



08/19/2026

Melvin Schlabach
Ohio Valley Biochar
32737 Township Road 127
Millersburg, OH 44654

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0616005024
Permit Number: P0140042
Permit Type: Initial Installation
County: Coshocton

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCEABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency Weekly Review and Public Notices website, [Weekly Review and Public Notices](#). A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Ohio EPA document search webpage: [eDocument Search | Ohio Environmental Protection Agency](#). Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrea Moore
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street Suite 700
PO Box 1049
Columbus, Ohio 43216-1049

and
Ohio EPA DAPC, Southeast District Office
2195 Front St.
Logan, OH 43138

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice appears on the Ohio EPA Weekly Review and Public Notices website, [Weekly Review and Public Notices | Ohio Environmental Protection Agency](#). You will be notified if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501.

Sincerely,

Robert Hodanbosi
Chief, Division of Air Pollution Control

cc: U.S. EPA Region 5 Via E-Mail Notification
Ohio EPA-SEDO; West Virginia

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at: [Weekly Review and Public Notices | Ohio Environmental Protection Agency](#) or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-3037 email: HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install and Operate Initial Installation

Ohio Valley Biochar
32824 OH-83
Millersburg, OH 44654

ID#: P0140042

Date of Action: 08/19/2026

Permit Desc: This is an initial installation federally enforceable permit-to-install and operate for a biochar pyrolysis rotary drum and lump charcoal kiln operation controlled by a thermal oxidizer.

The permit and complete instructions for requesting information or submitting comments may be obtained at: <https://epa.ohio.gov/help-center/edocument-search/edocument-search> by entering the permit # or by contacting: Megan Smith, Ohio EPA DAPC, Southeast District Office, 2195 Front St., Logan, OH 43138. Ph: (740)385-8501

Permit Strategy Write-Up

1. Check all that apply:

☒ Synthetic Minor Determination

☐ Netting Determination

2. Source Description:

This facility uses clean wood to make biochar via a pyrolysis rotary drum and lump charcoal with a kiln that is heated with exhaust gas from the pyrolysis rotary drum and thermal oxidizer. The facility also consists of roadways and parking areas (F001), wood material handling (F002) and wood storage piles (F003), all of which have been determined to meet the de minimis exemption.

This permit is for emissions unit P001 which consists of the 1.1 ton per hour BioMass Energy Techniques model 24-PRD pyrolysis rotary drum and batch operated lump charcoal kiln. The kiln can operate up to four 0.30-ton batches per day (assuming a worst-case scenario of 6-hour batches). All biochar and lump charcoal kiln emissions are controlled by the thermal oxidizer that has a 100 percent capture and 99 percent control efficiency. The thermal oxidizer is heated by off gas from the pyrolysis rotary drum and is supplemented with natural gas.

3. Facility Emissions and Attainment Status:

Coshocton county is currently in attainment for all criteria pollutants. Emissions from this facility consist of PM₁₀, NO_x, CO, SO₂, VOC, HAPs and air toxics. NO_x and SO₂ emissions are uncontrolled. PM₁₀, CO, VOC, HAPs and air toxics are all controlled by the thermal oxidizer. Methanol is the HAP and air toxic being emitted from the conversion of wood to biochar and lump charcoal. PM₁₀, NO_x, CO, and VOC are generated from the conversion of wood to biochar and lump charcoal, as well as the combustion of natural gas. SO₂ is generated from the combustion of natural gas in the thermal oxidizer. A small amount of PM₁₀ is also generated from the plant roadways and parking areas, wood material handling and wood storage piles. Facility-wide emissions, taking into account controls and the federally enforceable restrictions, will be the following:

Methanol emissions: 0.33 tons per year. (This is also the largest single hazardous air pollutant)

VOC emissions: 0.71 tons per year.

PM₁₀ emissions: 9.14 tons per year.

CO emissions: 1.40 tons per year.

NO_x emissions: 15.60 tons per year.

SO₂ emissions: 2.09 tons per year.

Total hazardous air pollutants emissions: 0.34 tons per year.



Permit Number: P0140042
Facility Name: Ohio Valley Biochar
Facility ID: 0616005024
Effective Date: To be entered upon final issuance

4. Source Emissions:

The uncontrolled and unrestricted emissions from P001 would trigger Title V requirements and make the facility a major source of HAPs. Without restrictions, the potential to emit for methanol would be 32.85 tons per year, exceeding the individual and total HAPs threshold of 10 and 25 tons per year for major source. The uncontrolled and unrestricted emissions for PM₁₀, VOCs, and CO would exceed the 100 ton per year TV threshold. The federally enforceable restrictions will limit PM₁₀ emissions to 9.14 tons per year, CO emissions to 1.40 tons per year and the VOC emissions to 0.71 tons per year.

5. Conclusion:

The operational restrictions, emission limits, record keeping, and reporting requirements of this permit are sufficient to provide federally enforceable limitations to limit the potential to emit for methanol, VOC, PM₁₀, and CO below Title V thresholds.

6. Please provide additional notes or comments as necessary:

Testing will be required to demonstrate compliance with the short-term emissions factors used for methanol, VOC, PM₁₀, and CO emissions, and is required to be completed within 45 days after issuance of the permit.

7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
PM-10	9.14
CO	1.40
NOx	15.60
SO2	2.09
VOC	0.71
Total HAPs	0.34
Single HAP	0.33 (methanol)



**Environmental
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DRAFT

Division of Air Pollution Control
Permit-to-Install and Operate
for
Ohio Valley Biochar

Facility ID:	0616005024
Permit Number:	P0140042
Permit Type:	Initial Installation
Issued:	08/19/2026
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Division of Air Pollution Control
Permit-to-Install and Operate
for
Ohio Valley Biochar

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Permit Number: P0140042
Facility Name: Ohio Valley Biochar
Facility ID: 0616005024
Effective Date: To be entered upon final issuance

Authorization

Facility ID: 0616005024
Application Number(s): A0081453A0081453
Permit Number: P0140042
Permit Description: This is an initial installation federally enforceable permit-to-install and operate for a biochar pyrolysis rotary drum and lump charcoal kiln operation controlled by a thermal oxidizer.
Permit Type: Initial Installation
Permit Fee: \$1,500.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 08/19/2026
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page to:

Ohio Valley Biochar
32824 OH-83
Millersburg, OH 44654

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office
2195 Front St.
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

John Logue
Director



Permit Number: P0140042
Facility Name: Ohio Valley Biochar
Facility ID: 0616005024
Effective Date: To be entered upon final issuance

Authorization (continued)

Permit Number:P0140042

Permit Description:This is an initial installation federally enforceable permit-to-install and operate for a biochar pyrolysis rotary drum and lump charcoal kiln operation controlled by a thermal oxidizer.

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

Emissions Unit ID:	P001
Company Equipment ID:	P001
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

List of Commonly Used Abbreviations

AP-42 = U.S. EPA's Compilation of Air Pollution Emissions Factors	HVLP = high volume, low pressure	PER = Permit Evaluation Report
ASTM = American Society for Testing and Materials	LAER = lowest achievable emission rate	PM = particulate matter
BACT = Best Available Control Technology	lb(s)/hr = pound(s) per hour	PM ₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns
BAT = Best Available Technology	LDAR = leak detection and repair	PM _{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
CAA = Clean Air Act	LPG = liquefied petroleum gas/propane	ppb = parts per billion
CAM = compliance assurance monitoring	MACT = maximum achievable control technology	ppm = parts per million
CEMS = continuous emissions monitoring system	MAGLC = maximum acceptable ground level concentration	PSD = Prevention of Significant Deterioration
CFC = chlorofluorocarbon	mg/m ³ = milligrams per cubic meter	psi = pounds per square inch
CFR = Code of Federal Regulations	MM = million	psia = pounds per square inch absolute
CH ₄ = methane	MMBtu = million British Thermal Units	PTE = potential-to-emit
CI = compression ignition	MSDS = material safety data sheet	PTI = Permit-to-Install
CO = carbon monoxide	MSW = municipal solid waste	PTIO = Permit-to-Install and Operate
CO ₂ = carbon dioxide	NAAQS = National Ambient Air Quality Standard	PTO = Permit-to-Operate
COM = continuous opacity monitor	NESHAP = National Emission Standard for Hazardous Air Pollutants	PWR = process weight rate
DAPC = Division of Air Pollution Control	NG = natural gas	RACM = reasonably available control measures
DO/LAA = District Office/Local Air Agency	ng/m ³ = nanograms per cubic meter	RACT = reasonably available control technology
dscf = dry standard cubic foot	NH ₃ = ammonia	RATA = relative accuracy test audit
EAC = emissions activity category	NMHC = non-methane hydrocarbons	RTO = regenerative thermal oxidizer
eDocs = electronic documents database	NMOC = non-methane organic compound	SB265 = Senate Bill 265
ERAC = Environmental Review Appeals Commission	NO = nitrogen oxide	scfm = standard cubic feet per minute
ESP = electrostatic precipitator	NO ₂ = nitrogen dioxide	SI = spark ignition
EU = emissions unit	NO _x = nitrogen oxides	SIP = State Implementation Plan
FEPTIO = Federally Enforceable Permit-to-Install and Operate	NSPS = New Source Performance Standard	SO ₂ = sulfur dioxide
FER = Fee Emissions Report	NSR = New Source Review	SSMP = startup, shutdown, and malfunction plan
FR = Federal Register	NTV = Non-Title V	TDS = total dissolved solids
GACT = generally achievable control technology	O&M = operation and maintenance	TLV = threshold limit value
GHG = greenhouse gases	OAC = Ohio Administrative Code	TO = thermal oxidizer
gr/dscf = grains per dry standard cubic foot	OC = organic compound	TPH = ton(s) per hour
H ₂ S = hydrogen sulfide	Ohio EPA = Ohio Environmental Protection Agency	TPY = ton(s) per year
H ₂ SO ₄ = sulfuric acid	ORC = Ohio Revised Code	TSP = total suspended particulates
HAP = hazardous air pollutant	Pb = lead	VE = visible emissions
HCl = hydrogen chloride	PBR = Permit-By-Rule	VMT = vehicle miles traveled
HF = hydrogen fluoride	PCB = polychlorinated biphenyl	VOC = volatile organic compound
Hg = mercury	PE = particulate emissions	WPP = work practice plan
hp = horsepower	PEMS = predictive emissions monitoring system	µg/m ³ = micrograms per cubic meter



**Environmental
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Agency**

Permit Number: P0140042

Facility Name: Ohio Valley Biochar

Facility ID: 0616005024

Effective Date: To be entered upon final issuance

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:

- a) 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.

- b) 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. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. 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 (either electronically through Ohio EPA's eBusiness Center: Air Services web service or 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 once by 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 permit evaluation report (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 of this permit 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/her 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 submitting 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 emission 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 shut down 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, the new owner or operator must follow the procedures in OAC Chapter 3745-31-07, including notifying Ohio EPA or the local air agency of the change in ownership or operator within thirty days of the transfer date. Any transferee of this permit shall assume the responsibilities of the transferor permit holder.

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.



**Environmental
Protection
Agency**

Permit Number: P0140042

Facility Name: Ohio Valley Biochar

Facility ID: 0616005024

Effective Date: To be entered upon final issuance

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a PTI issued in accordance with ORC 3704.03(F) and a PTO issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a PTI document, the facility-wide T&C 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 PTO document, the facility-wide T&C 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. P001, Biochar and Lump Charcoal Production

Operations, Property and/or Equipment Description:

1.1 tons per hour BioMass Energy Techniques 24-PRD Pyrolysis Rotary Drum unit with 0.30 ton per batch lump charcoal production kiln, all controlled by a thermal oxidizer with 100 percent capture and 99 percent control efficiency.

a) This permit document constitutes a PTI issued in accordance with ORC 3704.03(F) and a PTO issued in accordance with ORC 3704.03(G).

(1) For the purpose of a PTI document, the EU T&C identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. g)(1)

(2) For the purposes of a PTO document, the EU T&C identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)a., c)(1) through c)(8), d)(1) and e)(3)

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(D) (Synthetic minor to avoid Title V requirements)	Emissions of methanol shall not exceed 0.33 tons as a rolling 12-month summation. Volatile organic compound (VOC) emissions shall not exceed 0.71 tons as a rolling 12-month summation. Particulate matter with a diameter less than or equal to 10 microns (PM₁₀) emissions shall not exceed 9.14 tons as a rolling 12-month summation. Carbon monoxide (CO) emissions shall not exceed 1.40 tons as a rolling 12-month summation. See c)(1) through c)(8), d)(1) and e)(3).



b.	ORC 3704.03(T) and OAC rule 3745-31-05(A)(3)	Nitrogen oxide (NO_x) emissions shall not exceed 1.30 tons per month averaged over a 12-month rolling period. Compliance with the emissions limitation established by this rule for CO is equivalent to the emissions limitation established pursuant to OAC rule 3745-31-05(D).
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the sulfur dioxide (SO₂) emissions from this air contaminant source since the potential to emit for SO₂ is less than 10 tons per year. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the volatile organic compound (VOC) and particulate matter with a diameter less than or equal to 10 microns (PM₁₀) emissions from this air contaminant source since the calculated annual emission rate is less than 10 tons per year taking into account the federally enforceable restrictions established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-17-07(A)(1)	Visible emissions from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-11(B)	Particulate emissions shall not exceed 4.5 pounds per hour.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

- (1) The permittee has requested a federally enforceable limitation for the purpose of limiting the potential to emit for methanol emissions to avoid Title V requirements. The permittee shall install and operate a thermal oxidizer with a 100 percent capture and 99 percent control efficiency, that shall not cause methanol emissions to exceed 0.33 tons as a rolling, 12-month summation.

$$E_M = [((H_{LC}) \times (EF_{LC})) + ((H_{BC}) \times (EF_{BC}))] \times \left(\frac{1 \text{ ton}}{2,000 \text{ lbs}} \right)$$



Where:

E_M = monthly methanol emissions, in tons;

H_{LC} = amount of time the lump charcoal unit was in operation, in hours;

EF_{LC} = 0.075 lb methanol/hr (emissions factor for lump charcoal process, based on the AP-42 Table 10-7.2 (9/95) emissions factor of 150 lbs methanol/ton multiplied by the maximum production rate of 0.05 tons of charcoal per hour, and taking into account the 99 percent control efficiency of the thermal oxidizer, as presented in permittee's application, A0081453);

H_{BC} = amount of time the biochar unit was in operation, in hours;

EF_{BC} = 0.00 lb methanol/hr (emissions factor for biochar process, based on permittee's application, A0081453, that states there are no methanol emissions emitted from the biochar production process); and

$$\sum_{i=1}^n (E_M) \text{ is } \leq 0.33 \text{ tons methanol, as a rolling 12 - month summation}$$

Where:

n = number of months in the rolling 12-month period.

- (2) To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the emission levels specified in the following table:

Maximum Allowable Cumulative Emissions of Methanol	
Month(s)	(Tons)
1	0.03
1-2	0.05
1-3	0.08
1-4	0.11
1-5	0.14
1-6	0.16
1-7	0.19
1-8	0.22
1-9	0.25
1-10	0.27
1-11	0.30
1-12	0.33



After the first 12 calendar months of operation, compliance with the annual emission limitation for methanol shall be based upon a rolling, 12-month summation of the monthly emissions.

- (3) The permittee has requested a federally enforceable limitation for the purpose of limiting the potential to emit for VOC emissions to avoid Title V requirements. The permittee shall install and operate a thermal oxidizer with a 100 percent capture and 99 percent control efficiency, that shall not cause VOC emissions to exceed 0.71 tons as a rolling, 12-month summation.

$$E_{VOC} = [(H_{LC}) \times (EF_{LC})] + [(H_{BC}) \times (EF_{BC})] \times \left(\frac{1 \text{ ton}}{2,000 \text{ lbs}} \right)$$

Where:

E_{VOC} = monthly VOC emissions, in tons;

H_{LC} = amount of time the lump charcoal unit was in operation, in hours;

EF_{LC} = 0.135 lb VOC/hr (emissions factor for lump charcoal process, based on the AP-42 Table 10-7.1 (9/95) emissions factor of 270 lbs VOC/ton multiplied by the maximum production rate of 0.05 tons of charcoal per hour, and taking into account the 99 percent control efficiency of the thermal oxidizer, as presented in permittee's application, A0081453);

H_{BC} = amount of time the biochar unit was in operation, in hours;

EF_{BC} = 0.021 lb VOC/hr (emissions factor for biochar process, based on manufacturer stack testing conducted on same make and model with an emissions rate of 0.019 lb VOC/ton of wood, and taking into account the 99 percent control efficiency of the thermal oxidizer, as presented in permittee's application, A0081453, multiplied by the maximum production rate of 1.1 tons of wood/hr); and

$$\sum_{i=1}^n (E_{VOC}) + 0.03 \text{ is } \leq 0.71 \text{ tons VOC, as a rolling 12 - month summation}$$

Where:

0.03 = VOC emissions from natural gas combustion in the thermal oxidizer, in tons; and

n = number of months in the rolling 12-month period.

- (4) To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the emission levels specified in the following table:

Maximum Allowable Cumulative Emissions of VOCs	
Month(s)	(Tons)
1	0.06
1-2	0.12
1-3	0.18
1-4	0.24



1-5	0.30
1-6	0.36
1-7	0.42
1-8	0.48
1-9	0.54
1-10	0.60
1-11	0.66
1-12	0.71

After the first 12 calendar months of operation, compliance with the annual emission limitation for VOC shall be based upon a rolling, 12-month summation of the monthly emissions.

- (5) The permittee has requested a federally enforceable limitation for the purpose of limiting the potential to emit for PM₁₀ emissions to avoid Title V requirements. The permittee shall install and operate a thermal oxidizer with a 100 percent capture and 99 percent control efficiency, that shall not cause PM₁₀ emissions to exceed 9.14 tons as a rolling, 12-month summation.

$$E_{PM10} = [(H_{LC}) \times (EF_{LC})] + [(H_{BC}) \times (EF_{BC})] \times \left(\frac{1 \text{ ton}}{2,000 \text{ lbs}} \right)$$

Where:

E_{PM10} = monthly PM₁₀ emissions, in tons;

H_{LC} = amount of time the lump charcoal unit was in operation, in hours;

EF_{LC} = 0.155 lb PM₁₀/hr (emissions factor for lump charcoal process, based on the AP-42 Table 10-7.1 (9/95) emissions factor of 310 lbs PM₁₀/ton multiplied by the maximum production rate of 0.05 tons of charcoal per hour, and taking into account the 99 percent control efficiency of the thermal oxidizer, as presented in permittee's application, A0081453. All particulate emissions are assumed to be PM₁₀);

H_{BC} = amount of time the biochar unit was in operation, in hours;

EF_{BC} = 1.92 lbs PM₁₀/hr (emissions factor for biochar process, based on manufacturer stack testing conducted on same make and model with an emissions rate of 1.749 lbs PM₁₀/ton of wood, and taking into account the 99 percent control efficiency of the thermal oxidizer, as presented in permittee's application, A0081453, multiplied by the maximum production rate of 1.1 tons of wood/hr. All particulate emissions are assumed to be PM₁₀); and

$$\sum_{i=1}^n (E_{PM10}) + 0.05 \text{ is } \leq 9.14 \text{ tons PM}_{10}, \text{ as a rolling 12-month summation}$$

Where:

0.05 = PM₁₀ emissions from combustion of natural gas in thermal oxidizer, in tons.

n = number of months in the rolling 12-month period.

- (6) To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the emission levels specified in the following table:

Maximum Allowable Cumulative Emissions of PM ₁₀	
Month(s)	(Tons)
1	0.76
1-2	1.52
1-3	2.28
1-4	3.04
1-5	3.80
1-6	4.56
1-7	5.32
1-8	6.08
1-9	6.84
1-10	7.60
1-11	8.36
1-12	9.14

After the first 12 calendar months of operation, compliance with the annual emission limitation for PM₁₀ shall be based upon a rolling, 12-month summation of the monthly emissions.

- (7) The permittee has requested a federally enforceable limitation for the purpose of limiting the potential to emit for CO emissions to avoid Title V requirements. The permittee shall install and operate a thermal oxidizer with a 100 percent capture and 99 percent control efficiency, that shall not cause CO emissions to exceed 1.40 tons as a rolling, 12-month summation.

$$E_{CO} = [(H_{LC}) \times (EF_{LC})] + [(H_{BC}) \times (EF_{BC})] \times \left(\frac{1 \text{ ton}}{2,000 \text{ lbs}} \right)$$

Where:

E_{CO} = monthly CO emissions, in tons;

H_{LC} = amount of time the lump charcoal unit was in operation, in hours;

EF_{LC} = 0.145 lb CO/hr (emissions factor for lump charcoal process, based on the AP-42 Table 10-7.1 (9/95) emissions factor of 290 lbs CO/ton multiplied the maximum production rate of 0.05 tons of charcoal per hour, and taking into account the 99 percent control efficiency of the thermal oxidizer, as presented in permittee's application, A0081453);

H_{BC} = amount of time the biochar unit was in operation, in hours;



$EF_{BC} = 0.057$ lb CO/hr (emissions factor for biochar process, based on manufacturer stack testing conducted on same make and model with an emissions rate of 0.052 lb CO/ton of wood, and taking into account the 99 percent control efficiency of the thermal oxidizer, as presented in permittee's application, A0081453, multiplied by the maximum production rate of 1.1 tons of wood/hr); and

$$\sum_{i=1}^n (E_{CO}) + 0.51 \text{ is } \leq 1.40 \text{ tons CO, as a rolling 12 - month summation}$$

Where:

0.51 = CO emissions from natural gas combustion in the thermal oxidizer, in tons; and

n = number of months in the rolling 12-month period.

- (8) To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the emission levels specified in the following table:

Maximum Allowable Cumulative Emissions of CO	
Month(s)	(Tons)
1	0.11
1-2	0.23
1-3	0.35
1-4	0.46
1-5	0.58
1-6	0.70
1-7	0.81
1-8	0.93
1-9	1.05
1-10	1.16
1-11	1.28
1-12	1.40

After the first 12 calendar months of operation, compliance with the annual emission limitation for CO shall be based upon a rolling, 12-month summation of the monthly emissions.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall collect and record the following information each month:
- The amount of time the lump charcoal process was in operation, in hours;
 - the amount of time the biochar process was in operation, in hours;
 - the total methanol emissions, as calculated in c)(1) above, in tons;



- d. the total VOC emissions as calculated in c)(3) above, in tons;
 - e. the total PM₁₀ emissions, as calculated in c)(5) above, in tons;
 - f. the total CO emissions, as calculated in c)(7) above, in tons;
 - g. the rolling, 12-month summation of the total methanol emissions i.e., the summation of the total methanol emissions, as recorded in d)(1)c. above, for the current month plus the previous 11 months of operation, in tons; and
 - h. the rolling, 12-month summation of the total VOC emissions i.e., the summation of the total VOC emissions, as recorded in d)(1)d. above, for the current month plus the previous 11 months of operation, in tons.
 - i. the rolling, 12-month summation of the total VOC emissions i.e., the summation of the total PM₁₀ emissions, as recorded in d)(1)e. above, for the current month plus the previous 11 months of operation, in tons.
 - j. the rolling, 12-month summation of the total VOC emissions i.e., the summation of the total CO emissions, as recorded in d)(1)f. above, for the current month plus the previous 11 months of operation, in tons.
- (2) In order to maintain compliance with the applicable emissions limitation(s) contained in this permit, the acceptable combustion temperature within the thermal oxidizer, during any period of time when the emission unit controlled by the thermal oxidizer is operating, shall not be more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emission unit was in compliance. Until performance testing has been conducted, the thermal oxidizer shall be operated and maintained per the manufacturer's recommendations, instructions and the operating manual.
- (3) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the thermal oxidizer when the emission unit is operating, including periods of startup and shutdown. The permittee shall record the combustion temperature on a daily basis. The monitoring equipment shall be installed, calibrated, operated and maintained per the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable temperature setting shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than five years.
- (4) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the limit established per this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
- a. The date and time the deviation began;
 - b. The magnitude of the deviation at that time;
 - c. The date the investigation was conducted;
 - d. The name(s) of the personnel who conducted the investigation; and



- e. The findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. A description of the corrective action;
- g. The date corrective action was completed;
- h. The date and time the deviation ended;
- i. The total period of time (in minutes) during which there was a deviation;
- j. The temperature readings immediately after the corrective action was implemented; and
- k. The name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The temperature limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA DO/LAA. The permittee may request revisions to the permitted temperature limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emissions rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (5) The permittee shall perform daily checks when the emission unit is in operation and when the weather conditions allow, for any visible emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. The color of the emissions;
 - b. Whether the emissions are representative of normal operations;
 - c. If the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. The total duration of any visible emissions incident; and
 - e. Any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under d)(1) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emission unit). With respect to the documentation of



corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations or specify the corrective actions that were taken to minimize or eliminate abnormal visible emissions.

e) Reporting Requirements

- (1) The reports contained in this permit shall be submitted in accordance with the reporting requirements specified in Section A, Standard Terms and Conditions.
- (2) All applications, notifications, or reports required in writing are to be submitted through Ohio EPA's eBusiness Center: Air Services online web portal. Hardcopy submissions will be accepted on an as-needed basis if the permittee cannot submit the required documents through Air Services. In the event of a hardcopy submission, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submittal of applications, notifications, or reports to Ohio EPA fulfills the requirement to submit information to the director, the appropriate Ohio EPA DO/LAA, and/or any other individual or organization identified as a recipient unless otherwise specified in this permit. Consistent with OAC rule 3745-15-03, the application, notification or report is considered submitted on the date the submittal is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. All deviations (excursions) of the following emission limitations, operational restrictions, and/or control device operating parameter limitations that restrict the PTE of any regulated air pollutant and have been detected by the monitoring, record keeping, and/or testing requirements in this permit:
 - i. Emissions of methanol shall not exceed 0.33 tons as a rolling 12-month summation;
 - ii. VOC emissions shall not exceed 0.71 tons as a rolling 12-month summation;
 - iii. PM₁₀ emissions shall not exceed 9.16 tons as a rolling 12-month summation.
 - iv. CO emissions shall not exceed 1.40 tons as a rolling 12-month summation.
 - v. Each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration; and
 - vi. Any period of time (start time and date, and end time and date) when the emission unit was operating, and the captured process emissions were not vented to the thermal oxidizer.
 - b. The probable cause of each deviation (excursion).
 - c. Any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions).
 - d. The magnitude and duration of each deviation (excursion).



If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the appropriate Ohio EPA DO/LAA.

- (4) The permittee shall submit an annual PER to Ohio EPA by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
- (5) The permittee shall identify the following information in the annual PER in accordance with the monitoring requirements for visible emissions in d)(5) above:
 - a. All days during which any visible emissions were observed from the stack(s) serving this emissions unit; and
 - b. Any corrective actions taken to minimize or eliminate the visible emissions.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation

Emissions of methanol shall not exceed 0.33 tons as a rolling 12-month summation.

Applicable Compliance Method

Compliance with the short-term emissions factor of 0.075 lb methanol/hr from the lump charcoal process and 0.00 lb methanol/hr from the biochar process, shall be demonstrated in f)(2) below.

Compliance with the rolling 12-month summation shall be demonstrated by the monitoring and recordkeeping in d)(1)g. above.

- b. Emissions Limitation

Emissions of VOCs shall not exceed 0.71 tons as a rolling 12-month summation.

Applicable Compliance Method

Compliance with the short-term emissions factor of 0.135 lb VOC/hr from the lump charcoal process and 0.021 lb VOC/hr from the biochar process, shall be demonstrated in f)(2) below.

Compliance with the rolling 12-month summation shall be demonstrated by the monitoring and recordkeeping in d)(1)h. above.

- c. Emissions Limitation

PM₁₀ emissions shall not exceed 9.14 tons as a rolling 12-month summation.



Applicable Compliance Method

Compliance with the short-term emissions factor of 0.155 lb PM₁₀/hr from the lump charcoal process and 1.92 lbs PM₁₀/hr from the biochar process, shall be demonstrated in f)(2) below.

Compliance with the rolling 12-month summation shall be demonstrated by the monitoring and recordkeeping in d)(1)i. above.

d. Applicable Compliance Method

CO emissions shall not exceed 1.40 tons as a rolling 12-month summation.

Applicable Compliance Method

Compliance with the short-term emissions factor of 0.145 lb CO/hr from the lump charcoal process and 0.057 lb CO/hr from the biochar process, shall be demonstrated in f)(2) below.

Compliance with the rolling 12-month summation shall be demonstrated by the monitoring and recordkeeping in d)(1)j. above.

e. Emissions Limitation

NO_x emissions shall not exceed 1.30 tons per month averaged over a 12-month rolling period.

Applicable Compliance Method

Compliance shall be demonstrated by the following equation:

$$NO_x = [(biochar\ production) + (lump\ charcoal\ production) + (natural\ gas\ combustion)] \times (1\ year / 12\ months)$$

Biochar Production

Biochar production = (emission factor) x (Throughput) x (8,760 hrs/yr) x (1 ton/2,000 lbs)

Where:

Emission factor = 2.009 lbs NO_x/ton (based on permittee's application, A0081453)

Throughput = 1.1 tons/hr (based on permittee's application, A0081453)

Biochar production = (2.009 lbs NO_x/ton) x (1.1 tons/hr) x (8,760 hrs/yr) x (1 ton/ 2,000 lbs)

Biochar production = 9.68 tons NO_x per year

Lump Charcoal Production

Lump charcoal production = (emission factor) x (throughput) x (8,760 hrs/yr) x (1 ton/2,000 lbs)

Where:

Emission factor = 24 lbs NO_x/ton (based on permittee's application, A0081453, and AP-42 Table 10.7-1)



Throughput = 0.05 tons/hr (based on permittee's application, A0081453)

Lump charcoal production = (24 lbs NO_x/ton) x (0.05 tons/hr) x (8,760 hrs/yr) x (1 ton/2,000 lbs)

Lump charcoal production = 5.26 tons NO_x per year

Natural Gas Combustion

Natural gas combustion = (emission factor) x (maximum heat input) x (8,760 hrs/yr) x (1 ton/2,000 lbs)

Where:

Emission factor = 0.098 lb NO_x/MMBtu (based on AP-42 Table 1.4-1 (4/26) emissions factor of 100 lbs NO_x/MMscf multiplied by the heat content of natural gas of 1,020 MMBtu/MMscf)

Maximum heat input = 1.4 MMBtu/hr (based on permittee's application, A0081453)

NG combustion = (0.098 lb NO_x/MMBtu) x (1.4 MMBtu/hr) x (8,760 hrs/yr) x (1 ton/2,000 lbs)

Natural gas combustion = 0.60 ton NO_x/yr

Rolling Twelve-Month

NO_x = (9.68 tons NO_x/yr) + (5.26 tons NO_x/yr) + (0.60 ton NO_x/yr) x (1 yr/12 months)

NO_x = 1.30 tons per month

If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

f. Emissions Limitation

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

Applicable Compliance Method

Compliance shall be demonstrated in f)(2) below.

g. Emissions Limitation

Particulate emissions shall not exceed 4.5 pounds per hour.

Applicable Compliance Method

Compliance shall be demonstrated by the following equation:

PM₁₀ = (Biochar production) + (Lump charcoal production) + (NG combustion)

Biochar Production

Biochar production = (emissions factor) x (throughput) x (1 ton/2,000 lbs)



Where:

Emission factor = 1.749 lbs PM₁₀/ton (based on permittee's application, A0081453, this emission factor is from stack test data on a similar source taking into account the thermal oxidizer)

Throughput = 1.1 tons/hr (based on permittee's application, A0081453)

Biochar production = (1.749 lbs PM₁₀/ton) x (1.10 tons/hr)

Biochar production = 1.92 lbs PM₁₀/hr

Lump Charcoal Production

Lump charcoal production = (emissions factor) x (throughput) x (1 – control efficiency)

Where:

Emission factor = 310 lbs PM₁₀/ton (based on permittee's application, A0081453 and AP-42 Table 10.7-1 with all particulate matter emissions assumed to be PM₁₀)

Throughput = 0.05 tons/hr (based on permittee's application, A0081453)

Control efficiency = 99% (based on permittee's application, A0081453)

Lump charcoal production = (310 lbs PM₁₀/ton) x (0.05 tons/hr) x (1 – 0.99)

Lump charcoal production = 0.16 lb PM₁₀/hr

Total

PM₁₀ = (1.92 lbs PM₁₀/hr) + (0.16 lb PM₁₀/hr)

PM₁₀ = 2.08 lbs PM₁₀/hr

If required, PM₁₀ emissions shall be determined according to test Methods 201/201A, and 202 as set forth in 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

- (2) The permittee shall conduct, or have conducted, emissions testing for this emissions unit per the following requirements:

- a. The emission testing shall be conducted within 45 days after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the mass emissions rate(s) for the methanol and VOC emissions factors, in the appropriate averaging period(s).
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):

Methanol – Method 308 of 40 CFR Part 63, Appendix A

VOC – Methods 1 – 4 and 25A of 40 CFR Part 60, Appendix A

PM₁₀ – Methods 1 – 4, 201 and 202 of 40 CFR Part 51, Appendix M

CO – Methods 1 – 4 and 10 of 40 CFR Part 60, Appendix A



Visible emissions – Method 9 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

Methanol – Methods 1 – 4 and 320 of 40 CFR Part 63, Appendix A

CO – Methods 1 – 4 and 320 of 40 CFR Part 63, Appendix A

- d. During the emissions testing, the EU shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.) or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under worst case conditions expected during the life of the permit. As part of the information provided in the Intent to Test (ITT) notification form described below, the permittee shall provide a description of the EU operational conditions they will meet during the emissions testing and describe why they believe worst case operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA DO/LAA that the proposed operating conditions constitute worst case. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA DO/LAA 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 EU and the testing procedures provide a valid characterization of the emissions from the EU and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA DO/LAA.

g) **Miscellaneous Requirements**

- (1) Modeling to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F)(4)(b), was not necessary because the EU's/EUs' maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745 114 01, will be less than 1 TPY. OAC Chapter 3745 31 requires a permittee to apply for and obtain a new or modified PTIO prior to making a modification as defined by OAC rule 3745 31 01. The permittee is hereby advised that changes



**Environmental
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Permit Number: P0140042

Facility Name: Ohio Valley Biochar

Facility ID: 0616005024

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in the composition of the materials or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1 TPY, may require the permittee to apply for and obtain a new PTIO.