

Facility ID: 0285030223 Issuance type: Final State Permit To Operate

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 II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

- [Go to Part II for Emissions Unit P003](#)
- [Go to Part II for Emissions Unit P004](#)
- [Go to Part II for Emissions Unit P006](#)
- [Go to Part II for Emissions Unit P007](#)
- [Go to Part II for Emissions Unit P008](#)
- [Go to Part II for Emissions Unit P009](#)
- [Go to Part II for Emissions Unit P010](#)
- [Go to Part II for Emissions Unit P011](#)
- [Go to Part II for Emissions Unit P012](#)

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Facility ID: 0285030223 Emissions Unit ID: P003 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
sand handling system, consisting of vibratory screens, conveyor belt, pushers, 40 ton hopper, elevator, muller and aerator, controlled by the no. 1 west baghouse	OAC rule 3745-17-11(B)	11.60 lbs/hr of particulate emissions (PE)
	OAC rule 3745-17-07(A)(1)	See section A.2.a. below. Visible emissions from the stack of the baghouse serving this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.

2. Additional Terms and Conditions

- (a) The PE limit was calculated using Figure II of OAC rule 3745-17-11(B) and a maximum uncontrolled rate of emission of 82.8 lbs/hr. This emission rate was estimated using a maximum process weight rate of 23 tons per hour and an emission factor of 3.6 lbs of PE/ton of sand processed from AP-42 "Compilation of Air Pollutant Emission Factors," Table 12.10-7. All PE from the sand handling operations shall be captured and vented to the no. 1 west baghouse.

B. Operational Restrictions

1. The pressure drop across the baghouse shall be maintained within a range of 2 to 7 inches of water column at all times while the emissions unit is in operation.

C. 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.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations specified in section A.1. of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitation:
11.60 lbs/hr of PE

Applicable Compliance Method:
Compliance with the hourly PE limitation shall be determined using the following equation:

$$PE = P \times EF \times (1 - CE)$$

where:

PE = hourly emission rate, in lbs/hr;
P = maximum hourly processing rate, 23.0 TPH;
EF = emission factor of 3.6 lbs/ton of sand processed, from AP-42 Table 12.10-7; and
CE = fractional control efficiency, 0.99 (manufacturer's estimate).

Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the baghouse stack, this office may request that stack testing be performed.

Emission Limitation:
Visible emissions from the stack of the baghouse serving this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:
Compliance with the visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. Miscellaneous Requirements

1. None

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Facility ID: 0285030223 Emissions Unit ID: P004 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
abrasive grinding, controlled by the no. 3 south dust collector	OAC rule 3745-31-05(A)(3) (PTI 02-21711)	0.12 lb/hr and 0.53 TPY of particulate emissions (PE) 0.0083 lb/hr and 0.036 TPY of lead Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.
	OAC rules 3745-17-07(A) and 3745-17-11(B)	The emission limitations specified in these rules are less stringent than those established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**
 - (a) All PE from the abrasive blasting operations shall be captured and vented to the no. 3 south dust collector.

B. Operational Restrictions

1. The pressure drop across the dust collector shall be maintained within a range of 4 to 7 inches of water column at all times while the emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the dust collector 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 dust collector on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the dust collector did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations specified in section A.1. of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitation:
0.12 lb/hr and 0.53 TPY of PE

Applicable Compliance Method:

Compliance with the hourly PE limitation shall be determined using the following equation:

$$PE = P \times EF \times (1 - CE)$$

where:

PE = hourly emission rate, in lbs/hr;

P = maximum hourly processing rate, 0.7 TPH;

EF = emission factor of 17 lbs/ton of material produced, from AP-42 Table 12.10-7; and

CE = fractional control efficiency, 0.99 (conservative as manufacturer estimates 0.999).

Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the dust collector stack, this office may request that stack testing be performed.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:

0.0083 lb/hr and 0.036 TPY of lead

Applicable Compliance Method:

Compliance with the hourly lead emission rate shall be determined using the equation above for PE and then multiplying by an emission factor of 0.07 lb of lead/lb of brass.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:

Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the above visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. Miscellaneous Requirements

1. None

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

Facility ID: 0285030223 Emissions Unit ID: P006 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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.

Applicable Emissions Limitations/Control

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Measures</u>
south electric induction furnace, controlled by the no. 2 west dust collector	OAC rule 3745-31-05(A)(3) (PTI 02-5423)	0.03 grain of particulate emissions (PE) per dry standard cubic foot of total exhaust gases and 1.05 lb/hr of PE 0.065 lb/hr of lead
	OAC rule 3745-17-07(A)(1)	The requirements of this rule shall also include compliance with OAC rule 3745-17-07(A)(1). Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed 20 percent as a six-minute average, except as specified by rule.
	OAC rule 3745-17-11(B)	The emission limitation established in this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).
2. Additional Terms and Conditions		
(a) All PE from the south electric induction furnace shall be captured and vented to the no. 2 west dust collector.		
B. Operational Restrictions		
1. The pressure drop across the dust collector shall be maintained within a range of 1.5 to 6.5 inches of water column at all times while the emissions unit is in operation.		
C. Monitoring and/or Record Keeping Requirements		
1. The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the dust collector 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 dust collector on a daily basis.		
D. Reporting Requirements		
1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the dust collector did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.		
E. Testing Requirements		
1. Compliance with the emission limitations specified in section A.1. of these terms and conditions shall be determined in accordance with the following methods: Emission Limitation: 0.03 grain of PE per dry standard cubic foot of total exhaust gases and 1.05 lb/hr of PE Applicable Compliance Method: Compliance with the hourly PE limitation shall be determined using the following equation: $PE = P \times EF \times (1 - CE)$ where: PE = hourly emission rate, in lbs/hr; P = maximum hourly processing rate, 1.05 TPH; EF = emission factor of 20 lbs/ton of material produced, from AP-42 Table 12.9-2; and CE = fractional control efficiency, 0.99. Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the dust collector stack, this office may request that stack testing be performed. Emission Limitation: 0.065 lb/hr of lead Applicable Compliance Method: Compliance with the hourly lead emission rate shall be determined using the equation above for PE and then multiplying by an emission factor of 0.07 lb of lead/lb of brass. The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton. Emission Limitation: Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed 20 percent as a six-minute average, except as specified by rule. Applicable Compliance Method: Compliance with the visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.		
F. Miscellaneous Requirements		
1. None		

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

Facility ID: 0285030223 Emissions Unit ID: P007 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
north electric induction furnace, controlled by the no. 2 west dust collector	OAC rule 3745-31-05(A)(3) (PTI 02-5423)	0.03 grain of particulate emissions (PE) per dry standard cubic foot of total exhaust gases and 1.05 lb/hr of PE 0.065 lb/hr of lead The requirements of this rule shall also include compliance with OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-07(A)(1)	Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed 20 percent as a six-minute average, except as specified by rule.
	OAC rule 3745-17-11(B)	The emission limitation established in this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**
 - (a) All PE from the north electric induction furnace shall be captured and vented to the no. 2 west dust collector.

B. Operational Restrictions

1. The pressure drop across the dust collector shall be maintained within a range of 1.5 to 6.5 inches of water column at all times while the emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the dust collector 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 dust collector on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the dust collector did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

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

Emission Limitation:
0.03 grain of PE per dry standard cubic foot of total exhaust gases and 1.05 lb/hr of PE

Applicable Compliance Method:
Compliance with the hourly PE limitation shall be determined using the following equation:

$$PE = P \times EF \times (1 - CE)$$

where:

PE = hourly emission rate, in lbs/hr;
P = maximum hourly processing rate, 1.05 TPH;
EF = emission factor of 20 lbs/ton of material produced, from AP-42 Table 12.9-2; and
CE = fractional control efficiency, 0.99.

Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the dust collector stack, this office may request that stack testing be performed.

Emission Limitation:

0.065 lb/hr of lead

Applicable Compliance Method:

Compliance with the hourly lead emission rate shall be determined using the equation above for PE and then multiplying by an emission factor of 0.07 lb of lead/lb of brass.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:

Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed 20 percent as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. Miscellaneous Requirements

- 1. None

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Facility ID: 0285030223 Emissions Unit ID: P008 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

- 1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
- 2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
east barrel blast machine, controlled by the no. 4 east baghouse	OAC rule 3745-31-05(A)(3) (PTI 02-21017)	0.36 lb/hr and 1.58 TPY of particulate emissions (PE) 0.025 lb/hr and 0.11 TPY of lead Visible emissions from the stack serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.
	OAC rules 3745-17-11(B) and 3745-17-07(A)	The emission limitations specified in these rules are less stringent than those established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- (a) The annual emission limitation specified above is based on the emissions unit's potential to emit. Therefore, no records are required to demonstrate compliance with this limitation.

B. Operational Restrictions

- 1. The pressure drop across the baghouse shall be maintained within the range of 2 to 6 inches of water column at all times while the emissions unit is in operation.

C. 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 collect and record the pressure drop across the baghouse on a daily basis.

D. Reporting Requirements

- 1. The permittee shall submit 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. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations specified in section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 Emission Limitation:
 0.36 lb/hr and 1.58 TPY of PE
 0.025 lb/hr and 0.11 TPY of lead

Applicable Compliance Method:

Compliance with the above PE limitation shall be determined using an uncontrolled emission factor of 17 lbs/hr from AP-42 "Compilation of Air Pollutant Emission Factors," Table 12.10-7, an estimated control efficiency of 99 percent, and a maximum throughput of 2.11 tons/hr. Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the baghouse stack, this office may request that stack testing be performed.

Compliance with the emission limitations for lead shall be determined using a lead content of seven percent.

Emission Limitation:

Visible emissions from the stack serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. Miscellaneous Requirements

1. None

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Facility ID: 0285030223 Emissions Unit ID: P009 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
pouring and cooling line, including mold transfer and pour pot, controlled by the no. 2 west dust collector	OAC rule 3745-31-05(A)(3) (PTI 02-21711)	0.089 lb/hr and 0.39 TPY of particulate emissions (PE) 0.0062 lb/hr and 0.027 TPY of lead
	OAC rules 3745-17-07(A) and 3745-17-11(B)	Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average. The emission limitations specified in these rules are less stringent than those established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**
 - (a) All PE from the pouring and cooling operations shall be captured and vented to the no. 2 west dust collector.

B. Operational Restrictions

1. The pressure drop across the dust collector shall be maintained within a range of 1.5 to 6.5 inches of water column at all times while the emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the dust collector 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 dust collector on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the dust collector did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

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

Emission Limitation:
0.089 lb/hr and 0.39 TPY of PE

Applicable Compliance Method:
Compliance with the hourly PE limitation shall be determined using the following equation:

$$PE = P \times EF \times (1 - CE)$$

where:

PE = hourly emission rate, in lbs/hr;
P = maximum hourly processing rate, 2.11 TPH;
EF = emission factor of 4.2 lbs/ton of material processed, from AP-42 Table 12.10-7; and
CE = fractional control efficiency, 0.99 (manufacturer's estimate).

Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the dust collector stack, this office may request that stack testing be performed.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:
0.0062 lb/hr and 0.027 TPY of lead

Applicable Compliance Method:
Compliance with the hourly lead emission rate shall be determined using the equation above for PE and then multiplying by an emission factor of 0.7 lb of lead/lb of brass.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:
Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.

Applicable Compliance Method:
Compliance with the above visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. Miscellaneous Requirements

1. None

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

Facility ID: 0285030223 Emissions Unit ID: P010 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
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shakeout, including vibratory screen and vibratory conveyor, controlled by the no. 3 south dust collector

OAC rule 3745-31-05(A)(3) (PTI 02-21711)

0.42 lb/hr and 1.84 TPY of particulate emissions (PE)
0.0022 lb/hr and 0.096 TPY of lead

Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.

OAC rules 3745-17-07(A) and 3745-17-11(B)
The emission limitations specified in these rules are less stringent than those established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

(a) All PE from the shakeout operations shall be captured and vented to the no. 3 south dust collector.

B. Operational Restrictions

1. The pressure drop across the dust collector shall be maintained within a range of 4 to 7 inches of water column at all times while the emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the dust collector 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 dust collector on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the dust collector did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

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

Emission Limitation:
0.42 lb/hr and 1.84 TPY of PE

Applicable Compliance Method:
Compliance with the hourly PE limitation shall be determined using the following equation:

$$PE = P \times EF \times (1 - CE)$$

where:

PE = hourly emission rate, in lbs/hr;
P = maximum hourly processing rate, 13.1 TPH;
EF = emission factor of 3.2 lbs of PE/ton of sand handled, from AP-42 Table 12.10-7; and
CE = fractional control efficiency, 0.99 (conservative as manufacturer estimates 0.999).

Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the dust collector stack, this office may request that stack testing be performed.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:
0.0022 lb/hr and 0.096 TPY of lead

Applicable Compliance Method:
Compliance with the hourly lead emission rate shall be determined using the equation above for PE and then multiplying by an emission factor of 0.00524 lb of lead/lb of sand.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:
Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.

Applicable Compliance Method:
Compliance with the above visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. Miscellaneous Requirements

1. None

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

Facility ID: 0285030223 Emissions Unit ID: P011 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
chip dryer, controlled by an oil mist filtration unit and the no. 6 chip dryer dust collector	OAC rule 3745-31-05(A)(3) (PTI 02-21711)	0.016 lb/hr and 0.070 TPY of particulate emissions (PE) 0.0036 lb/hr and 0.016 TPY of lead Visible emissions from the dust collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.
	OAC rules 3745-17-07(A) and 3745-17-11(B)	The emission limitations specified in these rules are less stringent than those established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**
 - (a) All PE from the chip dryer shall be captured and vented to the no. 6 chip dryer dust collector.

B. Operational Restrictions

1. The pressure drop across the dust collector shall be maintained within a range of 0 to 10 inches of water column at all times while the emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the dust collector 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 dust collector on a daily basis.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the dust collector did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

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

Emission Limitation:
0.016 lb/hr and 0.070 TPY of PE

Applicable Compliance Method:
The hourly PE limit was created using an uncontrolled emission factor of 1.55 lbs of PE/hr, from a stack test performed on March 17, 1999 (highest run recorded) and a control efficiency of 99% (conservative as manufacturer estimates 99.9%).

Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the dust collector stack, this office may request that stack testing be performed.

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:
0.0036 lb/hr and 0.016 TPY of lead

Applicable Compliance Method:
The hourly PE limit was created using an uncontrolled emission factor of 0.36 lbs of PE/hr, from a stack test performed on March 17, 1999 (highest run recorded) and a control efficiency of 99% (conservative as manufacturer estimates 99.9%).

The annual emission limitation was created by multiplying the hourly emission rate by 8,760 hrs/yr and dividing by 2,000 lbs/ton.

Emission Limitation:
Visible emissions from the collector serving this emissions unit shall not exceed zero percent (0%) opacity, as a six-minute average.

Applicable Compliance Method:
 Compliance with the above visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. Miscellaneous Requirements

- 1. None

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

Facility ID: 0285030223 Emissions Unit ID: P012 Issuance type: Final State Permit To Operate

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

Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

- 1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
- 2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. 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>
west wheelabrator, controlled by the no. 2 west dust collector	OAC rule 3745-17-11(B)	2.36 lbs of particulate emissions/hr
	OAC rule 3745-17-07(A)(1)	See section A.2.a. below. Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.

- 2. **Additional Terms and Conditions**
 - (a) The PE limit was calculated using Figure II of OAC rule 3745-17-11(B) and a maximum uncontrolled rate of emission of 11.8 lbs/hr. This emission rate was estimated using a maximum process weight rate of 0.7 tons per hour and an emission factor of 17 lbs of PE/ton of material processed from AP-42 "Compilation of Air Pollutant Emission Factors," Table 12.10-7.
All PE from the west wheelabrator shall be captured and vented to the no. 2 west dust collector.

B. Operational Restrictions

- 1. The pressure drop across the dust collector shall be maintained within a range of 1.5 to 6.5 inches of water column at all times while the emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the dust collector 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 dust collector on a daily basis.

D. Reporting Requirements

- 1. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the dust collector did not comply with the allowable range specified above. These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

E. Testing Requirements

- 1. Compliance with the emission limitations specified in section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 Emission Limitation:
 2.36 lbs/hr of PE

Applicable Compliance Method:
 Compliance with the hourly PE limitation shall be determined using the following equation:

$$PE = P \times EF \times (1 - CE)$$

where:

PE = hourly emission rate, in lbs/hr;

P = maximum hourly processing rate, 0.7 TPH;

EF = emission factor of 17 lbs/ton of sand processed, from AP-42 Table 12.10-7; and

CE = fractional control efficiency, 0.99 (manufacturer's estimate).

Compliance may also be determined by stack testing using Method 5 of 40 CFR, Part 60, Appendix A. No stack testing is specifically required by this permit; however, if visible emissions are observed from the dust collector stack, this office may request that stack testing be performed.

Emission Limitation:

Visible emissions from the stack of the dust collector serving this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

F. **Miscellaneous Requirements**

1. None