

*Herr  
Bowerston Shale  
P003*



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center  
50 West Town Street, Suite 700  
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049  
Columbus, OH 43216-1049

05/28/08

CERTIFIED MAIL

RE: Final Chapter 3745-35 Permit To Operate

P003 (Tunnel Kiln) Techniceram Tunnel Kiln  
with Dryer

Bowerston Shale Company (06-34-00-0012)  
Edward Milliken  
515 E. Main St.  
PO Box 199  
Bowerston, OH 44695

Dear Edward Milliken:

The enclosed Permit(s) to Operate allow you to operate the described emissions unit(s) in the manner indicated in the Permit(s). Because each permit contains several terms and conditions, I urge you to read them carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (800) 329-7518. For more information related to air pollution control in Ohio, visit [www.epa.state.oh/dapc](http://www.epa.state.oh/dapc).

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

If you have any questions, please contact Southeast District Office.

Sincerely,

*Michael W. Ahern*

Michael W. Ahern  
Permit Issuance and Data Management Section  
Division of Air Pollution Control

RECEIVED

JUN 09 2008

Ohio Environmental  
Protection Agency  
Southeast District

cc: Southeast District Office



State of Ohio Environmental Protection Agency

## Final Permit To Operate An Emissions Unit

Effective Date: 05/28/08

Expiration Date: 05/28/13

This document constitutes issuance to:

Facility ID: 06-34-00-0012  
Bowerston Shale Company  
515 E. Main St.  
Bowerston, OH 44695

of a permit to operate for:

P003 (Tunnel Kiln)  
Techniceram Tunnel Kiln with Dryer

You will be contacted six months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency identified below. This permit and the authorization to operate the air contaminant source (emissions unit) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC Chapter 3745-35 and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the Ohio EPA District Office or local air agency that is responsible for processing and administering your permit:

Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740) 385-8501

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

A handwritten signature in cursive script that reads "Chris Korleski".

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Chris Korleski  
Director

## Part I: General Terms and Conditions

### 1. Compliance Requirements

The above-described emissions unit is and shall remain in full compliance with all applicable State and federal laws and regulations and the terms and conditions of this permit.

### 2. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

### 3. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

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

### 4. Records Retention Requirements

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

### 5. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State and federal air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine

compliance with this permit. Upon verbal or written request, permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**6. Scheduled Maintenance/Malfunction Reporting**

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

**7. Permit Transfers**

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

**8. Air Pollution Nuisance**

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

**9. Permit Renewal**

Approximately six months prior to the expiration date of this permit, a notice regarding the renewal of this permit will be sent to the permittee's designated facility contact. If you are not contacted, please contact the following Ohio EPA District Office or local air agency which has jurisdiction in the area in which the facility is located:

Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740) 385-8501

It is the permittee's responsibility to renew this permit even if no notice of its expiration is received.

**Part II: Special Terms and Conditions**

**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>
Techniceram Tunnel Kiln with Dryer	OAC rule 3745-31-05 (C)	Emission of sulfur dioxides (SO <sub>x</sub> ) shall not exceed 29.76 tons as a 12-month rolling summation.
	PTI #06-91685 (6/14/00) (Synthetic Minor to avoid Title V, and PSD)	See II.B.1.
	OAC rule 3745-31-05(A)(3)	Emissions of hydrogen fluoride (HF) shall not exceed 2.24 pounds per hour. 9.80 TPY
		Emissions of sulfur dioxide (SO <sub>x</sub> ) shall not exceed 60.50 pounds per hour. 29.76 TPY
		Emissions of particulate matter shall not exceed 5.81 pounds per hour. 25.45 TPY
		Emissions of nitrogen oxides (NO <sub>x</sub> ) shall not exceed 2.12 pounds per hour. 9.29 TPY
		Emissions of carbon monoxide (CO) shall not exceed 7.26 pounds per hour. 31.80 TPY
		Emissions of hydrogen chloride (HCL) shall not exceed 1.03 pounds per hour. 4.51 TPY
		The requirements of this rule also include compliance with the requirements of OAC 3745-17-07(A)(1)
		OAC rule 3745-17-07 (A)(1)
	OAC rule 3745-17-11 (B)(1)	The requirements of this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

## 2. Additional Terms and Conditions

**None**

### B. Operational Restrictions

1. The permittee shall not exceed the maximum annual operating rate determined by the following calculation:

$$[(29.76 \text{ ton SOx/yr})(2000\#/ton)] / (\text{EF} \# \text{ SOx/ton fired product}) = \text{allowable tons of fired product per rolling 12-month period, where EF equals the emission factor established through raw material testing.}$$

Currently, EF = 1.51 #/ton which results in an annual production limit of 39,420 tons per year of fired product per rolling 12-month rolling period.

The permittee has existing data on which to base the 12-month total at the time this permit is issued.

### C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following:
  - a. the total weight of fired product in this emissions unit;
  - b. the total weight of fired product in this emissions unit during the previous 12-month period;
  - c. the total SOx emissions for the previous 12-month period, including all calculations.

The permittee has existing data on which to base the 12-month total at the time this permit is issued.

### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify the following:
  - a. all 12-month periods during which the quantity of fired product was above the maximum specified level; and
  - b. all 12-month periods during which the 12-month SOx emissions were above the maximum specified level,

These reports shall be submitted to the Ohio EPA, Southeast District Office within 30 days after the exceedance occurs.

2. The permittee shall also submit annual reports which specify the total tons of fired product and total tons of SOx emissions for the previous calendar year. This report shall be submitted by January 31 of each year.

### E. Testing Requirements

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

**E. Testing Requirements (continued)**

- 1.a Emission Limitation:  
2.24 pounds HF per hour  
9.8 TPY HF

**Applicable Compliance Method:**

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

- i. The emission testing shall be conducted on the Techniceram Tunnel Kiln with Dryer, P003, within six months after issuance of this permit.
- ii. The emission testing shall be conducted to demonstrate compliance with the hydrogen fluoride emission limit of 2.24 pounds per hour.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for hydrogen fluoride:

Method 13A or Method 13B of 40 CFR Part 60, Appendix A, or other method approved by Ohio EPA in advance.

- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA Southeast District Office.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Southeast District Office. 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 Ohio EPA Southeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA Southeast District Office 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 Ohio EPA Southeast District Office within 30 days following completion of the test(s).

Compliance with the 9.8 TPY HF emissions limitation shall be determined by multiplying the results from the emissions testing, in lbs/hour, by the actual hours of operation and dividing by 2000 lbs per ton.

**E. Testing Requirements (continued)**

- 1.b** Emissions Limitation:  
60.50 pounds per hour SOx  
29.76 TPY

**Applicable Compliance Method:**

Compliance with the pound per hour emission limitation for SOx shall be determined by a one time calculation of the maximum hourly rate of fired product (6.05 tons per hour) multiplied by the SOx emissions factor for 100% clay, 10 pounds per ton, as worst case. This emission factor was determined by raw material testing conducted by the permittee.

Compliance with the TPY emissions limitation for SOx shall be determined by the following calculation:

Equation (1) : the maximum allowable annual tons of fired product multiplied by a weighted average SOx emissions factor, in pounds per ton of fired product, divided by 2000 pounds per ton.

Current values used in equation (1), above, include an annual production rate of 39,420 tons of fired product and a weighted average emission factor of 1.51 pounds per ton.

The weighted average emission factor is based on the following calculation:

Equation (2) : (emission factor for shale x % of shale used in the raw materials) + (emission factor for clay x % clay used in the raw materials).

Current values used in Equation (2), above, are (0.302 lb/ ton x 87.5 % shale in raw materials) + (10 lb/ton x 12.5 % clay in raw materials).

Emission factors for both shale and clay were determined by raw material testing conducted by the permittee.

The permittee must conduct raw material testing prior to the use of raw material source clay other than that which was included in the permittee's February 4, 2000 permit to install application. Test results shall be used to show this emissions unit will continue to be in compliance with the SOx emissions limitations with the use of the alternative source clay. All test data and compliance calculations must be submitted to the Ohio EPA Southeast District Office within 30 days of source testing.

Emission testing is not specifically required to demonstrate compliance with this emission limit, but, if appropriate, may be requested pursuant to OAC rule 3745-15-04(A). If required, compliance shall be determined based on emission testing conducted in accordance with approved Method 6 from 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- 1.c** Emissions Limitation:  
29.76 TPY SOx as a rolling 12-month summation (29.76 TPY)

**Applicable Compliance Method:**

Compliance with the SOx rolling 12-month summation limitations and total TPY limitations shall be based upon the recordkeeping required by C.1.

**E. Testing Requirements (continued)**

- 1.d Emissions Limitation:**  
5.81 pound per hour PM; 25.45 TPY  
2.12 pound per hour NO<sub>x</sub>; 9.29 TPY  
7.26 pound per hour CO; 31.80 TPY  
1.03 pound per hour HCL; 4.51 TPY

**Applicable Compliance Method:**

Compliance with the pound per hour emission limits above shall be determined by a one time calculation of the maximum hourly rate of fired product (6.05 tons per hour) multiplied by the emission factor for the appropriate pollutant found in AP-42 Chapter 11.3, Tables 11.3-2, 11.3-3 and 11.3-4 (8/97). Annual emission rates are calculated by multiplying the hourly emission rate by the actual hours of operation and dividing by 2000 lbs/ton.

Emission testing is not specifically required to demonstrate compliance with this emission limit, but, if appropriate, may be requested pursuant to OAC rule 3745-15-04(A). Emission testing, if required, shall be conducted in accordance with approved methods from 40 CFR Part 60, Appendix A for the appropriate pollutant. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA

- 1.e Emissions Limitation:**  
Visible emissions of particulate matter from any stack shall not exceed 20% opacity, except as provided by rule.

**Applicable Compliance Method:**

If required, visible particulate emissions shall be determined according to USEPA Method 9.

- 1.f** Compliance with the tons of fired product during any 12-month period limitation shall be based upon the recordkeeping required by C.1.

**F. Miscellaneous Requirements**

**None**

