A daily grab sample of fireclay shall be taken from the belt conveyor leading from one of the two ground fireclay storage tanks which feed the conveyor belts which feed the pug mixers. A daily grab sample of shale shall be taken from the belt conveyor leading from one of the two ground shale storage tanks which feed the conveyor belts which feed the pug mixers. One of these pug mixers supplies mixed raw materials to emissions units P004 and P005 and the other pug mixer supplies mixed raw materials to emissions units P006 and P014.
 - ii. The two individual daily samples from the conveyor belts shall be mixed in proportion to the daily production rates in emissions units P004, P005, P006, and P014 to obtain a representative daily composite sample.
 - iii. The daily composite sample shall be placed in a composite bottle with lid to produce a weekly composite sample. The weekly composite shall be mixed thoroughly so that a sample may be taken from the bottle to represent the whole week's production from the four emissions units.
 - iv. The permittee shall maintain the following daily records:
 - (a) the production schedule indicating what product is being produced in each of the four kilns including the amount, in grams, of the clay and shale used to make the daily composite sample;
 - (b) the production rate of each product being produced, and the number of kiln cars processed per day in each kiln; and
 - (c) the total daily production rate.
 - v. The permittee shall maintain weekly records of the production schedules indicating what products are produced in emissions units P004 and P005 combined, and indicating what products are produced in emissions units P006 and P014 combined.
 - b. The following procedures shall be used to determine the sulfur content of each weekly composite sample:
 - i. The weekly composite sample shall be analyzed for sulfur content each week.
 - ii. The weekly composite sample shall be analyzed using the permittee's Laboratory Equipment Corporation (LECO) analysis equipment that utilizes ASTM Test Method D1552 or E350-97 to determine the corrected, weighted-average sulfur content of the raw materials.
 - iii. For quality assurance of the LECO equipment and its analytical methods, the permittee shall perform a calibration test before the weekly composite sample is analyzed for sulfur content. Two standard rings with known sulfur concentration shall be analyzed for sulfur content utilizing the LECO equipment. The two sulfur content results shall be averaged to obtain the calibration correction factor. The analysis of the weekly composite sample shall utilize the calibration correction factor to obtain the corrected, weighted-average, sulfur content result.
 - iv. The permittee shall maintain the following weekly records:
 - (a) the value of the corrected, weighted-average sulfur content of the raw materials used to make tile that week;
 - (b) for each of the four weeks in which duplicate samples are collected, the value for the weighted-

average sulfur content of the raw materials used to make tile that week;

- (c) the sulfur concentration of the rings used to calibrate the LECO equipment each week;
 - (d) the measured sulfur concentrations of the calibration rings; and
 - (e) the calibration correction factors.
- c. The following procedures shall be used for the sampling and analysis of the tile processed in emissions units P004, P005, P006, and P014 during the emission tests:
- i. From each kiln, the permittee shall collect one piece of unfired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that will be located in the firing section of each kiln during each of the three hours of the next day's emissions testing. The set of unfired samples from each hour of the testing shall be crushed and mixed together.
 - ii. The twelve mixed samples (one from each hour from each kiln) of uncured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur entering each kiln in the uncured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
 - iii. From each kiln, the permittee shall collect one piece of fired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that was located in the firing section of each kiln during each of the three hours of the emission testing. The set of fired samples from each hour of the testing shall be crushed and mixed together.
 - iv. The twelve mixed samples (one from each hour from each kiln) of cured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur exiting each kiln in the cured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
 - v. The sulfur converted to SO₂ (out the stack) to the sulfur (in the feed) emission factor (the sulfur emission factor), that is, the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S), shall be calculated by averaging the three individual sulfur emission factors from each of the three hours of the SO₂ emission testing required in section A.V.2. The individual sulfur emission factors shall be calculated by taking the sulfur in the feed (lbs S/hr) minus sulfur retained in the fired tile (sulfur not converted to SO₂) (lbs S/hr), and dividing by the sulfur in the feed (lbs S/hr) for each hour to give a ratio for each of the three individual testing hours. The sulfur retained in the fired tile (lbs S/hr) shall be determined by subtracting the measured sulfur content (lbs S/hr) of the fired tile from the unfired tile used during the hour of the emission test. The amount of sulfur in the feed (lbs S/hr) shall be determined from the sulfur content measurement of the unfired tile used during the hour of the emission test. The three individual sulfur emission factors shall be averaged together to obtain the sulfur emission factor (lbs S/lbs S).

The weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio).
 - vi. The permittee shall maintain the following records:
 - (a) the sulfur content of the crushed and mixed unfired sample from each hour of the test;
 - (b) the calculations performed to obtain the sulfur emission factor; and
 - (c) the final sulfur emission factor.
4. The permittee shall maintain records of the following information for emissions units P004, P005, P006, and P014, combined:
- a. the total amount of sulfur in the raw materials used in the combined emissions unit in any one week, calculated by multiplying the tons of feed (dry weight) to the combined emissions units during that week times the weighted-average sulfur content for that week;
 - b. the weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio);
 - c. the average SO₂ emission rate from the combined emissions units (lbs SO₂/hr) calculated as the weekly amount of sulfur usage in the combined emissions units (lbs S) times the current sulfur emission factor, divided by the hours of operation for the combined emissions units for the week; and
 - d. the total amount of sulfur in the raw materials used in the combined emissions units in any one quarter calculated by summing the weekly values of the total amount of sulfur in the raw materials used in the combined emissions units (from A.III.4.a. above) of all the weeks during that quarter.
5. The sulfur emission factor to be used in determining the pounds of SO₂ emitted per week, the average pounds of SO₂ emitted per hour, the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per week, and the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per quarter shall be based upon the most recent emissions testing. The change from the

old sulfur emission factor to the new one shall take place at the start of the quarter immediately following the quarter in which the emissions testing took place.

6. The permittee shall maintain a monthly record of the hours of operation for emissions units P004, P005, P006, and P014, combined.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

1. The permittee shall submit quarterly written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous 3-month period.
2. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each week during which the average hourly SO₂ emissions from the raw materials used in tile production in emissions units P004, P005, P006, and P014, combined, exceeded 76.65 lbs/hr. The actual average hourly SO₂ emissions for each such week shall also be reported.
3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs. It shall not be necessary to submit a deviation report for any quarter in which no deviations occurred.
4. The permittee shall submit quarterly deviation (excursion) reports that identify each week during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.2 (current value of 8,220 pounds) and the actual pounds of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such week.
5. The permittee shall submit quarterly deviation (excursion) reports that identify each quarter during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.3 (current value of 97,900 pounds) and the actual pounds of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such quarter.
6. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c.ii, except as noted in A.IV.3 above.
7. The permittee shall also submit annual reports which specify the total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, in tons, for the previous calendar year. The total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, shall be calculated using production records and the most recent stack testing results. These reports shall be submitted by January 31 of each year.
8. The permittee shall submit a written report to the Canton City Health Department Air Pollution Control Division whenever the permittee plans to switch the operation of the kiln from a natural gas-fired shuttle batch kiln to a natural gas-fired tunnel kiln. The written report shall be submitted at least seven days before the kiln is operated as a natural gas-fired tunnel kiln and shall include the planned date of operation of the kiln as a natural gas-fired tunnel kiln.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be demonstrated based upon visible particulate emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitation:

21.65 lbs/hr of particulate emissions for emissions units P004, P005, P006, and P014, combined.

Applicable Compliance method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.

- c. Emission Limitation:
- 94.14 tpy of particulate emissions for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
- d. Emission Limitation:
- 16.06 lbs/hr of NOx for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.
- e. Emission Limitation:
- 70.34 tpy of NOx for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
- f. Emission Limitation:
- 76.65 lbs/hr of SO2 for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6 and OAC rule 3745-18-04(A) while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised. Compliance shall also be demonstrated based upon the monitoring and record keeping requirements specified in sections A.III.3 and A.III.4.
- g. Emission Limitation:
- 306.53 tpy of SO2 for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon: the monitoring and record keeping requirements in sections A.III.3.c and A.III.5 to determine the final sulfur emission factor; the monitoring and record keeping requirements in sections A.III.3 and A.III.4 to determine the weekly SO2 emission rate from the combined emissions units; and, summing the weekly SO2 emission rate over the weeks of the calendar year to determine the actual SO2 emissions, in tons.
- h. Emission Limitation:
- 6.5 lbs/hr of fluorides for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 13A while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.
- i. Emission Limitation:
- 28.47 tpy of fluorides for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
2. The permittee shall conduct, or have conducted, emission testing for emissions units P004, P005, P006, and

P014 in accordance with the following requirements:

- a. The emission testing shall be conducted no later than 6 months after issuance of the permit and within 27 to 33 months after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the visible particulate emission limitation in section A.I.2.a and with the allowable, hourly mass emission rates for particulates, SO₂, NO_x, and fluorides in section A.I.2.d.
- c. The following test methods shall be employed to demonstrate compliance with the visible particulate emission limitation and the allowable mass emission rates:
 - for visible particulate emissions - Method 9 of 40 CFR Part 60, Appendix A;
 - for particulates - Methods 1 through 5 of 40 CFR Part 60, Appendix A;
 - for SO₂ - Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;
 - for NO_x - Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A; and
 - for fluorides (total gaseous and particulate fluorides which do not include fluorocarbons) - Methods 1 through 4 and 13A of 40 CFR Part 60, Appendix A.
- d. The following parameters, at a minimum, shall be monitored or analyzed and recorded during the emission testing: the process weight rate of each kiln, in pounds per hour; the sulfur content, in weight-percent sulfur of the raw materials used to make tile in each kiln; the amount of sulfur, in pounds, entering each kiln in the uncured tile in each of the three hours of the test; the sulfur content, in weight percent sulfur of the fired tile made in each kiln; and the amount of sulfur, in pounds, exiting each kiln in the cured tile in each of the three hours of the test.
- e. If emissions unit P005 is operating as a tunnel kiln, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, the test(s) shall be conducted while emissions units P004, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division, except as noted directly below.

If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, if required, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).
- e. Personnel from the Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control Division within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Canton City Health Department, Air Pollution Control Division.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. Following are the calculations for the permitted amount of sulfur in the feed.

The sulfur converted to SO₂ (out the stack) to sulfur (in feed) emission factor, the sulfur emission factor, relates the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S).

The sulfur EF = sulfur (out the stack)/sulfur (in the feed) = pounds of S converted to SO₂/pound of S in the feed

The sulfur EF = 0.783 pound of S converted to SO₂/pound of S in the feed, from the 6/15/00 emission testing results

The PTI allowable SO₂ emissions = 306.53 tons SO₂ emitted /year

The PTI allowable SO₂ emissions = (306.53 tons SO₂ emitted/year) X (2000 lbs/ton)

The PT1 allowable SO2 emissions = 613,060 lbs SO2 emitted/year

Using the sulfur emission factor and stoichiometry,

$613,060 \text{ lbs SO}_2 \text{ emitted/year} = (0.783 \text{ lb S emitted/lb S in the feed}) \times (\text{Allowable lbs S in the feed}) \times (1 \text{ mole S emitted}/32 \text{ lbs S emitted}) \times (1 \text{ mole SO}_2 \text{ emitted}/1 \text{ mole S emitted}) \times (64 \text{ lbs SO}_2 \text{ emitted}/\text{mole SO}_2 \text{ emitted})$

Solving the above equation for the Allowable lbs S in the feed,

$\text{Allowable lbs S in the feed} = (613,060 \text{ lbs SO}_2 \text{ emitted/year}) \times (1 \text{ lb S in the feed}/0.783 \text{ lb S emitted}) \times (32 \text{ lbs S emitted}/\text{mole S emitted}) \times (\text{mole S emitted}/\text{mole SO}_2 \text{ emitted}) \times (\text{mole SO}_2 \text{ emitted}/64 \text{ lbs SO}_2 \text{ emitted})$

Allowable lbs S in the feed = 391,481 lbs S in the feed per year

Allowable lbs S in the feed = (391,481 lbs S/year) X (1 year/4 quarters) = 97870 lbs S/quarter

rounding

Allowable lbs S in the feed = 97,900 lbs S/quarter

The PT1 allowable SO2 emissions = 12,877 lbs SO2 emitted/week

Again, using the sulfur emission factor and stoichiometry and solving for the Allowable lbs S in the feed,

$\text{Allowable lbs S in the feed} = (12,877 \text{ lbs SO}_2 \text{ emitted/week}) \times (1 \text{ lb S in the feed}/0.783 \text{ lb S emitted}) \times (32 \text{ lbs S emitted}/\text{mole S emitted}) \times (\text{mole S emitted}/\text{mole SO}_2 \text{ emitted}) \times (\text{mole SO}_2 \text{ emitted}/64 \text{ lbs SO}_2 \text{ emitted})$

Allowable lbs S in the feed = 8,223 lbs S in the feed

rounding

Allowable lbs S in the feed = 8,220 lbs S in the feed

The rounded values are the values used in this permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P005 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. Additional Terms and Conditions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. **Monitoring and/or Record Keeping Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. **Reporting Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P006 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
natural gas-fired tunnel kiln to produce unglazed quarry tile; kiln #3; maximum input capacity 11.2 mmBtu/hr; maximum raw material feed rate 3.97 TPH; tile production capacity 3.67 TPH, vented to a common stack for emissions units P004, P005, P006, and P014	OAC rule 3745-17-07	See A.I.2.a below.
	OAC rule 3745-17-11	See A.I.2.b below.
	OAC rule 3745-18-06(E)(1)	See A.I.2.c below.
	OAC rule 3745-31-05 (PTI 15-1173)	See A.I.2.d and A.I.2.e below.

2. Additional Terms and Conditions

- a. Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
- b. The particulate emission limitation required by OAC rule 3745-17-11 is less stringent than the particulate emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- c. The sulfur dioxide (SO2) emission limitation required by OAC rule 3745-18-06(E)(1) is less stringent than the SO2 emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- d. The following emission limitations shall apply to emissions units P004 (kiln #1), P005 (kiln #2), P006 (kiln #3), and P014 (kiln #4) combined, pursuant to PTI 15-1173:
 21.65 lbs/hr of particulate emissions

94.14 tpy of particulate emissions

16.06 lbs/hr of nitrogen oxides (NOx)
70.34 tpy of NOx

76.65 lbs/hr of SO2
12,877 lbs/wk of SO2
306.53 tpy of SO2

6.5 lbs/hr of fluorides
28.47 tpy of fluorides

- e. The height of the stack serving emissions unit P004 shall be a minimum of 45 meters from the ground level.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. The permittee shall burn only natural gas as fuel in this emissions unit.
2. The total amount of sulfur in the raw materials used in emissions units P004, P005, P006, and P014 shall not exceed 8,220 pounds in any one week. The amount of sulfur shall be determined by multiplying the tons of raw material (dry weight) used in a week times the weighted-average sulfur content of the raw materials. See section A.VI.2. for an explanation of the calculation of this weekly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission factor changes.
3. The total amount of sulfur fed to emissions units P004, P005, P006, and P014 shall not exceed 97,900 pounds in any one quarter. The amount of sulfur shall be determined by multiplying the tons (dry weight) of raw materials fed to these emissions units during that quarter times the weighted-average sulfur content of the raw materials. See section A.VI.2. for an explanation of the calculation of this quarterly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission factor changes.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform checks at least once every two week period and within 15 days of the last check performed when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
2. For each day during which the permittee burns a fuel other than natural gas in emissions units P004, P005, P006, or P014, the permittee shall maintain a record of the emissions unit ID(s) and the type and quantity of fuel burned.
3. The permittee shall comply with the following monitoring and record keeping requirements for the purpose of determining the weekly and average hourly SO2 emissions from emissions units P004, P005, P006, and P014 combined:
 - a. The following procedures shall be used to obtain a representative sample of the total daily amount of fireclay and shale fed to emissions units P004, P005, P006, and P014:
 - i. Daily samples shall be taken of the raw materials (fireclay and shale) used in tile production. A daily grab sample of fireclay shall be taken from the belt conveyor leading from one of the two ground fireclay storage tanks which feed the conveyor belts which feed the pug mixers. A daily grab sample of shale shall be taken from the belt conveyor leading from one of the two ground shale storage tanks which feed the conveyor belts which feed the pug mixers. One of these pug mixers supplies mixed raw materials to emissions units P004 and P005 and the other pug mixer supplies mixed raw materials to emissions units P006 and P014.
 - ii. The two individual daily samples from the conveyor belts shall be mixed in proportion to the daily production rates in emissions units P004, P005, P006, and P014 to obtain a representative daily composite sample.
 - iii. The daily composite sample shall be placed in a composite bottle with lid to produce a weekly composite sample. The weekly composite shall be mixed thoroughly so that a sample may be taken from the bottle to represent the whole week's production from the four emissions units.
 - iv. The permittee shall maintain the following daily records:
 - (a) the production schedule indicating what product is being produced in each of the four kilns including the amount, in grams, of the clay and shale used to make the daily composite sample;

- (b) the production rate of each product being produced, and the number of kiln cars processed per day in each kiln; and
 - (c) the total daily production rate.
 - v. The permittee shall maintain weekly records of the production schedules indicating what products are produced in emissions units P004 and P005 combined, and indicating what products are produced in emissions units P006 and P014 combined.
- b. The following procedures shall be used to determine the sulfur content of each weekly composite sample:
- i. The weekly composite sample shall be analyzed for sulfur content each week.
 - ii. The weekly composite sample shall be analyzed using the permittee's Laboratory Equipment Corporation (LECO) analysis equipment that utilizes ASTM Test Method D1552 or E350-97 to determine the corrected, weighted-average sulfur content of the raw materials.
 - iii. For quality assurance of the LECO equipment and its analytical methods, the permittee shall perform a calibration test before the weekly composite sample is analyzed for sulfur content. Two standard rings with known sulfur concentration shall be analyzed for sulfur content utilizing the LECO equipment. The two sulfur content results shall be averaged to obtain the calibration correction factor. The analysis of the weekly composite sample shall utilize the calibration correction factor to obtain the corrected, weighted-average, sulfur content result.
- b. iv. The permittee shall maintain the following weekly records:
- (a) the value of the corrected, weighted-average sulfur content of the raw materials used to make tile that week;
 - (b) for each of the four weeks in which duplicate samples are collected, the value for the weighted-average sulfur content of the raw materials used to make tile that week;
 - (c) the sulfur concentration of the rings used to calibrate the LECO equipment each week;
 - (d) the measured sulfur concentrations of the calibration rings; and
 - (e) the calibration correction factors.
- c. The following procedures shall be used for the sampling and analysis of the tile processed in emissions units P004, P005, P006, and P014 during the emission tests:
- i. From each kiln, the permittee shall collect one piece of unfired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that will be located in the firing section of each kiln during each of the three hours of the next day's emissions testing. The set of unfired samples from each hour of the testing shall be crushed and mixed together.
 - ii. The twelve mixed samples (one from each hour from each kiln) of uncured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur entering each kiln in the uncured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
 - iii. From each kiln, the permittee shall collect one piece of fired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that was located in the firing section of each kiln during each of the three hours of the emission testing. The set of fired samples from each hour of the testing shall be crushed and mixed together.
 - iv. The twelve mixed samples (one from each hour from each kiln) of cured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur exiting each kiln in the cured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
 - v. The sulfur converted to SO₂ (out the stack) to the sulfur (in the feed) emission factor (the sulfur emission factor), that is, the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S), shall be calculated by averaging the three individual sulfur emission factors from each of the three hours of the SO₂ emission testing required in Section A.V.2. The individual sulfur emission factors shall be calculated by taking the sulfur in the feed (lbs S/hr) minus sulfur retained in the fired tile (sulfur not converted to SO₂) (lbs S/hr), and dividing by the sulfur in the feed (lbs S/hr) for each hour to give a ratio for each of the three individual testing hours. The sulfur retained in the fired tile (lbs S/hr) shall be determined by subtracting the measured sulfur content (lbs S/hr) of the fired tile from the unfired tile used during the hour of the emission test. The amount of sulfur in the feed (lbs S/hr) shall be determined from the sulfur content measurement of the unfired tile used during the hour of the emission test. The three individual sulfur emission factors shall be averaged together to obtain the sulfur emission factor (lbs S/lbs S).
- The weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio).

- c. vi. The permittee shall maintain the following records:
 - (a) the sulfur content of the crushed and mixed unfired sample from each hour of the test;
 - (b) the calculations performed to obtain the sulfur emission factor; and
 - (c) the final sulfur emission factor.
- 4. The permittee shall maintain records of the following information for emissions units P004, P005, P006, and P014, combined:
 - a. the total amount of sulfur in the raw materials used in the combined emissions unit in any one week, calculated by multiplying the tons of feed (dry weight) to the combined emissions units during that week times the weighted-average sulfur content for that week;
 - b. the weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio)
 - c. the average SO₂ emission rate from the combined emissions units (lbs SO₂/hr) calculated as the weekly amount of sulfur usage in the combined emissions units (lbs S) times the current sulfur emission factor, divided by the hours of operation for the combined emissions units for the week; and
 - d. the total amount of sulfur in the raw materials used in the combined emissions units in any one quarter calculated by summing the weekly values of the total amount of sulfur in the raw materials used in the combined emissions units (from A.III.4.a. above) of all the weeks during that quarter.
- 5. The sulfur emission factor to be used in determining the pounds of SO₂ emitted per week, the average pounds of SO₂ emitted per hour, the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per week, and the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per quarter shall be based upon the most recent emissions testing. The change from the old sulfur emission factor to the new one shall take place at the start of the quarter immediately following the quarter in which the emissions testing took place.
- 6. The permittee shall maintain a monthly record of the hours of operation for emissions units P004, P005, P006, and P014, combined.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

- 1. The permittee shall submit quarterly written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous 3-month period.
- 2. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each week during which the average hourly SO₂ emissions from the raw materials used in tile production in emissions units P004, P005, P006, and P014, combined, exceeded 76.65 lbs/hr. The actual average hourly SO₂ emissions for each such week shall also be reported.
- 3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs. It shall not be necessary to submit a deviation report for any quarter in which no deviations occurred.
- 4. The permittee shall submit quarterly deviation (excursion) reports that identify each week during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.2 (current value of 8,220 pounds) and the actual pounds of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such week.
- 5. The permittee shall submit quarterly deviation (excursion) reports that identify each quarter during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.3 (current value of 97,900 pounds) and the actual pounds of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such quarter.
- 6. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c.ii, except as noted in A.IV.3 above.
- 7. The permittee shall also submit annual reports which specify the total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, in tons, for the previous calendar year. The total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, shall be calculated using production records and the most recent stack testing results. These reports shall be submitted by January 31 of each year.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be demonstrated based upon visible particulate emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitation:

21.65 lbs/hr of particulate emissions for emissions units P004, P005, P006, and P014, combined.

Applicable Compliance method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.
 - c. Emission Limitation:

94.14 tpy of particulate emissions for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
 - d. Emission Limitation:

16.06 lbs/hr of NOx for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.
 - e. Emission Limitation:

70.34 tpy of NOx for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
 - f. Emission Limitation:

76.65 lbs/hr of SO2 for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6 and OAC rule 3745-18-04(A) while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised. Compliance shall also be demonstrated based upon the monitoring and record keeping requirements specified in sections A.III.3 and A.III.4.
 - g. Emission Limitation:

306.53 tpy of SO2 for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon: the monitoring and record keeping requirements in sections A.III.3.c and A.III.5 to determine the final sulfur emission factor; the monitoring and record keeping requirements in sections A.III.3 and A.III.4 to determine the weekly SO2 emission rate from the combined emissions units; and, summing the weekly SO2 emission rate over the weeks of the calendar

year to determine the actual SO₂ emissions, in tons.

h. Emission Limitation:

6.5 lbs/hr of fluorides for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 13A while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.

i. Emission Limitation:

28.47 tpy of fluorides for emissions units P004, P005, P006, and P014, combined

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.

2. The permittee shall conduct, or have conducted, emission testing for emissions units P004, P005, P006, and P014 in accordance with the following requirements:

a. The emission testing shall be conducted no later than 6 months after issuance of the permit and within 27 to 33 months after issuance of the permit.

b. The emission testing shall be conducted to demonstrate compliance with the visible particulate emission limitation in section A.I.2.a and with the allowable, hourly mass emission rates for particulates, SO₂, NO_x, and fluorides in section A.I.2.d.

c. The following test methods shall be employed to demonstrate compliance with the visible particulate emission limitation and the allowable mass emission rates:

for visible particulate emissions - Method 9 of 40 CFR Part 60, Appendix A;
for particulates - Methods 1 through 5 of 40 CFR Part 60, Appendix A;
for SO₂ - Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;
for NO_x - Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A; and
for fluorides (total gaseous and particulate fluorides which do not include fluorocarbons) - Methods 1 through 4 and 13A of 40 CFR Part 60, Appendix A.

d. The following parameters, at a minimum, shall be monitored or analyzed and recorded during the emission testing: the process weight rate of each kiln, in pounds per hour; the sulfur content, in weight-percent sulfur of the raw materials used to make tile in each kiln; the amount of sulfur, in pounds, entering each kiln in the uncured tile in each of the three hours of the test; the sulfur content, in weight percent sulfur of the fired tile made in each kiln; and the amount of sulfur, in pounds, exiting each kiln in the cured tile in each of the three hours of the test.

e. If emissions unit P005 is operating as a tunnel kiln, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, the test(s) shall be conducted while emissions units P004, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division, except as noted directly below.

If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, if required, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).

e. Personnel from the Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or

persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control Division within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Canton City Health Department, Air Pollution Control Division.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. Following are the calculations for the permitted amount of sulfur in the feed.

The sulfur converted to SO₂ (out the stack) to sulfur (in feed) emission factor, the sulfur emission factor, relates the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S).

The sulfur EF = sulfur (out the stack)/sulfur (in the feed) = pounds of S converted to SO₂/pound of S in the feed

The sulfur EF = 0.783 pound of S converted to SO₂/pound of S in the feed, from the 6/15/00 emission testing results

The PTI allowable SO₂ emissions = 306.53 tons SO₂ emitted /year

The PTI allowable SO₂ emissions = (306.53 tons SO₂ emitted/year) X (2000 lbs/ton)

The PTI allowable SO₂ emissions = 613,060 lbs SO₂ emitted/year

Using the sulfur emission factor and stoichiometry,

613,060 lbs SO₂ emitted/year = (0.783 lb S emitted/lb S in the feed) X (Allowable lbs S in the feed) X (1 mole S emitted/32 lbs S emitted) X (1 mole SO₂ emitted/1 mole S emitted) X (64 lbs SO₂ emitted/mole SO₂ emitted)

Solving the above equation for the Allowable lbs S in the feed,

Allowable lbs S in the feed = (613,060 lbs SO₂ emitted/year) X (1 lb S in the feed/0.783 lb S emitted) X (32 lbs S emitted/mole S emitted) X (mole S emitted/mole SO₂ emitted) X (mole SO₂ emitted/64 lbs SO₂ emitted)

Allowable lbs S in the feed = 391,481 lbs S in the feed per year

Allowable lbs S in the feed = (391,481 lbs S/year) X (1 year/4 quarters) = 97870 lbs S/quarter

rounding

Allowable lbs S in the feed = 97,900 lbs S/quarter

The PTI allowable SO₂ emissions = 12,877 lbs SO₂ emitted/week

Again, using the sulfur emission factor and stoichiometry and solving for the Allowable lbs S in the feed,

Allowable lbs S in the feed = (12,877 lbs SO₂ emitted/week) X (1 lb S in the feed/0.783 lb S emitted) X (32 lbs S emitted/mole S emitted) X (mole S emitted/mole of SO₂ emitted) X (mole SO₂ emitted/64 lbs SO₂ emitted)

Allowable lbs S in the feed = 8,223 lbs S in the feed

rounding

Allowable lbs S in the feed = 8,220 lbs S in the feed

The rounded values are the values used in this permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P006 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. **Additional Terms and Conditions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. **Operational Restrictions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. **Monitoring and/or Record Keeping Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. **Reporting Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P011 Issuance type: Title V Preliminary Proposed Permit

A. **State and Federally Enforceable Section**

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
This emissions unit consists of primary crushing of raw shale and raw clay and	OAC rule 3745-31-05 (PTI 15-1146)	2.27 tpy of particulate emissions from the totally enclosed buildings

<p>storage of crushed shale and crushed clay with maximum capacity 160 TPH (80 TPH shale and 80 TPH clay) which includes (1) in one totally enclosed building, one two-roll crusher for raw shale with watering and fabric filter (truck dump dust collector DCF004) and one two-roll crusher for raw clay with watering and the same fabric filter (DCF004); (2) enclosed in a second building, 40 CFR Part 60, Subpart OOO belt conveyors, storage bins for crushed material with loading into storage piles using a conveyor belt and loading out of storage piles using a front end loader; and (3) not enclosed in a building but totally covered, shale interconnecting belt #2 and fireclay interconnecting belt #3.</p>	<p>Compliance with this rule shall also include compliance with the requirements specified in 40 CFR Part 60, Subpart OOO.</p> <p>See A.I.2.a below.</p> <p>See A.I.2.b below.</p> <p>See A.I.2.c below.</p> <p>See A.I.2.d below.</p>
---	--

2. **Additional Terms and Conditions**

- a. The following are the additional PTI 15-1146 best available technology (BAT) requirements.
 - (a)
 - i. The crushing operations and storage operations (including load-in and load-out of the crushed materials using a front-end loader) shall take place within totally enclosed buildings.
 - ii. The two-roll crushers shall be serviced by the truck dump fabric filter which shall have a capture efficiency sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the points of capture to the extent possible with good engineering design. The fabric filter shall be vented inside the building.
 - iii. Conveyor belts shall be the only affected facilities which are not enclosed within a building. Any belt conveyors which are not contained within a totally enclosed building shall be covered.
 - iv. There shall be no vents into the ambient air from the buildings that contain affected facilities.
 - v. For the load-in and load-out of the stored materials using a front-end loader, the drop height of the front-end loader shall be minimized.
 - b. The following are the applicable emission limitations and control requirements from 40 CFR Part 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants (terms are defined in 40 CFR Part 60).
 - i. Requirements for emissions from affected facilities not enclosed in a building: for any conveyor belts which are not enclosed within a building, there shall be no fugitive emissions which exhibit greater than 10% opacity as a 6-minute average.
 - ii. Requirements for emissions from affected facilities enclosed in buildings: there shall be no visible fugitive emissions escaping from the buildings housing the affected facilities.
 - c. The visible particulate emission limitation for fugitive dust required in OAC rule 3745-17-07(B)(1) is less stringent than the visible fugitive emission limitation established in 40 CFR Part 60, Subpart OOO.
 - d. For all the operations, property, and/or equipment that emit fugitive dust (particulate emissions which do not exit a stack), reasonably available control measures (RACM) shall be utilized to minimize or eliminate visible emissions of fugitive dust. The permittee shall comply with the BAT and 40 CFR Part 60, Subpart OOO requirements of this permit in order to comply with the RACM requirements of this permit.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. **Operational Restrictions**

- 1. The pressure drop across the truck dump dust collector shall be maintained within the range of 2 to 4 inches of water gauge while the emissions unit is in operation.
- 2. The permittee shall produce and store no more than 200,000 tons of crushed material per calendar year in this emissions unit.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. **Monitoring and/or Record Keeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
- 2. The permittee shall perform weekly visible emissions checks for the following equipment and operations, when the emissions unit is in operation and when the weather conditions allow:

- a. for the shale interconnecting belt #2 and for the fireclay interconnecting belt #3 which are totally covered and not enclosed in any building, check for any visible particulate emissions of fugitive dust around the conveyors when the conveyors are transporting material;
 - b. for the following operations, property, and or equipment that are all enclosed in buildings, the raw shale crusher, the raw fireclay crusher, belt conveyors enclosed in buildings, and the crushed shale and crushed fireclay storage bins with continuous loading into storage piles in the bins and load out using a front-end loader, check for any visible particulate emissions of fugitive dust escaping from the buildings enclosing this equipment when they are in use; and
 - c. The presence or absence of any visible particulate emissions of fugitive dust (determined in accordance with sections A.III.2.a and A.III.2.b above) shall be noted in an operations log. If visible particulate emissions of fugitive dust are observed, the permittee shall also note the following in the operations log:
 - i. the color of the emissions;
 - ii. whether the emissions are representative of normal operations;
 - iii. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - iv. the total duration of any visible fugitive emission incident; and
 - v. any corrective actions taken to eliminate the visible fugitive emissions.
3. The permittee shall maintain weekly records, in tons, of the amount of crushed material stored per week.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
2. The permittee shall submit quarterly written reports which (a) identify all days during which any visible particulate emissions of fugitive dust were observed from any conveyor belts which are not enclosed within a building and (b) describe any corrective actions taken to eliminate the visible particulate emissions of fugitive dust. These reports shall be submitted to the Canton City Health Department, Air Pollution Control Division by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.
3. The permittee shall submit annual reports that specify the amount of crushed material stored, in tons, and the total particulate emissions from this emissions unit during the previous calendar year. These reports shall be submitted by January 31 of each year.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

2.27 tpy of particulate emissions from the totally enclosed buildings

Applicable Compliance Method:

This emission limitation was established using emission factors and the maximum production rate of this emissions unit of 200,000 tons per year.

Crushing:

The emission factor to utilize is 12 pounds of particulate emissions/ton of material processed for SCC 3-05-009-04 from FIRE 6.22. The control efficiency of the watering is 70%. The fabric filter has a collection efficiency of 99.5%.

$(200,000 \text{ tons/year}) \times (12 \text{ pounds of particulate emissions/ton}) \times (1 - 0.70) \times (1 - 0.995) \times (1 \text{ ton}/2,000 \text{ lbs}) = 1.80 \text{ tpy of particulate emissions}$

Storage:

Storage includes load-in to storage bins from conveyor belts and load-out from the piles in the storage bins using a front-end loader with a 1.4 cubic yard bucket. From Supplement #1 (1983) to the Ohio EPA's Reasonably Available Control Measures for Fugitive Dust Sources (RACM) Manual (Table 2.1.2-5), the emission factor for continuous load-in is 0.0009 pound of particulate emissions/ton and the emission factor for load-out from piles using a front-end loader is 0.0038 pound of particulate emissions/ton.

$(200,000 \text{ tons/year}) \times (0.0009 + 0.0038 \text{ pound of particulate emissions/ton}) \times (1 \text{ ton}/2,000 \text{ lbs}) = 0.47 \text{ tpy of particulate emissions}$

Total Emissions:

Total Emissions = $(1.80 + 0.47) \text{ tpy of particulate emissions}$
 Total Emissions = 2.27 tpy of particulate emissions

Compliance may be determined by emission factors and the production records in section A.III.3.

- b. Emission Limitation:
- For any conveyor belts not enclosed in a building, there shall be no visible particulate emissions of fugitive dust which exhibit greater than 10% opacity as a 6-minute average.
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in 40 CFR 60.11.
- c. Emission Limitation:
- There shall be no visible particulate emissions of fugitive dust escaping from the totally enclosed buildings housing the affected facilities.
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Method 22, 40 CFR 60.675(d), and section A.III.2 of this permit.
2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing shall be conducted on an annual basis.
- b. The emission testing shall be conducted to demonstrate compliance with the visible particulate emission limitations for fugitive dust specified in sections A.I.2.b.i and A.I.2.b.ii.
- c. The following test methods shall be employed to demonstrate compliance with the visible particulate emission limitations: for the visible fugitive emissions limitation which includes a percent opacity in section A.I.2.b.i, Method 9 of 40 CFR Part 60, Appendix A, and for the visible fugitive emissions limitation which states no visible fugitive emissions in section A.I.2.b.ii, Method 22 of 40 CFR Part 60, Appendix A as described in 40 CFR 60.675(d). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division, except as described in this term and condition. For the no visible emissions escaping from the buildings housing the affected facilities limitation, separate Method 22 observations shall be conducted on each of the two buildings. During the time that Method 22 visible emissions observations are being conducted on a particular building, only the affected facilities housed in that particular building shall be operated at or near their maximum capacity.
- Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s) and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).
- Personnel from the Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control Division within 30 days following completion of the test(s).

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P011 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. Additional Terms and Conditions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P012 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
<p>This emissions unit consists of secondary grinding, screening, conveying, and storing of shale and fireclay which includes (1) loading of crushed shale onto belt conveyor #6a using a front end loader; (2) grinding of shale with a dry grinding pan and screening with 180 square feet of heated Vibro Screens with recycle and a BaCO₃ feeder; (3) loading of crushed fireclay onto belt conveyor #1 using a front end loader; (4) grinding of fireclay with a hammer mill grinder, screening with 208 square feet of heated Vibro Screens with recycle and a BACO₃ feeder; (4) storing of ground and screened shale and fireclay in storage tanks with load-in using a belt conveyor; and, (5) belt conveyors including shale interconnecting belt #22 and fireclay interconnecting belt #14 which are not enclosed in a building but totally covered.</p> <p>The shale and fireclay systems are independent of each other contained in separate sections of a building and may run simultaneously. For shale operations, the emissions unit is serviced by the 28,000 cfm fabric filter (DCP012s) and for fireclay operations is serviced by the 28,000 cfm fabric filter (DCP012c). Both fabric filters are vented inside their respective sections of the building.</p>	<p>OAC rule 3745-31-05 (PTI 15-1146)</p> <p>40 CFR Part 60, Subpart OOO</p> <p>OAC rule 3745-17-07(B)(1)</p> <p>OAC rule 3745-17-08(B)</p>	<p>32.2 tpy of particulate emissions from the totally enclosed buildings</p> <p>Compliance with this rule shall also include compliance with the requirements specified in 40 CFR Part 60, Subpart OOO.</p> <p>See A.I.2.a below.</p> <p>See A.I.2.b below.</p> <p>See A.I.2.c below.</p> <p>See A.I.2.d below.</p>

2. **Additional Terms and Conditions**

- a. The following are the additional PTI 15-1146 best available technology (BAT) requirements:
 - a. i. The grinding, screening, and storage operations (including the load-in and load-out of the materials using a front-end loader) shall take place within totally enclosed buildings.
 - a. ii. The grinding of shale in the dry grinding pan, screening with 180 square feet of heated Vibro Screens, the storage of ground shale, all conveyors except #6a, #6b, #7 and #22, conveyor transfer points except those associated with the previously listed conveyors, and the BaCO₃ feeder shall be serviced by the 28,000 cfm fabric filter DCP012s which is vented inside the building. The grinding of fireclay in the hammer mill grinder, screening with 180 square feet of heated Vibro Screens, the storing of ground fireclay, all conveyors except #1, #2, #3 and #14, conveyor transfer points except those associated with the previously listed conveyors, and the BaCO₃ feeder shall be serviced by the 28,000 cfm fabric filter DCP012c which is vented inside the building. These fabric filters shall have capture efficiencies sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the points of capture to the extent possible with good engineering design.
 - a. iii. Conveyors shall be the only affected facilities which are not enclosed within a building. Any belt conveyors which are not contained within a totally enclosed building shall be covered.
 - a. iv. There shall be no vents into the ambient air from the buildings that contain affected facilities.
 - a. v. For the load-in of the crushed materials using a front-end loader, the drop height of the front-end loader shall be minimized.
- b. The following are the applicable emission limitations and control requirements from 40 CFR Part 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants (terms are defined in 40 CFR Part 60).
 - i. Requirements for emissions from affected facilities not enclosed in a building: for any conveyor belts which are not enclosed within a building, there shall be no visible fugitive emissions which exhibit greater than 10% opacity as a 6-minute average.
 - ii. Requirements for emissions from affected facilities enclosed in buildings: there shall be no visible fugitive emissions escaping from the buildings housing the affected facilities.
- c. The visible particulate emission limitation for fugitive dust required in OAC rule 3745-17-07(B)(1) is less stringent than the visible fugitive emission limitation established in 40 CFR Part 60, Subpart OOO.
- d. For all the operations, property, and/or equipment that emit fugitive dust (particulate emissions which do not exit a stack), reasonably available control measures (RACM) shall be utilized to minimize or

eliminate visible emissions of fugitive dust. The permittee shall comply with the BAT and 40 CFR Part 60, Subpart OOO requirements of this permit in order to comply with the RACM requirements of this permit.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. The pressure drop across the fabric filters servicing this emissions unit, DCP012c and DCP012s, shall be maintained in the range of 3 to 5 inches of water gauge while the emissions unit is in operation.
2. The permittee shall produce and store no more than 200,000 tons of ground material per calendar year in this emissions unit.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate and maintain equipment to monitor the pressure drop across both fabric filters while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the fabric filters on a daily basis.
2. The permittee shall perform weekly visible emissions checks for the following equipment and operations, when the emissions unit is in operation and when the weather conditions allow:
 - a. for the shale interconnecting belt #22 and for the fireclay interconnecting belt #14 which are totally covered and not enclosed in any building, check for any visible fugitive emissions around the conveyors when the conveyors are transporting material;
 - b. for the following operations, property, and or equipment that are all enclosed in buildings, the raw shale dry grinding pan and associated screens, the raw fireclay hammer mill grinder and associated screens, the BaCO3 feeders, belt conveyors enclosed in buildings, and the ground and screened shale and fireclay storage tanks with continuous loading by belt conveyor, check for any visible particulate emissions of fugitive dust escaping from the buildings enclosing the operations, property and or equipment; and
 - c. The presence or absence of any visible fugitive emissions (determined in accordance with sections A.III.2.a and A.III.2.b above) shall be noted in an operations log. If visible fugitive emissions are observed, the permittee shall also note the following in the operations log:
 - i. the color of the emissions;
 - ii. whether the emissions are representative of normal operations;
 - iii. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - iv. the total duration of any visible fugitive emission incident; and
 - v. any corrective actions taken to eliminate the visible fugitive emissions.
3. The permittee shall maintain weekly records of the amount, in tons, of ground material stored per week.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the fabric filters did not comply with the allowable ranges specified above.
2. The permittee shall submit quarterly written reports which (a) identify all days during which any visible particulate emissions of fugitive dust were observed from any conveyor belts which are not enclosed within a building and (b) describe any corrective actions taken to eliminate the visible fugitive emissions. These reports shall be submitted to the Canton City Health Department, Air Pollution Control Division by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.
3. The permittee shall submit annual reports that specify the amount of ground material stored, in tons, and the total particulate emissions from this emissions unit during the previous calendar year. These reports shall be submitted by January 31 of each year.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

32.2 tpy of total particulate emissions from the totally enclosed buildings

Applicable Compliance Method:

This emission limitation was established using emission factors and the maximum production rate of this emissions unit of 200,000 tons per year which requires the processing of 1,000,000 tons of materials per year.

Grinding:

The emission factor to utilize is 76.0 pounds of particulate emissions/ton of material processed for SCC 3-05-008-02 from FIRE 6.22. The capture efficiency of the collection system is 90%. The fabric filter has a collection efficiency of 99.5%.

$(1,000,000 \text{ tons/year}) \times (76.0 \text{ pounds of particulate emissions/ton}) \times (1 - 0.90) \times (1 - 0.995) \times (1 \text{ ton}/2,000 \text{ lbs}) = 19.0 \text{ tpy of particulate emissions}$

Screening:

The emission factor to utilize is 20.0 pounds of particulate emissions/ton processed for SCC 3-05-003-08 from EPA 450/4-90-003. The capture efficiency of the collection system is 75%. The fabric filter has a collection efficiency of 99.5%.

$(1,000,000 \text{ tons/year}) \times (20.0 \text{ pounds of particulate emissions/ton}) \times (1 - 0.75) \times (1 - 0.995) \times (1 \text{ ton}/2,000 \text{ lbs}) = 12.5 \text{ tpy of particulate emissions}$

Storage:

The ground and screened material is stored in steel vessels with containment efficiency of 99.999%. Based on the screen size, an average of 35% of the material becomes airborne during storage.

$(200,000 \text{ tons/year}) \times (0.35) \times (1 - 0.99999) = 0.70 \text{ tpy of particulate emissions}$

Total Emissions:

Total Emissions = $(19.0 + 12.5 + 0.70) \text{ tpy of particulate emissions}$
Total Emissions = 32.2 tpy of particulate emissions

Compliance may be determined by emission factors and the production records in section A.III.3.

b. Emission Limitation:

For affected facilities not enclosed in a building: there shall be no visible fugitive emissions which exhibit greater than 10% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in 40 CFR 60.11.

c. Emission Limitation:

There shall be no visible particulate emissions of fugitive dust escaping from the totally enclosed buildings housing the affected facilities.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Method 22, the procedures in 40 CFR 60.675(d), and section A.III.2 of this permit.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted on an annual basis.

b. The emission testing shall be conducted to demonstrate compliance with the visible particulate emission limitations for fugitive dust specified in sections A.I.2.b.i and A.I.2.b.ii.

c. The following test methods shall be employed to demonstrate compliance with the visible particulate emissions limitations: for the visible fugitive emissions limitation which includes a percent opacity in section A.I.2.b.i, Method 9 of 40 CFR Part 60, Appendix A, and for the visible fugitive emissions limitation which states no visible fugitive emissions in section A.I.2.b.ii, Method 22 of 40 CFR Part 60, Appendix A as described in 40 CFR 60.675(d). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s) and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).

Personnel from the Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control

Division within 30 days following completion of the test(s).

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P012 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. **Additional Terms and Conditions**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. **Operational Restrictions**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. **Monitoring and/or Record Keeping Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. **Reporting Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P014 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
natural gas-fired tunnel kiln to produce unglazed quarry tile; kiln #4; maximum input capacity 11.2 mmBtu/hr; maximum raw material feed rate 3.97 TPH; tile production capacity 3.67 TPH, vented to a common stack for emissions units P004, P005, P006, and P014	OAC rule 3745-17-07 OAC rule 3745-17-11 OAC rule 3745-18-06(E)(1) OAC rule 3745-31-05 (PTI 15-1173)	See A.I.2.a below. See A.I.2.b below. See A.I.2.c below. See A.I.2.d and A.I.2.e below.

2. Additional Terms and Conditions

- a. Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
- b. The particulate emission limitation required by OAC rule 3745-17-11 is less stringent than the particulate emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- c. The sulfur dioxide (SO2) emission limitation required by OAC rule 3745-18-06(E)(1) is less stringent than the SO2 emission limitation established pursuant to the best available technology requirement specified in OAC rule 3745-31-05.
- d. The following emission limitations shall apply to emissions units P004 (kiln #1), P005 (kiln #2), P006 (kiln #3), and P014 (kiln #4) combined, pursuant to PTI 15-1173:
 - 21.65 lbs/hr of particulate emissions
 - 94.14 tpy of particulate emissions
 - 16.06 lbs/hr of nitrogen oxides (NOx)
 - 70.34 tpy of NOx
 - 76.65 lbs/hr of SO2
 - 12,877 lbs/wk of SO2
 - 306.53 tpy of SO2
 - 6.5 lbs/hr of fluorides
 - 28.47 tpy of fluorides
- e. The height of the stack serving emissions unit P004 shall be a minimum of 45 meters from the ground level.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. The permittee shall burn only natural gas as fuel in this emissions unit.
2. The total amount of sulfur in the raw materials used in emissions units P004, P005, P006, and P014 shall not exceed 8,220 pounds in any one week. The amount of sulfur shall be determined by multiplying the tons of raw material (dry weight) used in a week times the weighted-average sulfur content of the raw materials. See section A.VI.2. for an explanation of the calculation of this weekly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission

factor changes.

3. The total amount of sulfur fed to emissions units P004, P005, P006, and P014 shall not exceed 97,900 pounds in any one quarter. The amount of sulfur shall be determined by multiplying the tons (dry weight) of raw materials fed to these emissions units during that quarter times the weighted-average sulfur content of the raw materials. See section A.VI.2. for an explanation of the calculation of this quarterly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.2. if the current sulfur emission factor changes.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform checks at least once every two week period and within 15 days of the last check performed when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
2. For each day during which the permittee burns a fuel other than natural gas in emissions units P004, P005, P006, or P014, the permittee shall maintain a record of the emissions unit ID(s) and the type and quantity of fuel burned.
3. The permittee shall comply with the following monitoring and record keeping requirements for the purpose of determining the weekly and average hourly SO₂ emissions from emissions units P004, P005, P006, and P014 combined:
 - a. The following procedures shall be used to obtain a representative sample of the total daily amount of fireclay and shale fed to emissions units P004, P005, P006, and P014:
 - i. Daily samples shall be taken of the raw materials (fireclay and shale) used in tile production. A daily grab sample of fireclay shall be taken from the belt conveyor leading from one of the two ground fireclay storage tanks which feed the conveyor belts which feed the pug mixers. A daily grab sample of shale shall be taken from the belt conveyor leading from one of the two ground shale storage tanks which feed the conveyor belts which feed the pug mixers. One of these pug mixers supplies mixed raw materials to emissions units P004 and P005 and the other pug mixer supplies mixed raw materials to emissions units P006 and P014.
 - ii. The two individual daily samples from the conveyor belts shall be mixed in proportion to the daily production rates in emissions units P004, P005, P006, and P014 to obtain a representative daily composite sample.
 - iii. The daily composite sample shall be placed in a composite bottle with lid to produce a weekly composite sample. The weekly composite shall be mixed thoroughly so that a sample may be taken from the bottle to represent the whole week's production from the four emissions units.
 - iv. The permittee shall maintain the following daily records:
 - (a) the production schedule indicating what product is being produced in each of the four kilns including the amount, in grams, of the clay and shale used to make the daily composite sample;
 - (b) the production rate of each product being produced, and the number of kiln cars processed per day in each kiln; and
 - (c) the total daily production rate.
 - v. The permittee shall maintain weekly records of the production schedules indicating what products are produced in emissions units P004 and P005 combined, and indicating what products are produced in emissions units P006 and P014 combined.
 - b. The following procedures shall be used to determine the sulfur content of each weekly composite sample:
 - i. The weekly composite sample shall be analyzed for sulfur content each week.
 - ii. The weekly composite sample shall be analyzed using the permittee's Laboratory Equipment Corporation (LECO) analysis equipment that utilizes ASTM Test Method D1552 or E350-97 to determine the corrected, weighted-average sulfur content of the raw materials.
 - iii. For quality assurance of the LECO equipment and its analytical methods, the permittee shall perform a calibration test before the weekly composite sample is analyzed for sulfur content. Two standard rings with known sulfur concentration shall be analyzed for sulfur content utilizing the LECO equipment. The two sulfur content results shall be averaged to obtain the calibration correction factor. The analysis of the weekly composite sample shall utilize the calibration correction factor to obtain the corrected, weighted-average, sulfur content result.
 - iv. The permittee shall maintain the following weekly records:

- (a) the value of the corrected, weighted-average sulfur content of the raw materials used to make tile that week;
 - (b) for each of the four weeks in which duplicate samples are collected, the value for the weighted-average sulfur content of the raw materials used to make tile that week;
 - (c) the sulfur concentration of the rings used to calibrate the LECO equipment each week;
 - (d) the measured sulfur concentrations of the calibration rings; and
 - (e) the calibration correction factors.
- c. The following procedures shall be used for the sampling and analysis of the tile processed in emissions units P004, P005, P006, and P014 during the emission tests:
- i. From each kiln, the permittee shall collect one piece of unfired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that will be located in the firing section of each kiln during each of the three hours of the next day's emission testing. The set of unfired samples from each hour of the testing shall be crushed and mixed together.
 - ii. The twelve mixed samples (one from each hour from each kiln) of uncured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur entering each kiln in the uncured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
 - iii. From each kiln, the permittee shall collect one piece of fired tile from each kiln car (the device upon which the unfired clay is stacked and which moves the clay through the fired kiln for curing) that was located in the firing section of each kiln during each of the three hours of the emission testing. The set of fired samples from each hour of the testing shall be crushed and mixed together.
 - iv. The twelve mixed samples (one from each hour from each kiln) of cured tile shall be analyzed by the permittee or its contractor for sulfur content using a published method for the determination of sulfur content which is suitable for uncured and cured tile materials. These analyses shall give the amount of sulfur exiting each kiln in the cured tile, in units of pounds of sulfur per hour per kiln, in each of the three hours of the test.
 - v. The sulfur converted to SO₂ (out the stack) to the sulfur (in the feed) emission factor (the sulfur emission factor), that is, the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S), shall be calculated by averaging the three individual sulfur emission factors from each of the three hours of the SO₂ emissions testing required in section A.V.2. The individual sulfur emission factors shall be calculated by taking the sulfur in the feed (lbs S/hr) minus sulfur retained in the fired tile (sulfur not converted to SO₂) (lbs S/hr), and dividing by the sulfur in the feed (lbs S/hr) for each hour to give a ratio for each of the three individual testing hours. The sulfur retained in the fired tile (lbs S/hr) shall be determined by subtracting the measured sulfur content (lbs S/hr) of the fired tile from the unfired tile used during the hour of the emission test. The amount of sulfur in the feed (lbs S/hr) shall be determined from the sulfur content measurement of the unfired tile used during the hour of the emission test. The three individual sulfur emission factors shall be averaged together to obtain the sulfur emission factor (lbs S/lbs S).

The weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio).
 - vi. The permittee shall maintain the following records:
 - (a) the sulfur content of the crushed and mixed unfired sample from each hour of the test;
 - (b) the calculations performed to obtain the sulfur emission factor; and
 - (c) the final sulfur emission factor.
4. The permittee shall maintain records of the following information for emissions units P004, P005, P006, and P014, combined:
- a. the total amount of sulfur in the raw materials used in the combined emissions unit in any one week, calculated by multiplying the tons of feed (dry weight) to the combined emissions units during that week times the weighted-average sulfur content for that week;
 - b. the weekly SO₂ emission rate from the combined emissions units (lbs SO₂/week), calculated by multiplying the weekly amount of sulfur usage in the combined emissions units (lbs S), times the current sulfur emission factor (lbs S/lbs S), and times 2.00 (lbs SO₂/lb S) (stoichiometric ratio)
 - c. the average SO₂ emission rate from the combined emissions units (lbs SO₂/hr) calculated as the weekly amount of sulfur usage in the combined emissions units (lbs S) times the current sulfur emission factor, divided by the hours of operation for the combined emissions units for the week; and
 - d. the total amount of sulfur in the raw materials used in the combined emissions units in any one quarter calculated by summing the weekly values of the total amount of sulfur in the raw materials used in the combined emissions units (from A.III.4.a. above) of all the weeks during that quarter.

5. The sulfur emission factor to be used in determining the pounds of SO₂ emitted per week, the average pounds of SO₂ emitted per hour, the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per week, and the total amount of sulfur fed to emissions units P004, P005, P006, and P014, combined, per quarter shall be based upon the most recent emissions testing. The change from the old sulfur emission factor to the new one shall take place at the start of the quarter immediately following the quarter in which the emissions testing took place.
6. The permittee shall maintain a monthly record of the hours of operation for emissions units P004, P005, P006, and P014, combined.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

1. The permittee shall submit quarterly written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous 3-month period.
2. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each week during which the average hourly SO₂ emissions from the raw materials used in tile production in emissions units P004, P005, P006, and P014, combined, exceeded 76.65 lbs/hr. The actual average hourly SO₂ emissions for each such week shall also be reported.
3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs. It shall not be necessary to submit a deviation report for any quarter in which no deviations occurred.
4. The permittee shall submit quarterly deviation (excursion) reports that identify each week during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.2 (current value of 8,220 pounds) and the actual pounds of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such week.
5. The permittee shall submit quarterly deviation (excursion) reports that identify each quarter during which the total weight of sulfur in the raw materials used in emissions units P004, P005, P006, and P014, combined, exceeded the operational restriction defined in A.II.3 (current value of 97,900 pounds) and the actual pounds of sulfur used in the raw materials for emissions units P004, P005, P006, and P014, combined, for each such quarter.
6. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c.ii, except as noted in A.IV.3 above.
7. The permittee shall also submit annual reports that specify the total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, in tons, for the previous calendar year. The total particulate, SO₂, NO_x, and fluoride emissions from emissions units P004, P005, P006, and P014, combined, shall be calculated using production records and the most recent stack testing results. These reports shall be submitted by January 31 of each year.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be demonstrated based upon visible particulate emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitation:

21.65 lbs/hr of particulate emissions for emissions units P004, P005, P006, and P014, combined.

Applicable Compliance method:

Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.
 - c. Emission Limitation:

- 94.14 tpy of particulate emissions for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
- d. Emission Limitation:
- 16.06 lbs/hr of NOx for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7 while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.
- e. Emission Limitation:
- 70.34 tpy of NOx for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
- f. Emission Limitation:
- 76.65 lbs/hr of SO2 for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6 and OAC rule 3745-18-04(A) while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised. Compliance shall also be demonstrated based upon the monitoring and record keeping requirements specified in sections A.III.3 and A.III.4.
- g. Emission Limitation:
- 306.53 tpy of SO2 for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon: the monitoring and record keeping requirements in sections A.III.3.c and A.III.5 to determine the final sulfur emission factor; the monitoring and record keeping requirements in sections A.III.3 and A.III.4 to determine the weekly SO2 emission rate from the combined emissions units; and, summing the weekly SO2 emission rate over the weeks of the calendar year to determine the actual SO2 emissions, in tons.
- h. Emission Limitation:
- 6.5 lbs/hr of fluorides for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon stack testing performed in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 13A while emissions units P004, P005, P006, and P014 are operating simultaneously. If alternate operating scenarios are established for any of these emissions units, the applicable compliance method may need to be revised.
- i. Emission Limitation:
- 28.47 tpy of fluorides for emissions units P004, P005, P006, and P014, combined
- Applicable Compliance Method:
- Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual operating hours, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
2. The permittee shall conduct, or have conducted, emission testing for emissions units P004, P005, P006, and P014 in accordance with the following requirements:
- a. The emission testing shall be conducted no later than 6 months after issuance of the permit and within 27

to 33 months after issuance of the permit.

- b. The emission testing shall be conducted to demonstrate compliance with the visible particulate emission limitation in section A.1.2.a and with the allowable, hourly mass emission rates for particulates, SO₂, NO_x, and fluorides in section A.1.2.d.
- c. The following test methods shall be employed to demonstrate compliance with the visible particulate emission limitation and the allowable mass emission rates:
- for visible particulate emissions - Method 9 of 40 CFR Part 60, Appendix A;
for particulates - Methods 1 through 5 of 40 CFR Part 60, Appendix A;
for SO₂ - Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A;
for NO_x - Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A; and
for fluorides (total gaseous and particulate fluorides which do not include fluorocarbons) - Methods 1 through 4 and 13A of 40 CFR Part 60, Appendix A.
- d. The following parameters, at a minimum, shall be monitored or analyzed and recorded during the emission testing: the process weight rate of each kiln, in pounds per hour; the sulfur content, in weight-percent sulfur of the raw materials used to make tile in each kiln; the amount of sulfur, in pounds, entering each kiln in the uncured tile in each of the three hours of the test; the sulfur content, in weight percent sulfur of the fired tile made in each kiln; and the amount of sulfur, in pounds, exiting each kiln in the cured tile in each of the three hours of the test.
- e. If emissions unit P005 is operating as a tunnel kiln, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.
- If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, the test(s) shall be conducted while emissions units P004, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division, except as noted directly below.
- If emissions unit P005 is operating as a batch kiln under its alternate operating scenario, if required, the test(s) shall be conducted while emissions units P004, P005, P006, and P014 are concurrently operating at or near their maximum capacities unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.
- Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).
- e. Personnel from the Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control Division within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Canton City Health Department, Air Pollution Control Division.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

*****THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.*****

VI. Miscellaneous Requirements

1. Following are the calculations for the permitted amount of sulfur in the feed.

The sulfur converted to SO₂ (out the stack) to sulfur (in feed) emission factor, the sulfur emission factor, relates the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S).

The sulfur EF = sulfur (out the stack)/sulfur (in the feed) = pounds of S converted to SO₂/pound of S in the feed

The sulfur EF = 0.783 pound of S converted to SO₂/pound of S in the feed, from the 6/15/00 emission testing results

The PTI allowable SO₂ emissions = 306.53 tons SO₂ emitted /year

The PTI allowable SO₂ emissions = (306.53 tons SO₂ emitted/year) X (2000 lbs/ton)

The PTI allowable SO₂ emissions = 613,060 lbs SO₂ emitted/year

Using the sulfur emission factor and stoichiometry,

$$613,060 \text{ lbs SO}_2 \text{ emitted/year} = (0.783 \text{ lb S emitted/lb S in the feed}) \times (\text{Allowable lbs S in the feed}) \times (1 \text{ mole S emitted}/32 \text{ lbs S emitted}) \times (1 \text{ mole SO}_2 \text{ emitted}/1 \text{ mole S emitted}) \times (64 \text{ lbs SO}_2 \text{ emitted}/\text{mole SO}_2 \text{ emitted})$$

Solving the above equation for the Allowable lbs S in the feed,

$$\text{Allowable lbs S in the feed} = (613,060 \text{ lbs SO}_2 \text{ emitted/year}) \times (1 \text{ lb S in the feed}/0.783 \text{ lb S emitted}) \times (32 \text{ lbs S emitted}/\text{mole S emitted}) \times (\text{mole S emitted}/\text{mole SO}_2 \text{ emitted}) \times (\text{mole SO}_2 \text{ emitted}/64 \text{ lbs SO}_2 \text{ emitted})$$

$$\text{Allowable lbs S in the feed} = 391,481 \text{ lbs S in the feed per year}$$

$$\text{Allowable lbs S in the feed} = (391,481 \text{ lbs S/year}) \times (1 \text{ year}/4 \text{ quarters}) = 97870 \text{ lbs S/quarter}$$

rounding

$$\begin{aligned} \text{Allowable lbs S in the feed} &= 97,900 \text{ lbs S/quarter} \\ \text{The PTI allowable SO}_2 \text{ emissions} &= 12,877 \text{ lbs SO}_2 \text{ emitted/week} \end{aligned}$$

Again, using the sulfur emission factor and stoichiometry and solving for the Allowable lbs S in the feed,

$$\text{Allowable lbs S in the feed} = (12,877 \text{ lbs SO}_2 \text{ emitted/week}) \times (1 \text{ lb S in the feed}/0.783 \text{ lb S emitted}) \times (32 \text{ lbs S emitted}/\text{mole S emitted}) \times (\text{mole S emitted}/\text{mole of SO}_2 \text{ emitted}) \times (\text{mole SO}_2 \text{ emitted}/64 \text{ lbs SO}_2 \text{ emitted})$$

$$\text{Allowable lbs S in the feed} = 8,223 \text{ lbs S in the feed}$$

rounding

$$\text{Allowable lbs S in the feed} = 8,220 \text{ lbs S in the feed}$$

The rounded values are the values used in this permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P014 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. Additional Terms and Conditions

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. **Reporting Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P015 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
Natural gas-fired tunnel kiln to produce glazed and unglazed ceramic tiles; kiln #5, Keith tunnel kiln; maximum raw material feed rate 0.474 TPH; tile production capacity 0.409 TPH; the raw material fed to this emissions unit is the same raw material fed to emissions units P004, P005, P006, and P014; vented to a stack serving this emissions unit only	OAC rule 3745-31-05 (PTI 15-1343)	0.685 lb/hr of particulate emissions
		3.0 tpy of particulate emissions
		3.04 lbs/hr of sulfur dioxide (SO2)
		13.3 tpy of SO2
		0.086 lb/hr of volatile organic compounds (VOC)
		0.377 tpy of VOC
		0.385 lb/hr of nitrogen oxides (NOx)
		1.69 tpy of NOx
		0.063 lb/hr of carbon monoxide (CO)
		0.276 tpy of CO
OAC rule 3745-17-07(A)(1)	OAC rule 3745-17-11	0.385 lb/hr of hydrogen fluorides (HF)
		1.69 tpy of HF
		See A.I.2.a and A.I.2.b below.
		See A.I.2.c below.
OAC rule 3745-18-06(E)(1)		See A.I.2.d below.
		See A.I.2.d below.

- 2. **Additional Terms and Conditions**

- a. The permittee shall only burn natural gas as fuel in this emissions unit.
- b. The stack serving this emissions unit shall be a minimum of 60 feet in height.
- c. Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
- d. The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to the best available technology (BAT) requirement specified in OAC rule 3745-31-05(A)(3).

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

1. The total amount of sulfur in the raw materials used in this emissions unit shall not exceed 326 pounds in any one week. The amount of sulfur shall be determined by multiplying the tons of raw material (dry weight) used in a week times the weighted-average sulfur content of the raw materials. See section A.VI.1 for an explanation of the calculation of this weekly sulfur (in the feed) operational restriction. This restriction shall change, in accordance with section A.VI.1, if the current sulfur emission factor changes.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

1. In order to verify that the weekly sulfur operational restriction listed in section A.II.1 has not been exceeded, the procedures in section A.III.1.a shall be used to obtain a representative sample of the fireclay and a representative sample of the shale fed to emissions unit P015, and, a composite sample of fireclay and of shale, accumulated from a 7-day period, shall be analyzed to determine the weighted average sulfur content of the fireclay and shale fed to emissions unit P015, as described in section A.III.1.b.
 - a. Daily samples shall be taken of the raw materials (fireclay and shale) used in emissions units P004, P005, P006, P014, and P015. A daily grab sample of fireclay shall be taken from the belt conveyor leading from one of the two ground fireclay storage tanks which feed the conveyor belts which feed the pug mixers. A daily grab sample of shale shall be taken from the belt conveyor leading from one of the two ground shale storage tanks which feed the conveyor belts which feed the pug mixers. One of these pug mixers feeds emissions units P004 and P005 and the other pug mixer feeds emissions units P006 and P014. Depending on production schedules, one or the other of the pug mixers also feeds emissions unit P015.

Each day, ten grams of the daily fireclay grab sample shall be mixed in a weekly composite fireclay bottle to obtain a weekly, composite, fireclay sample. The weekly composite fireclay sample shall be mixed thoroughly so that a sample may be taken from the bottle to represent the whole week's fireclay production from emissions unit P015.

Each day, ten grams of the daily shale grab sample shall be mixed in a weekly composite shale bottle to obtain a weekly, composite, shale sample. The weekly composite shale sample shall be mixed thoroughly so that a sample may be taken from the bottle to represent the whole week's shale production from emissions unit P015.

The permittee shall maintain daily records of the production schedule indicating what products are being produced in emissions unit P015 and the amount of each product.
 - b. The following procedures shall be used to determine the sulfur content of each weekly composite fireclay sample and shale sample:
 - i. The weekly composite fireclay sample and shale sample shall be analyzed for sulfur content each week.
 - ii. Both weekly composite samples shall be analyzed using the permittee's Laboratory Equipment Corporation (LECO) analysis equipment that utilizes ASTM Test Method D1552 or E350-97 to determine the corrected, weighted-average sulfur content of the raw materials.
 - iii. For quality assurance of the LECO equipment and its analytical methods, the permittee shall perform a calibration test before the weekly composite sample is analyzed for sulfur content. Two standard rings with known sulfur concentration shall be analyzed for sulfur content utilizing the LECO equipment. The two sulfur content results shall be averaged to obtain the calibration correction factor. The analysis of the weekly composite sample shall utilize the calibration correction factor to obtain the corrected, weighted-average, sulfur content result.
 - iv. The permittee shall maintain the following records:
 - (a) the sulfur concentration of the rings used to calibrate the LECO equipment each week;
 - (b) the measured sulfur concentrations of the calibration rings; and
 - (c) the correction factors.
2. The permittee shall maintain weekly records of the following:
 - a. the weighted average sulfur content of raw materials, in percent;

- b. the production rate, in tons, for the kiln; and
 - c. the amount of sulfur in the raw materials, in pounds, used in this kiln.
3. The permittee shall perform checks at least once every two week period and within 15 days of the last check performed when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify each week during which the amount of sulfur in the raw materials employed in this kiln exceeded the allowable amount of sulfur in the raw materials weekly operational restriction (currently 326 pounds), and the actual amount of sulfur in the raw materials for each such week.
2. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c.ii.
3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Canton City Health Department, Air Pollution Control Division) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

0.685 lb/hr of particulate emissions

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.
 - b. Emission Limitation:

3.04 lbs/hr of SO₂

Applicable Compliance Method:

Compliance with this emission limitation shall be demonstrated by (1) complying with the operational limit on the pounds of sulfur allowed to be used in this emissions unit per week (currently 326 pounds of sulfur allowed to be used in this emissions unit per week), (2) performing the monitoring, record keeping and reporting requirements associated with the operational limit, and (3) if required, compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Method 6. See term and condition A.VI.1 for an explanation of the basis of the weekly operational limit.
 - c. Emission Limitation:

0.086 lb/hr of VOC

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 25A.
 - d. Emission Limitation:

0.385 lb/hr of NO_x

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60,

Appendix A, Methods 1 through 4 and Method 7.

- e. Emission Limitation:
0.063 lb/hr of CO
Applicable Compliance Method:
If required, compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 10.
- f. Emission Limitation:
0.385 lb/hr of HF
Applicable Compliance Method:
If required, compliance shall be demonstrated based upon the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 13A.
- g. Emission Limitations:
3.0 tpy of particulate emissions
13.3 tpy of SO₂
0.377 tpy of VOC
1.69 tpy of NO_x
0.276 tpy of CO
1.69 tpy of HF
Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the appropriate allowable hourly emission limitation by the actual annual hours of operation, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.
- h. Emission Limitation:
20% opacity as a 6-minute average
Compliance Method:
Compliance shall be demonstrated based upon emission testing as specified in section A.V.2.
2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- The emission testing shall be conducted to demonstrate compliance with the visible particulate emission limitation on an annual basis.
 - The following test methods shall be employed to demonstrate compliance with the visible particulate emission limitation: Method 9 of 40 CFR Part 60, Appendix A.
 - The Method 9 procedure shall be performed with opacity readings taken from outside of the enclosures in accordance with OAC rule 3745-17-03(B)(1).
 - The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division.
Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Canton City Health Department, Air Pollution Control Division. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s) and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Canton City Health Department, Air Pollution Control Division's refusal to accept the results of the emission test(s).
Personnel from the Canton City Health Department, Air Pollution Control Division shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Canton City Health Department, Air Pollution Control Division within 30 days following completion of the test(s).

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

- Following are the calculations for the permitted amount of sulfur in the feed.

The sulfur converted to SO₂ (out the stack) to the sulfur (in the feed) emission factor, the sulfur emission factor, relates the ratio of the amount of sulfur converted to SO₂ and emitted from the stack (lbs S) to sulfur in the feed (lbs S).

The sulfur EF = sulfur (out the stack)/sulfur (in the feed) = pounds of S converted to SO₂/pound of S in the feed

The sulfur EF = 0.783 pound of S converted to SO₂/pound of S in the feed, from the 6/15/00 emission testing results for emissions units P004, P005, P006, and P014. The sulfur EF for this emissions unit is assumed to be 0.783, the same as for emissions units P004, P005, P006, and P014.

The PTI allowable SO₂ emissions/hour = 3.04 lbs SO₂ emitted/hour.

The PTI allowable SO₂ emissions/week = (3.04 lbs SO₂ emitted/hour) X (168 hours/week).

The PTI allowable SO₂ emissions/week = 511 lbs SO₂ emitted/week.

Using the sulfur emission factor and stoichiometry,

511 lbs SO₂ emitted /week = (0.783 lb S emitted/lb S in the feed) X (Allowable lbs S in the feed) X (1 mole S emitted/32 lbs S emitted) X (1 mole SO₂ emitted/1 mole S emitted) X (64 lbs SO₂ emitted/mole SO₂ emitted)

Solving the above equation for the Allowable lbs S in the feed,

Allowable lbs S in the feed = (511 lbs SO₂ emitted/week) X (1 lb S in the feed/0.783 lb S emitted) X (32 lbs S emitted/mole S emitted) X (mole S emitted/mole of SO₂ emitted) X (mole SO₂ emitted/64 lbs SO₂ emitted)

Allowable lbs S in the feed = 326.3 lbs S in the feed

rounding

Allowable lbs S in the feed = 326 lbs S in the feed

The rounded values are the values used in this permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P015 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. Additional Terms and Conditions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. Monitoring and/or Record Keeping Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. Reporting Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. Testing Requirements

- 1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

Part III - Terms and Conditions for Emissions Units

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P017 Issuance type: Title V Preliminary Proposed Permit

A. State and Federally Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

- 1. None.

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
Three glazing/engobing ceramic tile and shapes spray booths controlled with two wet filter systems with vacuum collection that are vented inside the building. See section A.VI.1 for additional information.	OAC rule 3745-31-05 (PTI 15-1343)	0.70 lb/hr of particulate emissions escaping from the building
	OAC rule 3745-17-07(B)(1)	See A.I.2.a below.
	OAC rule 3745-17-08	See A.I.2.b below.
		3.06 tpy of particulate emissions escaping from the building

2. Additional Terms and Conditions

- a. Visible particulate emissions of fugitive dust escaping from the building enclosing this emissions unit shall not exceed 20% opacity as a 3-minute average.
- b. Any limitations imposed by this rule are less stringent than the limitations established pursuant to the best available technology (BAT) requirement specified in OAC rule 3745-31-05(A)(3).

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. Operational Restrictions

- 1. There shall be no volatile organic compounds (VOC) present in either the glaze or the engobe sprayed.
- 2. At least 99% of the overspray from the three spray booths shall be captured and vented to the two wet filter systems.
- 3. The exhaust from each of the wet filter systems shall be vented inside the building.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. **Monitoring and/or Record Keeping Requirements**

1. The permittee shall perform checks once every two weeks when the emissions unit is in operation and when weather conditions allow, for any visible particulate emissions of fugitive dust escaping from the building. Any required check that is not performed due to weather conditions shall be performed as soon as such events have ended or within one week of the missed check. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible particulate emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible particulate emissions incident; and
 - e. any corrective actions taken to eliminate the visible particulate emissions.
2. The permittee shall maintain daily records in the operations log if any glaze or engobe is sprayed that contains VOC. These records shall contain the following information:
 - a. the date such glaze or engobe is sprayed;
 - b. the name or identification of such glaze or engobe;
 - c. the percent, by volume or weight, of the VOC in such glaze or engobe;
 - d. the amount, by volume or weight, of such glaze or engobe sprayed; and
 - e. the amount of VOC emissions per hour when such glaze or engobe is sprayed.
3. The permittee shall maintain a monthly record of the hours of operation for this emissions unit.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. **Reporting Requirements**

1. The permittee shall submit quarterly written reports that identify all days during which any visible particulate emissions of fugitive dust were observed escaping the building, and, describe any corrective actions taken to eliminate the visible particulate emissions of fugitive dust. These reports shall be submitted to the Canton City Health Department, Air Pollution Control Division by January 31, April 30, July 31, and October 31 of each year and shall cover the previous 3-month period.
2. The permittee shall submit quarterly written deviation (excursion) reports that identify all days during which glaze or engobe was sprayed which contained VOC. These reports shall contain all the information specified in section A.III.2 above.
3. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c.ii., except that no quarterly written deviation (excursion) reports need be submitted if no glaze or engobe was sprayed that contained VOCs in a particular quarter.

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

0.70 lb/hr of particulate emissions escaping from the building

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations.

Emissions from the wet filter systems:

[360 g/sq ft (maximum glaze usage rate)] times [1 lb/454 g] times [178 sq ft/hr (maximum tile rate)] times [0.5 (transfer efficiency of spraying)] times [0.99 (capture efficiency of the wet filter control systems)] times [0.01 (operating control efficiency of the wet filter control systems)] times [0.5 (control efficiency of the building)] = 0.35 lb/hr of particulate emissions.

Emissions not collected by the wet filter control systems:

[360 g/sq ft (maximum glaze usage rate)] times [1 lb/454 g] times [178 sq ft/hr (maximum tile rate)] times [0.5 (transfer efficiency of spraying)] times [0.01 (capture efficiency of the wet filter control systems)] times [0.5 (control efficiency of the building)] = 0.35 lb/hr of particulate emissions.

Total emissions = 0.35 lb/hr plus 0.35 lb/hr = 0.70 lb/hr of particulate emissions.
 - b. Emission Limitation:

3.06 tpy of particulate emissions escaping from the building

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly particulate emission limitation by the actual annual hours of operation, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual limitation.

c. Emission Limitation:

20% opacity as a 3-minute average, for fugitive emissions

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the visible particulate emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the methods and procedures in OAC rule 3745-17-03(B)(3).

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. Note that PTI 15-1343 (issued 9/10/98) allowed the installation of six glazing/engobing ceramic tile and shapes spray booths. In addition, three wet filter systems were required. Only three glazing/engobing ceramic tile and shapes spray booths were installed, along with two wet filter systems. The hourly and annual particulate emission limitations from the PTI have been reduced by one half in this Title V permit to account for only half of the equipment being installed.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1576051149 Issuance type: Title V Preliminary Proposed Permit

[Go to the top of this document](#)

Facility ID: 1576051149 Emissions Unit ID: P017 Issuance type: Title V Preliminary Proposed Permit

B. State Enforceable Section

The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

1. None.

I. **Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
---	--------------------------------------	--

2. **Additional Terms and Conditions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

II. **Operational Restrictions**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

III. **Monitoring and/or Record Keeping Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

IV. **Reporting Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

V. **Testing Requirements**

1. None

[Go to the top of this document](#)

[Go to the top of Part III for this Emissions Unit](#)

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION.

VI. **Miscellaneous Requirements**

1. None