



Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

3/11/2011

Mr. Richard Gessel
Loeber Gessel LLC
741 Blue Knob Road
Marietta, OH 45750

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0684015008
Permit Number: P0107559
Permit Type: Initial Installation
County: Washington

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director 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, made payable to "Ohio Treasurer Josh Mandel," 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 Ohio EPA DAPC, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-SEDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Loeber Gessel LLC**

Facility ID:	0684015008
Permit Number:	P0107559
Permit Type:	Initial Installation
Issued:	3/11/2011
Effective:	3/11/2011
Expiration:	2/16/2021



Division of Air Pollution Control
Permit-to-Install and Operate
for
Loeber Gessel LLC

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Authorization

Facility ID: 0684015008
Application Number(s): A0041181
Permit Number: P0107559
Permit Description: After-the-fact installation PTIO for fracking sand storage piles (F002) and material handling operations (F003) with a maximum throughput of 236,520 tons/year.
Permit Type: Initial Installation
Permit Fee: \$2,900.00
Issue Date: 3/11/2011
Effective Date: 3/11/2011
Expiration Date: 2/16/2021
Permit Evaluation Report (PER) Annual Date: Apr 1 - Mar 31, Due May 15

This document constitutes issuance to:

Loeber Gessel LLC
900 Greene St.
Marietta, OH 45750

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

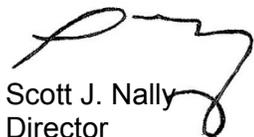
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

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

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Scott J. Nally
Director



Authorization (continued)

Permit Number: P0107559
Permit Description: After-the-fact installation PTIO for fracking sand storage piles (F002) and material handling operations (F003) with a maximum throughput of 236,520 tons/year.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	F002
Company Equipment ID:	Frac Sand Material Storage Piles
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F003
Company Equipment ID:	Frac Sand Material Handling Operation
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



A. Standard Terms and Conditions

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Southeast District Office in accordance with OAC

rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

B. Facility-Wide Terms and Conditions

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

C. Emissions Unit Terms and Conditions



1. F002, Frac Sand Material Storage Piles

Operations, Property and/or Equipment Description:

Frac Sand Material Storage Piles controlled by building enclosure and practices to minimize and eliminate fugitive emissions (maximum load-in/out rate of 236,520 tons per year and total pile surface area of 0.5 acres with a maximum of 6 storage piles).

a) 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.

b) **Applicable Emissions Limitations and/or Control Requirements**

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Fugitive Particulate Emissions (PE) shall not exceed 1.1 tons per year. There shall be no visible fugitive PE except for one minute during any 60-minute period. Best available control measures that are sufficient to minimize or eliminate visible PE of fugitive dust See b)(2)a., b)(2)b. and b)(2)d. through b)(2)i.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c.
c.	OAC rule 3745-17-07(B)	There shall be no visible PE of fugitive dust except for 13 minutes during any 60-minute period.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		This emission limitation is less stringent than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.
d.	OAC rule 3745-17-08(B)	Reasonably available control measures that are sufficient to minimize or eliminate visible emission of fugitive dust. See b)(2)a. and b)(2)d. through b)(2)i.

(2) Additional Terms and Conditions

- a. The storage piles that are covered by this permit and subject to the requirements of OAC rule 3745-31-05, 3745-17-07 and 3745-17-08 are listed below:

All frac sand storage piles

- b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changed effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the Particulate Emissions (PE) from this air contaminant source since the uncontrolled potential to emit for PE is less than 10 tons/yr.

- d. The permittee shall employ best/reasonable available control measures on all load-in and load-out operations associated with the storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, the permittee has committed to store all material inside of a 4 sided building, maintain minimal drop heights for stackers and front-loaders, controlled rate of load-in/out of piles, maintaining a curtain in the loading bay and maintaining building enclosure to ensure compliance.

- e. The operator shall avoid dragging any front-end loader bucket along the ground. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
 - f. The above-mentioned control measure(s) shall be employed for each load-in and load-out operation of each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the abovementioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.
 - g. The permittee shall employ best/reasonable available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the application, the permittee has committed to perform one or more of the following: store all material inside of a 4 sided building, maintain minimal drop heights for stackers and front-loaders, controlled rate of load-in/out of piles, maintaining a curtain in the loading bay and maintaining building enclosure to ensure compliance.
 - h. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
 - i. The above-mentioned control measure(s) shall be employed for wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.
 - j. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05(A)(3) and 3745-17-08(B).
- c) Operational Restrictions
- (1) None.
- d) Monitoring and/or Recordkeeping Requirements
- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each load-in operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-in inspection frequency</u>
all	daily

- (2) Except as otherwise provided in this section, the permittee shall perform inspections of each load-out operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-out inspection frequency</u>
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all	daily
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- (3) Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum wind erosion inspection frequency</u>
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all	daily
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- (4) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for load-in and load-out of a storage pile, and wind erosion from the surface of a storage pile. The inspections shall be performed during representative, normal storage pile operating conditions.

- (5) The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
- c. the dates the control measures were implemented; and
- d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(6)d. shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall

cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emissions Limitation:

Fugitive PE shall not exceed 1.1 tons per year.

Applicable Compliance Method:

Compliance shall be determined based on the emission factor calculation for drop operations associated with storage piles in AP-42 section 13.2.4 (11/06). Initial compliance has been determined using inputs representing current conditions as follows:

LOAD-IN / LOAD-OUT

$$EF = k (0.0032) [(U/5)^{1.3} / (M/2)^{1/4}]$$

Where:

EF= emission factor expressed in pounds per ton (lbs/ton)

k= particle size multiplier for TSP (dimensionless) = 0.74

U= mean wind speed expressed in miles per hour (MPH) = 10 (as submitted in application)

M= material moisture content (%) = 3.0% (as submitted in application)

Therefore, EF = 0.003305 lbs/ton

maximum annual load-in / load-out throughput = 236,520 tons/year (as submitted in application)

$$(6 \text{ Load-in})(0.003305 \text{ lbs/ton})(236,520 \text{ tons/year})(.0005 \text{ ton/lb}) = 2.345 \text{ tons/yr}$$

$$(6 \text{ Load-out})(0.003305 \text{ lbs/ton})(236,520 \text{ tons/year})(.0005 \text{ ton/lb}) = 2.345 \text{ tons/yr}$$

$$2.345 \text{ tons/yr} + 2.345 \text{ tons/yr} = 4.690 \text{ tons/yr of uncontrolled PE}$$

Assume 80% control for storage inside of a building, minimizing drop height, and other precautionary practices to minimize and eliminate fugitive PE.

$$(4.690423 \text{ TPY})(1 - 0.80) = 0.938085 \text{ TPY of controlled PE}$$

WIND EROSION

The emission factor calculation for wind erosion from storage piles is found in USEPA's Control of Open Fugitive Dust Sources (9/88). Initial compliance has been determined using inputs representing current conditions as follows:

$$EF = (1.7)(s/1.5)((365-p/235))(f/15)$$

Where:

E= emission factor in pounds (lbs)/day/acre)

s= silt content of material (%) = 3% (as submitted in application)

p= number of rain days per year >0.01 in. = 140 (as submitted in application)

f= percentage of time that wind speed exceeds 12 mph (%) = 30% (as submitted in application)

A= total surface area of storage piles (acres) = 0.5 (as submitted in application)

Therefore, EF= 6.510638 lbs/day/acre

(6.510638 lbs/day/acre) (365 days/yr) (0.5 acres)(.0005ton lb)= 0.594096 TPY uncontrolled PE

Assume 80% control for storage inside of a building and other precautionary practices to minimize and eliminate fugitive PE.

(0.594096 TPY)(1 - 0.80) = 0.118819 TPY of controlled PE

TOTAL EMISSION SUMMARY

Load-in and load-out = 0.94 TPY

Wind erosion= 0.12 TPY

Total Storage Pile PE = 1.1 TPY

b. Emissions Limitation:

There shall be no visible fugitive PE except for one minute during any 60-minute period.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 22.

c. Emissions Limitation:

There shall be no visible PE of fugitive dust except for 13 minutes during any 60-minute period.

Applicable Compliance Method:

If required, visible emissions of fugitive dust shall be determined according to USEPA Method 22, with the modifications found in OAC rule 3745-17-03(B)(4).

g) Miscellaneous Requirements

(1) None.



2. F003, Frac Sand Material Handling Operation

Operations, Property and/or Equipment Description:

Frac Sand Material Handling Operation including truck unloading, conveyor load-in to hopper, 2 conveyor transfer points, and loading of trucks. Material handling operation is controlled by building enclosure and practices to minimize and eliminate fugitive emissions (maximum load-in/out rate of 236,520 tons per year).

a) 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.

b) Applicable Emissions Limitations and/or Control Requirements

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

Table with 2 columns: Applicable Rules/Requirements and Applicable Emissions Limitations/Control Measures. It contains three rows of data (a, b, c) detailing specific rules and their corresponding emission control measures.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		This emission limitation is less stringent than the limitation listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.
d.	OAC rule 3745-17-08(B)	Reasonably available control measures that are sufficient to minimize or eliminate visible emission of fugitive dust. (See b)(2)a. and b)(2)d. through b)(2)i.)

(2) Additional Terms and Conditions

- a. The material handling operations that are covered by this permit and subject to the requirements of OAC rule 3745-31-05, 3745-17-07 and 3745-17-08 are listed below:

Truck unloading

Dumping of frac sand from front end loader into hopper

Dumping of frac sand from hopper onto conveyor

Movement of sand on conveyor

Dumping of frac sand from conveyor into truck

- b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changed effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the Particulate Emissions (PE) from this air contaminant source since the uncontrolled potential to emit for PE is less than 10 tons/yr.

- d. The permittee shall employ the following control measures for the above-identified processing/handling operation(s) 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 perform the following control measure(s) to ensure compliance:

<u>material handling operation(s)</u>	<u>control measure(s)</u>
truck unloading	maintain 4 sided building enclosure, maintain curtains, and minimize drop height.
material unloading into hopper	maintain 4 sided building enclosure, controlled loading rate, and minimize drop height.
hopper onto conveyor	maintain 4 sided building enclosure, controlled loading rate, and minimize drop height.
conveyor	covered conveyor, conveyor inside of building (except transfer to truck portion)
conveyor into truck	minimize drop height.

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- e. For each processing/handling operation that is not adequately enclosed, the above-identified control measure(s) shall be implemented if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) is (are) necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during the operation of the material handling operation(s) until further observation confirms that use of the control measure(s) is unnecessary.
- f. The permittee shall not overload trucks hauling material so as to eliminate spillage, along with maintaining a minimum dump height from front end loaders into trucks, in order to minimize or eliminate the visible emissions of fugitive dust.
- g. The permittee shall maintain covers on the conveyor. In addition, the belt shall not be overloaded, in order to minimize or eliminate the visible emissions of fugitive dust.
- h. Implementation of the above-mentioned control measure(s) in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05 and 3745-17-08(B).



c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, for material handling operations that are not adequately enclosed, the permittee shall perform inspections of such operations in accordance with the following minimum frequencies:

Table with 2 columns: material handling operation(s) and minimum inspection frequency. Rows include truck unloading, material unloading into hopper, hopper onto conveyor, conveyor, and conveyor into truck, all with a frequency of daily.

- (2) The above-mentioned inspections shall be performed during representative, normal operating conditions.

- (3) The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed;
b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measure(s);
c. the dates the control measure(s) was (were) implemented; and
d. on a calendar quarter basis, the total number of days the control measure(s) was (were) implemented.

The information in d)(3)d. shall be kept separately for each material handling/processing operation identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:



a. Emissions Limitation:

Fugitive PE shall not exceed 0.4 tons per year.

Applicable Compliance Method:

Compliance with the annual emissions limitation shall be demonstrated by the following calculations based on the emission factors in AP-42 sections 13.2.4 (11/06) and 11.19.2 (8/04); and the maximum annual throughput of 236,520 TPY.

Truck Unloading

$$EF = k(0.0032)[(U/5)^{1.3}/(M/2)^{1.4}] = \text{lbs PE/ton}$$

Where:

EF= emission factor expressed in pounds per ton (lbs/ton)

k= particle size multiplier for TSP (dimensionless)= 0.74

U= 10 mph, mean wind speed, (as submitted in application)

M= 3% moisture content, (as submitted in application)

Therefore, EF= 0.003305 lb PE/ton

Maximum annual throughput= 236,520 TPY

$$PE = [(1 \text{ Load-in to Hopper})(0.003305 \text{ lb/ton})(236,520 \text{ TPY})] / 2,000 \text{ lbs/ton} = 0.390869 \text{ TPY}$$

Assume 80% control for building enclosure, minimizing drop height, and other practices (Engineering estimate of permittee)
 $(0.390869 \text{ TPY})(1-.80) = 0.0781738 \text{ TPY controlled PE}$

Transfer Points

$$PE = [(\# \text{ of Conveyor Transfer Points})(\text{Transfer EF})(\text{Max Annual Tons})] / 2,000 \text{ lbs/ton}$$

$$PE = [(2)(0.003 \text{ lb/ton})(236,520 \text{ TPY})] / 2,000 \text{ lbs/ton} = 0.70956 \text{ TPY uncontrolled PE}$$

Assume 80% control for building enclosure for one transfer point, enclosed pneumatic tanker truck for one transfer point, minimizing drop height, controlling loading rate, and other practices (Engineering estimate of permittee)
 $(0.70956 \text{ TPY})(1-.80) = 0.141912 \text{ TPY controlled PE}$

Load-in to Hopper

$$EF = k(0.0032)[(U/5)^{1.3}/(M/2)^{1.4}] = \text{lbs PE/ton}$$

Where:

EF= emission factor expressed in pounds per ton (lbs/ton)

k= particle size multiplier for TSP (dimensionless)= 0.74

U= 10 mph, mean wind speed, (as submitted in application)

M= 3% moisture content, (as submitted in application)

Therefore, EF= 0.003305 lb PE/ton

Maximum annual throughput= 236,520 TPY

$$PE = [(1 \text{ Load-in to Hopper})(0.003305 \text{ lb/ton})(236,520 \text{ TPY})] / 2,000 \text{ lbs/ton} \\ = 0.390869 \text{ TPY}$$

Assume 80% control for building enclosure, minimizing drop height, controlling loading rate, and other practices (Engineering estimate of permittee)
(0.390869 TPY)(1-.80)= 0.078174 TPY controlled PE

$$\text{Total PE for Material Handling} \\ = 0.078 \text{ TPY} + 0.142 \text{ TPY} + 0.078 \text{ TPY} \\ = 0.3 \text{ TPY controlled fugitive PE}$$

b. Emissions Limitation:

Visible PE of fugitive dust shall not exceed 10% opacity as a 3-minute average .

Applicable Compliance Method:

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

c. Emissions Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity as a 3-minute average .

Applicable Compliance Method:

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

g) Miscellaneous Requirements

(1) None.