



May 11, 2017



Mr. William F. Durham
Director
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Kingsford Mfg. Company
WV Operations

**Re: Title V Renewal Application for the Kingsford Mfg. Co. Beryl, WV Plant
Plant ID No. 057-0003
Title V Permit No. R30-05700003-2012**

Dear Mr. Durham:

Kingsford Manufacturing Company (KMC) operates a charcoal manufacturing facility located in Beryl, West Virginia. KMC is submitting the enclosed Title V renewal application for the Beryl facility. This application is being submitted six months prior to the Title V permit expiration date of December 4, 2017. KMC believes that the enclosed submittal provides all the information required by the WV DAQ for technical review of the Title V renewal. As such, KMC believes that this submittal constitutes an administratively complete and timely Title V renewal application.

We are enclosing one (1) printed copy of the application that been signed by a responsible official. We are also enclosing the entire application in PDF format on two (2) CDs. KMC understands that no application fee is required and that WV DAQ will address the public and affected state notification requirements.

If you have any questions regarding the enclosed Title V renewal application, please feel free to contact Mr. Eric Copenhaver, Plant Engineering Manager, at (304) 478-5559.

Very truly yours,

KINGSFORD MANUFACTURING COMPANY

Carey Preston
Plant Manager

Cc: Josh Nash - KMC
Eric Copenhaver – KMC
Mike Young – Clorox
Gavin Biebuyck – Liberty Environmental



**Title V Permit Renewal Application
Kingsford Manufacturing Company
Beryl, West Virginia Facility**

Submitted to:



State of West Virginia
Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Submitted by:

Kingsford Manufacturing Company
P.O. Box 464
Parsons, WV 26287

Prepared by:



50 N. Fifth Street, Fifth Floor
Reading, PA 19601

May 2017

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1. INTRODUCTION

1.1 OVERVIEW

Kingsford Manufacturing Company (KMC) operates a wood char manufacturing facility in Beryl, Mineral County, West Virginia. Char is produced from bark/wood material and is used as an ingredient in the production of charcoal briquets. The Beryl facility is subject to Title V air permitting requirements because potential emissions of particulate matter (PM) and nitrogen oxides (NO_x) exceed 100 tons per year (tpy). KMC is currently operating under Title V operating permit #R30-05700003-2012 which was issued on December 18, 2012 and last modified on December 20, 2016. This permit expires on December 4, 2017. This Title V permit renewal application is being submitted six (6) months prior to expiration date of the permit. The application addresses facility changes that have occurred since 2012 and addresses new regulatory requirements.

There have been several changes to the Beryl facility since 2012 that have required changes to the plant's operating permit, most notably an increase in maximum annual char production. Other changes included the conversion of the facility's After Combustion Chamber (ACC) burner to fire propane instead of natural gas and the installation of a second ACC burner. Also, a small gasoline above ground storage tank (AST) has been removed from the facility that had previously been subject to a federal National Emissions Standard of Hazardous Air Pollutant (NESHAP) standard. No new applicable air quality requirements for the Beryl facility have been identified, however this application does address the potential impact of recently promulgated regulations addressing alternative emission limitations during startup, shutdown, and maintenance operations.

Section 3 of this report provides a facility-wide air emission inventory summarizing plant-wide potential emissions. Potential emissions of hazardous air pollutants (HAPs) are summarized to demonstrate that the KMC Beryl plant is an area source of HAPs and therefore not subject to potentially applicable federal NESHAP standards for major HAP sources. Potential emissions of

greenhouse gases (GHGs) are also presented. Supporting emissions calculations are provided in Appendix B.

Section 4 summarizes applicable federal and state air quality requirements and requests an updated permit shield for potentially applicable requirements. Revisions to the current Title V permit conditions are requested and are discussed in Section 4.

The WVDEP application forms are provided in Appendix A.

1.2 REPORT ORGANIZATION

This report has been prepared to provide WVDEP with the necessary information to renew KMC's Title V Operating Permit. The WVDEP permit application forms are provided in Appendix A of this report. The report consists of the following sections and appendices:

Section 1 – Introduction provides an overview of the renewal and the report organization.

Section 2 – Process Description describes current facility operations including changes to the plant that have occurred since 2012.

Section 3 – Emission Inventory summarizes criteria air pollutant emissions estimates for the facility, provides background documentation for the current emission estimates, and provides criteria pollutant, GHG, and HAP potential emissions estimates.

Section 4 – Applicable Requirements summarizes new potentially applicable federal and WVDEP air quality requirements, provides an updated Permit Shield request and proposes revisions to the current Title V permit.

Appendix A – WVDEP Application Forms includes applicable WVDEP air quality application forms.

Appendix B – Facility Emissions provides detailed potential emissions calculations for the Beryl facility.

2. PROCESS DESCRIPTION

2.1 FACILITY OPERATIONS

The KMC Beryl plant is located in Mineral County, West Virginia along WV Route 46. The location of the facility is shown in the WVDEP application forms (Appendix A, Attachment A) a section of the Westernport, West Virginia USGS quadrangle map. The facility is located on the Maryland border and is adjacent to a pulp and paper mill.

KMC receives bark at the Beryl plant from the adjacent paper mill woodyard operations via a conveyor belt. During times when this conveyor system is inoperable due to production or maintenance downtime, bark is transported to the facility by truck. The Beryl plant processes the bark in a wood dryer and retort furnace to produce char. The char is then transported by truck for further processing into charcoal briquets at the KMC Parsons, WV briquetting facility. In addition, a portion of the unprocessed bark is either sold as mulch or transported by truck to the KMC Parsons plant to be processed into char at that facility. The emissions inventory tables in Appendix B include fugitive dust emissions associated with bark loading to trucks and bark truck traffic on Beryl plant roadways.

The Beryl plant is classified as a major source of NO_x and PM emissions and therefore submitted a Title V application addressing all applicable state and federal air quality requirements in May 1996. KMC was issued a renewal of their Title V permit in December 2012, #R30-05700003-2012 which expires on December 4, 2017. The WVDEP application forms (Appendix A, Attachment D) list the plant emitting units that are defined in the current Title V permit. The table lists the emitting units, and their associated sources, control devices, and stacks.

2.2 MODIFICATIONS TO PLANT

On July 2, 2013, KMC submitted a Permit Determination application for the installation of a 1.26 MMBtu/hr natural-gas fired boiler to provide steam to the charring process. On July 22, 2013 KMC received a letter from the WVDEP determining that a permit was not needed for the installation of the boiler. KMC is adding this boiler to its list of sources within this application.

On October 13, 2015 KMC submitted an administrative amendment application to allow for the conversion of the ACC burner to fire propane rather than natural-gas, and the associated installation of a 12,000 gallon propane AST. A revised Title V Permit incorporating this change was issued on February 1, 2016.

On June 24, 2016 KMC submitted a significant permit modification application for the increase of the annual char production cap to 32,000 tons/yr from the previous 28,000 tons/yr. Permit R13-2117E was issued on November 16, 2016 allowing for the increase. Revisions to the Title V permit were finalized on December 20, 2016.

On March 9, 2017 KMC submitted a Permit Determination application for the installation of a second propane-fired ACC burner rated at 40 MMBtu/hr burner heat input. On March 9, 2017 KMC received a letter from the WVDEP determining that a permit was not needed for the installation of the burner. KMC is including this burner in the appropriate forms in this renewal application and requests that it be identified in the description of Source 003.

The Beryl Title V permit currently lists a 500-gallon gasoline AST (Source 005-01) and a 1,000 gallon diesel fuel AST (005-02). KMC has removed the gasoline tank and replaced the diesel tank with a 1,300 gallon AST. KMC has identified these changes in the permit application forms. The gasoline AST had been subject to the Gasoline Dispensing facility NESHAP (40CFR63 Subpart CCCCCC). KMC requests the removal of these requirements from Section 9 of the operating permit. See section 4 of this text for a complete list of requested changes to the operating permit.

3. EMISSION INVENTORY

3.1 FACILITY-WIDE EMISSIONS

Table 3-1 summarizes potential emission rates from the Beryl facility. Supporting emissions calculations are provided in Appendix B. The table demonstrates that the facility is a major source of PM₁₀ and NO_x emissions because potential emission rates exceed 100 tpy based on allowable emission limits.

3.2 CHANGES TO EMISSION INVENTORY

KMC has revised the potential emissions from the facility to reflect the permitted increase in char production as well as the conversion of the ACC burners to fire propane instead of natural gas. In addition, the potential throughputs of wood and bark have been recalculated to reflect an average yield of wood to char of 3.0 rather than 4.0 as included in the last Title V renewal application. These changes to the potential emissions were reflected in the permit modification submitted to address the increase in char production in 2016.

3.3 GREENHOUSE GAS EMISSIONS

Potential greenhouse gas (GHG) emissions from the KMC Beryl facility are shown in Table B-10 of the emission inventory. Potential GHG emissions were calculated for both natural gas combustion and wood combusted in the charring process. Emission factors from 40 CFR Part 98 were used to calculate emissions of carbon dioxide (CO₂), and carbon dioxide equivalent (CO₂e) emissions of both methane (CH₄) and nitrous oxide (N₂O). Both biogenic and nonbiogenic emissions were calculated, although only non-biogenic emissions are currently regulated by the US EPA. It is important to note that the potential GHG emissions were calculated using both the total heat input rating of all gas fired burners in the ACC and the retort furnace operating at maximum heat input at 8,760 hours per year, as well as the total wood combusted under the 32,000 tons char production cap. In actual operation, such a scenario could not occur, as sufficient heat to the ACC is provided from wood charring off-gases during normal operations,

and the ACC burners are typically only used for startup or for process upsets. Actual greenhouse gas emissions from the Beryl facility are less than 3,000 tons/year nonbiogenic CO₂e per year.

3.4 MINOR SOURCE STATUS FOR HAP EMISSIONS

The Beryl facility is a minor source of hazardous air pollutants (HAPs). As part of annual Toxics Release Inventory (Form R) reporting, KMC estimates air emission rates for two HAPs: methanol and lead. Annual emissions of methanol are estimated to be less than 1.0 tpy based on estimates of methanol generation rates in the wood charring operation and estimates of methanol destruction efficiency in the ACC afterburner. KMC also estimates small quantities of lead emissions in the Form R reports based on EPA guidance that trace quantities of lead are present in wood. Lead emission rates are estimated to be less than 0.001 tpy total. The Beryl facility also operates a small (238 hp) natural gas fired emergency generator. Total potential HAP emissions were calculated for the generator using a total non-emergency hourly operating limit of 100 hours per year, and total HAP emissions were calculated to be less than .0009 tons per year.

Based on these considerations, it is KMC's assessment that the Beryl plant is a minor source of HAP emissions. The permit requirement to maintain a minimum ACC combustion chamber temperature of 1,400°F (Condition 6.2.2) ensures that potential methanol emissions remain below the major source threshold of 10 tpy.

**TABLE 3-1
FACILITY POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA**

Source	Potential Annual Emissions (tons/yr) ^a						Potential Maximum Hourly Emissions (lbs/hr) ^a							
	NO _x	CO	VOC	SO ₂	PM	PM ₁₀	PM _{2.5}	NO _x	CO	VOC	SO ₂	PM	PM ₁₀	PM _{2.5}
Wood Pile Management and Traffic					5.65	2.65	0.40					1.29	0.61	0.09
Material Handling					0.78	0.51	0.30					0.18	0.12	0.07
Drying and Charring	208.00	32.94	9.26	48.00	160.00	108.46	80.00	65.00	10.29	2.89	15.00	50.00	33.89	25.00
ACC Burners	0.99	0.30	0.07	0.005	0.06	0.06	0.06	9.90	3.00	0.70	0.05	0.61	0.61	0.61
Plant Roadways					1.20	0.24	0.06					0.27	0.05	0.01
Emergency Generator	0.003	0.01	0.003	0.00006	0.0019	0.0019	0.0019	0.06	0.16	0.06	0.0012	0.04	0.04	0.04
Total	208.99	33.25	9.33	48.00	167.69	111.92	80.82	74.96	13.46	3.66	15.05	52.39	35.32	25.82

^a See Table B-5 through B-13 for emissions calculations.

^b CO₂e total is total from wood combustion only, no auxiliary fuels

Source	Operating Schedule (hr/yr)	Units	Maximum Annual Production (ton/yr)	Average Hourly Production (ton/hr)	Maximum Hourly Production (ton/hr)	Yield (wood:char)	Wood Moisture Content (%)
Wood Pile	8,760	Wood (wet)	192,000			3:00	50%
		Wood (dry)	96,000				
Mulch Pile	8,760	Mulch (wet)	33,900				
		Mulch (dry)	16,950				
ACC	8,760	Char	32,000	3.65	5.00		

4. APPLICABLE REQUIREMENTS

The following subsections contain an assessment of new federal and state air regulations that are potentially applicable to the Beryl plant operations. Applicable requirements are identified on the “Applicable Requirement” section of the WVDEP “Emission Unit Form” provided in Appendix A, Attachment E. The summary provided in Subsections 4.1 and 4.2 below is intended to supplement the application checklist and to provide the WVDEP with KMC’s assessment of the non-applicability of various newly promulgated air regulations. Revisions to the existing Beryl plant Title V permit conditions are requested in Subsection 4.3.

4.1 NEW FEDERAL REGULATIONS

No new federal regulations were identified as being applicable to the Beryl plant operations. The 1.26 MMBtu/hr natural gas boiler that was installed in 2013 is not subject to the Area Source Boiler NESHAP (40 CFR 63 Subpart JJJJJ) due to the fact that it is natural gas-fired.

4.2 NEW WEST VIRGINIA REGULATIONS

The WVDEP recently promulgated regulations at §45-1 allowing for the establishment of alternative emission limitations during startup, shutdown, or maintenance (SSM) activities. The current operation permit requires that the ACC combustion chamber maintain a minimum three-hour average temperature of 1400 °F to demonstrate compliance, except during periods of system startup, shutdown, or maintenance (Condition 6.2.2). With the ACC burner capacity, KMC believes the facility can meet both the 1400 °F limit and WV opacity standard during periods of system startup, and is therefore not requesting an alternative emission limit during SSM conditions under this new regulation.

4.3 REQUESTED REVISIONS TO TITLE V PERMIT

KMC is requesting several minor revisions to the current Title V permit conditions. KMC believes that the revisions are minor and represent administrative changes to the permit conditions.

The revisions to the current Title V permit conditions that are requested consist of the following:

- The addition of the 1.26 MMBtu/hr natural gas fired boiler as Source 006-02.
- The removal of the 40CFR63 Subpart CCCCCC gasoline tank requirements under section 9 of the permit due to the removal of Source 005-01, and the removal of Source 005-01 from the permit list of sources.

APPENDIX A
WVDEP APPLICATION FORMS



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. Name of Applicant (As registered with the WV Secretary of State's Office): Kingsford Manufacturing Company
2. Facility Name or Location: Beryl Plant, Beryl, Mineral County, West Virginia
3. DAQ Plant ID No.: 0 5 7 - 0 0 0 0 3
4. Federal Employer ID No. (FEIN): 9 4 3 2 4 0 5 2 4
5. Permit Application Type: [X] Permit Renewal, When did operations commence? MM/DD/YYYY, What is the expiration date of the existing permit? 12/4/2017
6. Type of Business Entity: [X] Corporation, [] Governmental Agency, [] LLC, [] Partnership, [] Limited Partnership
7. Is the Applicant the: [] Owner, [] Operator, [X] Both
8. Number of onsite employees: 13
9. Governmental Code: [X] Privately owned and operated; 0, [] County government owned and operated; 3, [] Federally owned and operated; 1, [] Municipality government owned and operated; 4, [] State government owned and operated; 2, [] District government owned and operated; 5
10. Business Confidentiality Claims: Does this application include confidential information (per 45CSR31)? [] Yes, [X] No

11. Mailing Address		
Street or P.O. Box: P.O. Box 6		
City: Luke	State: MD	Zip: 21540-0006
Telephone Number: (304)355-2311		Fax Number: (304) 355-2312

12. Facility Location		
Street: Route 46	City: Beryl	County: Mineral
UTM Easting: 666.0 km	UTM Northing: 4,371.0 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: The facility is located adjacent to WV Route 46 near the WV-Maryland border, slightly west of the town of Luke, MD.		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). MD, PA	
Is facility located within 100 km of a Class I Area¹? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, do emissions impact a Class I Area¹? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the area(s). Dolly Sods Otter Creek	
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: Carey Preston		Title: Plant Manager
Street or P.O. Box: P.O. Box 464		
City: Parsons	State: WV	Zip: 26287-
Telephone Number: (304) 478-2911	Fax Number: (304) 478-2129	
E-mail address: carey.preston@clorox.com		
Environmental Contact: Josh Nash		Title: Site Manager
Street or P.O. Box: 3798 Beryl Road		
City: Piedmont	State: WV	Zip: 26750-
Telephone Number: (304) 355-2311	Fax Number: (304) 478-2129	
E-mail address: josh.nash@clorox.com		
Application Preparer: Gavin L. Biebuyck		Title: Principal Consultant
Company: Liberty Environmental, Inc.		
Street or P.O. Box: 50 North Fifth Street		
City: Reading	State: PA	Zip: 19601-
Telephone Number: (610) 375-9301	Fax Number: (610) 375-9302	
E-mail address: gbiebuyck@libertyenviro.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Wood char manufacturing facility	Wood char	N/D	2861

Provide a general description of operations.

The Kingsford Manufacturing Company Beryl plant processes bark from the paper mill woodyard operations and produces char for use at the KMC Parsons, WV charcoal briquetting plant. The plant receives bark, which is processed in a wood dryer and retort furnace to produce char. The char is then transported by truck for further processing into charcoal briquets at the Parsons facility. A portion of the unprocessed bark is either sold as mulch or transported by truck to the Parsons facility to be processed into char at that facility.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR15)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input type="checkbox"/> Section 111 NSPS	<input checked="" type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input checked="" type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO _x Annual Trading Program (45CSR39)	<input type="checkbox"/> CAIR NO _x Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO ₂ Trading Program (45CSR41)	

19. Non Applicability Determinations

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

Existing (in current permit shield) Non-applicable Requirements		
Requirement	Regulatory Citation	Basis for Non-Applicability
PM Emissions from Fuel Combustion in Indirect Heat Exchangers	45CSR2	Per 45CSR§7-10.1. if PM emissions are subject to 45CSR7, they are exempt from this Rule
PM emissions from Coal Preparation and Handling Plants	45CSR5	No coal handling operations at Beryl facility.
PM emissions from an incinerator	45CSR§6-4.1.	The PM emission standard from 45CSR7 (45CSR§7-4.1.) also applies and is more stringent. Because of the "inconsistency between rules" provision in 45CSR6 and 7, the more stringent rule will apply and therefore the PM standard from 45CSR6 is moot and the Permit Shield applies.
Opacity limits for an incinerator	45CSR§6-4.3. and 4.4	The opacity standard from 45CSR7 (45CSR§§7- 3.1. and 3.2.) also applies and is more stringent. Because of the "inconsistency between rules" provision in 45CSR6 and 7, the more stringent rule will apply and therefore the opacity requirement from 45CSR6 is moot and the Permit Shield applies.
Type "d" chemical operation source	45CSR7A	This facility was previously determined by the Director as type "a" source, therefore it is not considered a type "d" source
Testing, Monitoring, Recordkeeping and Reporting of Sulfur Oxides emissions	45CSR§10-8	Per 45CSR§10-10.3. partial wood combustion during the manufacture of charcoal shall be exempt from this requirement
Preparation of standby plans for reducing the emissions of air pollution during periods of an Air Pollution Alert, Air pollution Warning, and Air pollution Emergency	45CSR§11-5.1.	This facility is not in Priority I or II regions, therefore it is not subject to this requirement

Permit Shield

19. Non Applicability Determinations (Continued) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

Existing (in current permit shield) Non-applicable Requirements (Continued)		
Requirement	Regulatory Citation	Basis for Non-Applicability
PSD source	45CSR14	Emission limits and production caps are accepted by the facility to avoid triggering PSD
Hazardous Air Pollutants Federal NESHAP standards	45CSR15 40CFR61	No affected sources at Beryl facility with exception of Asbestos Demolition/Renovation.
Federal NSPS standards	45CSR16 40CFR60	No affected sources at Beryl facility
Fugitive emissions from material handling	45CSR17	Per 45CSR§7-6.1. if sources are subject to 45CSR7 they are exempt from the requirements of this Rule
NSR permitting for non-attainment areas	45CSR19	Beryl facility is not in affected areas
VOC emissions regulations	45CSR21	Beryl facility is not in affected areas
Emissions of toxic air pollutants	45CSR27	Beryl facility does not operate any "chemical processing units" and does not use listed chemicals
Federal Acid Rain provisions	45CSR33 Title IV of CAAA	No affected sources at Beryl facility
Federal Major Source MACT standards	45CSR34 40CFR63	Beryl facility discharges less than 10 tpy of a single HAP and less than 25 tpy of aggregated HAPs
Emission Standards for Hot Mix Asphalt Plants	45CSR3	No affected sources at Beryl facility
Emission Standards for Municipal Solid Waste Landfills	45CSR23	No affected sources at Beryl facility
Emission Standards for Medical Waste Incinerators	45CSR24	No affected sources at Beryl facility
Emission Standards for Hazardous Waste Treatment, Storage or Disposal Facilities	45CSR25	No affected sources at Beryl facility
Transportation Plan Requirements	45CSR36	No affected sources at Beryl facility
Mercury Budget Trading Program	45CSR37	No affected sources at Beryl facility
CAIR NOx/SO2 Trading Program	45CSR39,40,41	No affected sources at Beryl facility
Federal Area Source NESHAP – ICI Boiler and Process Heaters MACT	40CFR63 – Subpart JJJJJ	No affected sources at Beryl facility

New Non-applicable Requirements

Requirement	Regulatory Citation	Basis for Non-Applicability

Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

Existing Facility-Wide Requirements	
Requirement	Regulatory Citation
Odors	45CSR4
Open Burning	45CSR6
Fugitive Particulate Emissions and Opacity	45CSR7
SOx Emission Requirements	45CSR10
Air Pollution Episode Requirements	45CSR11
Construction Permitting	45CSR13
Fee Program	45CSR22
Title V Permitting	45CSR30
Confidential Information	45CSR31
Emission Inventory/Testing Requirements	WVa Code 22-5-4
Asbestos Demolition/Renovation	40CFR61
Risk Management Plan	40CFR68
Ozone Depleting Substances	40CFR82
Compliance Assurance Monitoring	40CFR64
Please refer to the current Title V operating permit (R30-05700003-2003) for additional detail	

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Facility-Wide Requirement Compliance Demonstration Methods		
Requirement	Citation	Compliance Demonstration Method
Existing Facility-Wide Requirements	See above	See existing Title V operating permit for details

Are you in compliance with all facility-wide applicable requirements? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year] See Section 3 of Report	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	33.25
Nitrogen Oxides (NO _x)	208.99
Lead (Pb)	0.009
Particulate Matter (PM _{2.5}) ¹	80.82
Particulate Matter (PM ₁₀) ¹	111.92
Total Particulate Matter (TSP)	167.69
Sulfur Dioxide (SO ₂)	48.00
Volatile Organic Compounds (VOC)	9.33
Hazardous Air Pollutants ²	Potential Emissions
Total HAPs	< 10
Regulated Pollutants other than Criteria and HAP	Potential Emissions
CO ₂ -e	105,877
¹ PM _{2.5} and PM ₁₀ are components of TSP. ² For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input checked="" type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input checked="" type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p>E-05-02 Diesel oil tank with conservation vent – 1,300 gallons E-06-02 Natural-Gas Fired Boiler – 1.24 MMBtu/hr</p> <p>See Attachment B for emissions information.</p>

24. Insignificant Activities (Check all that apply)	
<input type="checkbox"/>	<p>20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<input type="checkbox"/>	21. Environmental chambers not using hazardous air pollutant (HAP) gases.
<input checked="" type="checkbox"/>	22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
<input type="checkbox"/>	23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
<input checked="" type="checkbox"/>	24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
<input type="checkbox"/>	25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
<input checked="" type="checkbox"/>	26. Fire suppression systems.
<input checked="" type="checkbox"/>	27. Firefighting equipment and the equipment used to train firefighters.
<input type="checkbox"/>	28. Flares used solely to indicate danger to the public.
<input checked="" type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant

24. Insignificant Activities (Check all that apply)	
	owners/operators must still get a permit if otherwise requested.)
<input type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input checked="" type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input checked="" type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input checked="" type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input checked="" type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the Title V Equipment Table and provide it as ATTACHMENT D .
26. Emission Units
For each emission unit listed in the Title V Equipment Table , fill out and provide an Emission Unit Form as ATTACHMENT E .
For each emission unit not in compliance with an applicable requirement, fill out a Schedule of Compliance Form as ATTACHMENT F .
27. Control Devices
For each control device listed in the Title V Equipment Table , fill out and provide an Air Pollution Control Device Form as ATTACHMENT G .
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the Compliance Assurance Monitoring (CAM) Form(s) for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as ATTACHMENT H .
No changes to existing CAM requirements or new sources subject to CAM requirements

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance	
<i>Note: This Certification must be signed by a responsible official. The original, signed in blue ink, must be submitted with the application. Applications without an original signed certification will be considered as incomplete.</i>	
a. Certification of Truth, Accuracy and Completeness	
I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.	
b. Compliance Certification	
Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.	
Responsible official (type or print)	
Name: Carey Preston	Title: Plant Manager
Responsible official's signature:	
Signature: 	Signature Date: 5/11/2017
<small>(Must be signed and dated in blue ink)</small>	

Note: Please check all applicable attachments included with this permit application:	
<input checked="" type="checkbox"/>	ATTACHMENT A: Area Map
<input checked="" type="checkbox"/>	ATTACHMENT B: Plot Plan(s)
<input checked="" type="checkbox"/>	ATTACHMENT C: Process Flow Diagram(s)
<input checked="" type="checkbox"/>	ATTACHMENT D: Equipment Table
<input checked="" type="checkbox"/>	ATTACHMENT E: Emission Unit Form(s)
<input type="checkbox"/>	ATTACHMENT F: Schedule of Compliance Form(s)
<input checked="" type="checkbox"/>	ATTACHMENT G: Air Pollution Control Device Form(s)
<input type="checkbox"/>	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.vv.gov/dag, requested by phone (304) 926-0475, and/or obtained through the mail.



KINGSFORD MANUFACTURING COMPANY
DELEGATION OF SIGNATURE AUTHORITY

Pursuant to the authority granted to the undersigned under the bylaws of Kingsford Manufacturing Company (the "Company"), in her capacity as Vice President - Secretary, the undersigned hereby delegates the right to execute the documents listed below, on behalf of the Company, to the Plant Manager designated below, or, in his/her absence, the acting plant manager, of the Company's facility designated below.

Carey D. Preston
Beryl Retort; Beryl, West Virginia

Documents and Authority:

Authority to sign all environmental reports, plans, and permits, environmental monitoring reports, applications, certifications and other documents for the facility documents requiring the signature of a "Responsible Official," "Responsible Corporate Officer," or other company representative under any federal, state or local environmental law or regulation.

This delegation of authority requires that the person signing any document pursuant to this delegation satisfy himself or herself that, based on information and belief formed after reasonable inquiry, the statements or information in the document are true, accurate, and complete and that the document is otherwise in accordance with any required certification.

Dated:

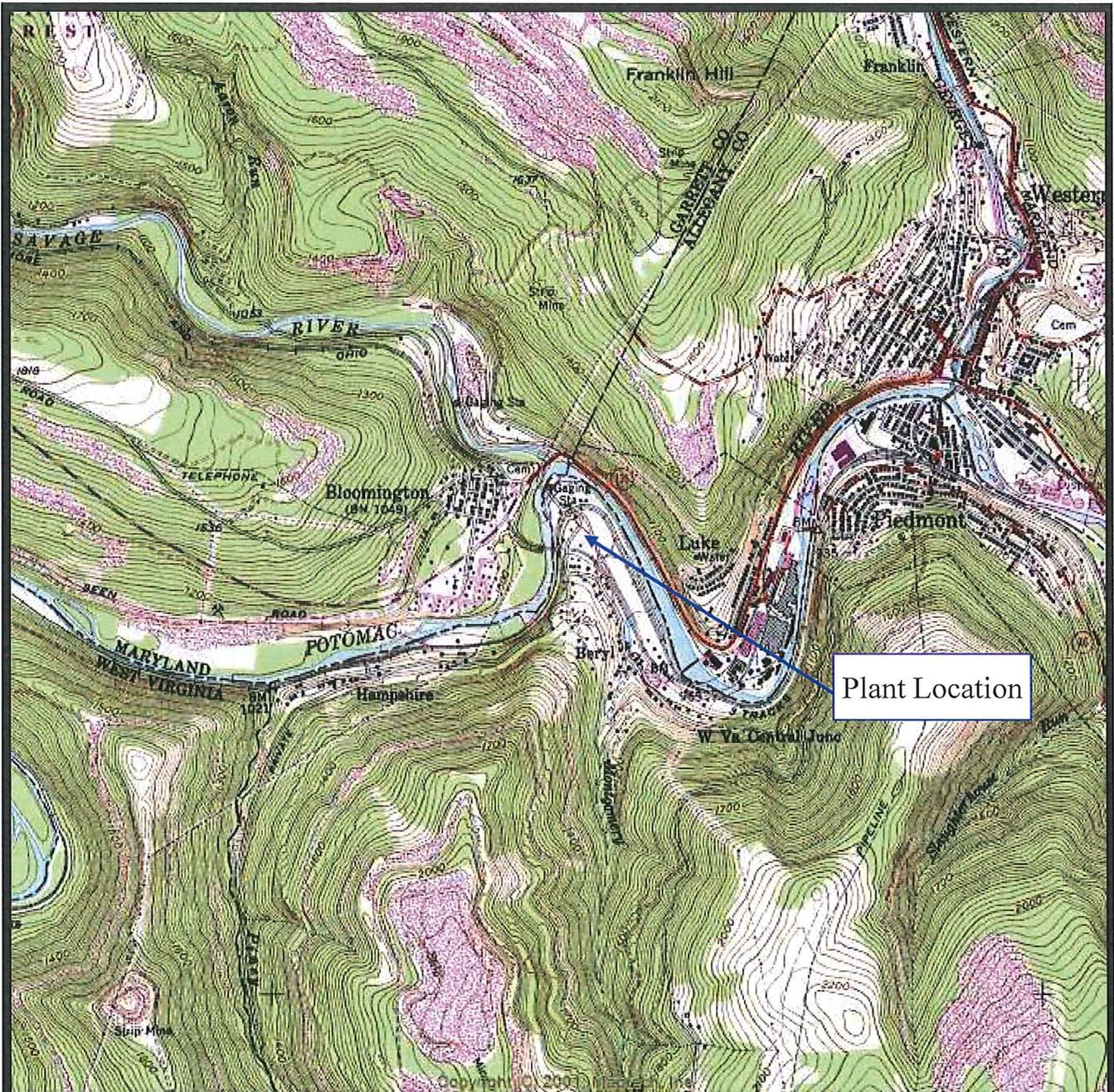
12/15/2011

A handwritten signature in blue ink, appearing to read "Angela Hilt", written over a horizontal line.

Angela Hilt
Vice President - Secretary
KINGSFORD MANUFACTURING COMPANY

Highway 219 S.
PO Box 464
Parsons, WV
26287

(304) 478-2911
FAX: (304) 478-2129



50 N. Fifth Street, 5th Floor
 Reading, PA 19601
 Phone: 610-375-9301
 Fax: 610-375-9302



ATTACHMENT A: SITE LOCATION MAP

BERYL PLANT

KINGSFORD MANUFACTURING COMPANY

USGS MAP QUADRANGLE: WESTERNPORT, MD

SCALE : 1" = 2000 FEET



- LEGEND**
- △ — FIRE EXTINGUISHER, A B C DRY CHEMICAL
 - ▲ — FIRE EXTINGUISHER, HALON
 - ⊗ — FIRE HYDRANT
 - ⊕ — FIRST AID STATION
 - * — SPEC. EMERGENCY EQUIPMENT & SUPPLIES
 - — FIRE EVACUATION ROUTE
 - — HELL CHAIR AREA



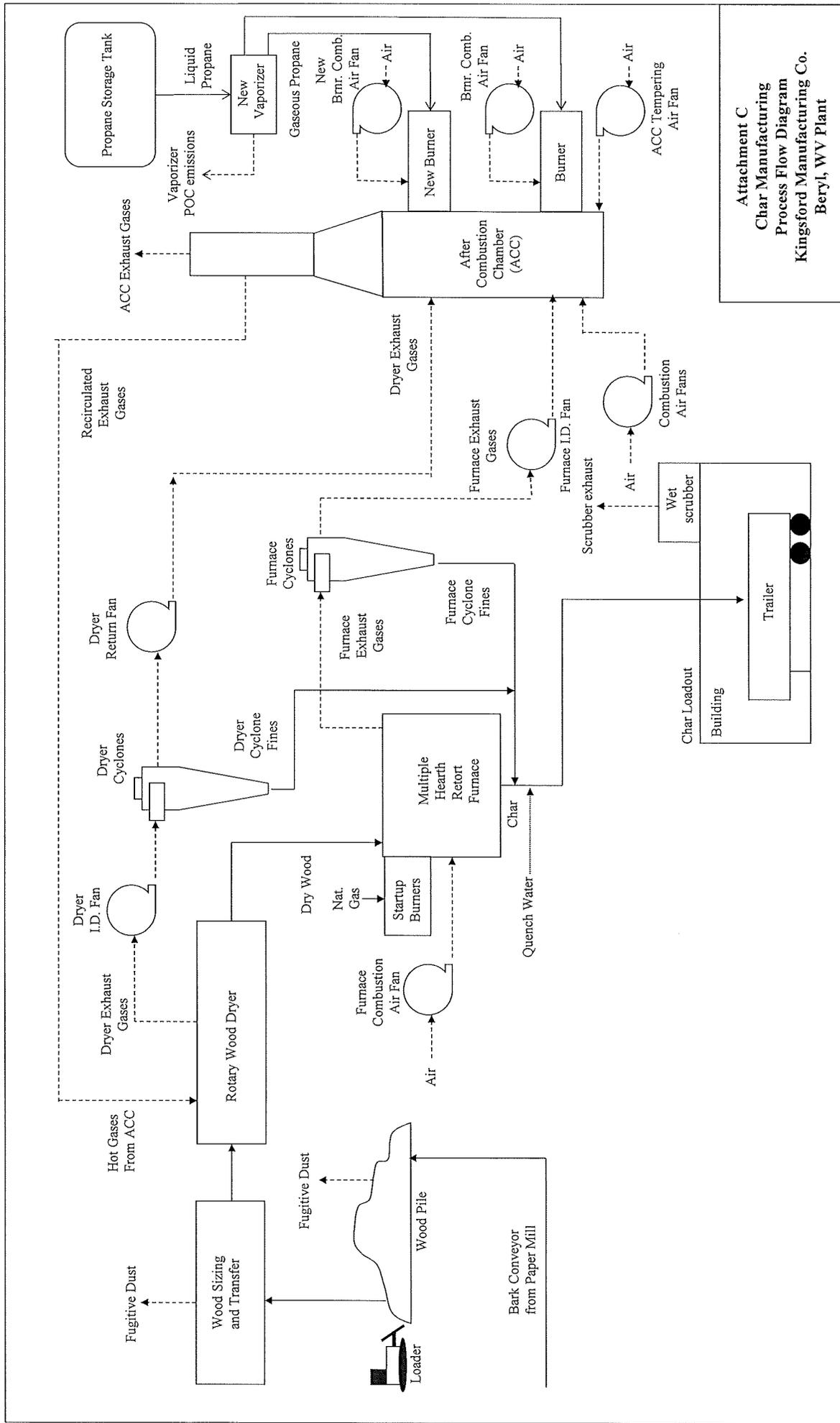
50 N. Fifth Street, 5th Floor
 Reading, PA 19601
 Phone: 610-375-9301
 Fax: 610-375-9302



ATTACHMENT B: PLOT PLAN

BERYL PLANT

KINGSFORD MANUFACTURING COMPANY



Attachment C
Char Manufacturing
Process Flow Diagram
Kingsford Manufacturing Co.
Bery, WV Plant

ATTACHMENT D - Emission Units Table
(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Source ID	Emission Point ID	Equipment Description and ID	Year Installed	Design Capacity or Allowable Limit	Control Device Description and ID
001-01	S-07	Wood Pile management: wood pile E-01-01	1963	N/A	None
001-02	S-07	Wood Pile management: mulch pile E-01-02	1984	N/A	None
002-01	S-07	Transfer to hopper by end loader E-02-01	1963, mod.1994	257,900 TPY	None
002-02	S-07	Hopper reverse chain to ground E-02-02	1963, mod.1994	257,900 TPY	None
002-03	S-07	Hopper to 48" belt E-02-03	1963, mod.1994	257,900 TPY	Full Enclosure
002-04	S-07	48" belt into hog E-02-04	1963, mod.1993	257,900 TPY	Full Enclosure
002-05	S-07	Scrape bottom of 48" belt to ground E-02-05	1993	258 TPY	Partial Enclosure
002-06	S-07	Block conveyor to live bottom bin E-02-06	1963	224,000 TPY	Full Enclosure
002-07	S-07	Mulch chute to ground E-02-07	1996	33,900 TPY	None
002-08	S-07	Wood bypass screw to hopper E-02-08	1998	124 TPY	Partial Enclosure
002-09	S-07	Char to trailer E-02-09	1999	32,000 TPY	Wet Scrubber
002-10	S-07	Bypass Hopper E-02-10	2001	50 TPY	None
002-11	S-07	Bypass Block conveyor E-02-11	2001	50 TPY	Partial enclosure
003-01	S-02	Rotary Wood Dryer E-03-01 (Heil SD-105-32)	1998	40 tph wet wood	Primary Dryer Cyclone C-05; (2) Secondary Dryer Cyclones C-06; After Combustion Chamber (ACC) C-08
003-02	S-02	Multi-hearth Retort Furnace E-03-02 (Nichols-Herreshoff)	1962, mod.1997	5.0 tph char	(2) Furnace Cyclones C-07; After Combustion Chamber (ACC) C-08
003-02	S-02	(2) Propane burners to provide heat to ACC during start ups and system interruptions, to maintain temperature during operation; (6) natural gas burners for Retort Furnace start up periods	2015/2017 1998	40 MMBtu/hr each 4 MMBtu/hr each	None
004-01	S-07	Paved Roads: End-loader Traffic E-04-01, Vehicle Traffic E-04-02	1990	N/A	None
005-02	S-05	Diesel oil tank E-05-02 with conservation vent (negligible emissions)	2017	1,300 gal	None
006-01	S-07	Natural Gas Fired Emergency Generator	2012	238 hp	None
006-02	S-08	Natural Gas Fired Boiler	2013	1.24 MMBtu/hr	None
Control Device	S-02	Primary Dryer Cyclone C-05 (Heil)	1963	unknown	(2) Secondary Dryer Cyclones C-06
Control Device	S-02	(2) Secondary Dryer Cyclones C-06 (Fisher- Klosterman XQ 120-41)	1997	22,000 ACFM each	After Combustion Chamber (ACC) C-08
Control Device	S-02	(2) Furnace Cyclones C-07 (Fisher-Klosterman XQ 120-27-2.75CR)	1997	11,000 ACFM each	After Combustion Chamber (ACC) C-08
Control Device	S-02	Thermal After Combustion Chamber (ACC) C-08 (self-manufactured)	1997	368,970 ACFM of wood derived gases, destruction efficiency: 99% for CO, VOC	None
Control Device	S-07	Wet Scrubber Hosokawa Model 30DS.2	1999	90% of PM	None

¹For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 001-01, 02	Emission unit name: Wood Pile E-01-01 Mulch Pile E-01-02	List any control devices associated with this emission unit: None
---	---	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Wet bark is transferred from the adjacent NewPage paper mill to the KMC bark storage area via a belt conveyor. The bark is transferred into storage piles (E-01-02) using a front end loader.

Manufacturer: Not applicable	Model number: Not applicable	Serial number: Not applicable
--	--	---

Construction date: E-01-01 1963 E-01-02 1984	Installation date: E-01-01 1963 E-01-02 1984	Modification date(s): E-01-01 1963 E-01-02 1984
---	---	--

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
E-01-03 40 tph wet wood

Maximum Hourly Throughput: E-01-03 40 tph wet wood	Maximum Annual Throughput: Not determined	Maximum Operating Schedule: 8,760 hours/yr
--	---	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___Yes ___X___ No	If yes, is it? Not applicable ___ Indirect Fired ___ Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: Not applicable	Type and Btu/hr rating of burners: Not applicable
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Not applicable

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Not applicable			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	2.58E-06	1.13E-05
Particulate Matter (PM _{2.5})	0.09	0.40
Particulate Matter (PM ₁₀)	0.61	2.65
Total Particulate Matter (TSP)	1.29	5.65
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix B for detailed emissions summary</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

(Per Title V Operating Permit No R30-05700003-2012)

7.1. Limitations and Standards

7.1.1. The control devices and procedures, specified in the Emission Units Table 1.0. for Emission Point S-07, shall be maintained and operated to control and minimize any fugitive escape of pollutants including but not limited to: enclosures, wet scrubber, chemical dust suppressants. Good operating practices shall be implemented and when necessary dust suppressants shall be applied in relation to stockpiling and general material handling to prevent dust generation and atmospheric entrainment. [45CSR§30-5.1.c. and 45CSR§7-5.2.]

7.1.2. The permittee shall inspect all fugitive dust control systems, specified in the Emission Units Table 1.0 for Emission Point S-07, weekly to ensure that they are operated and maintained in conformance with their designs. [45CSR§30-5.1.c.]

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

(Per Title V Operating Permit No R30-05700003-2012)

7.2. Monitoring Requirements

7.2.1. Visual emission checks of the units listed in the Emission Units Table 1.0. for Emission Point S-07 emitting directly into the open air from points other than a stack outlet (including visible fugitive dust emissions that leave the plant site boundaries), shall be conducted during periods of normal facility operation for a minimum of 6 minutes to determine if the unit has visible emissions using procedures outlined in 40 C.F.R. 60, Appendix A, Method 22. If sources of visible emissions are identified during the survey, or at any other time, permittee shall conduct an evaluation as outlined in 45CSR§7A-2.1.a,b within 24 hour period unless the permittee can demonstrate a valid reason that the time frame should be extended. A 45CSR§7A-2.1.a,b evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operated at normal operating conditions. Upon issuance of this Permit weekly Method 22 checks shall be conducted for a minimum of 4 consecutive weeks. If in compliance with the opacity limit per 45CSR§7-3.1, then monthly Method 22 checks shall be conducted. Anytime when not in compliance with the opacity limit per 45CSR§7-3.1, then monitoring shall revert back to the weekly frequency requirement and begin the progressive monitoring cycle again. [45CSR§30-5.1.c.]

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Above

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

(Per Title V Operating Permit No R30-05700003-2012)

7.4. Recordkeeping Requirements

- 7.4.1. The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures applied at the facility (wood piles, transfer points, paved and unpaved roads). These records shall be maintained on site for a period of no less than five (5) years and shall be made available to the Director or his/her duly authorized representative upon request. [45CSR§30-5.1.c.]
- 7.4.2. The permittee shall maintain records of the results of weekly inspections of the systems to minimize fugitive emissions per Requirement 7.1.2. Records shall state the times the systems were inoperable, what corrective actions taken as a result of the weekly inspections and all scheduled and unscheduled maintenance procedures. Such records shall be maintained on site for a period of no less than five (5) years and shall be made available to the Director or his/her duly authorized representative upon request. [45CSR§30-5.1.c.]
- 7.4.3. A record of each visible emission check per Requirement 7.2.1. shall be maintained on site for a period of no less than five (5) years and shall be made available to the Director or his/her duly authorized representative upon request. Said records shall include, but not be limited to, the date, time, name of emission unit, the applicable visible emission requirement, the results of the check, what action(s), if any, was/were taken, and the name of the observer. [45CSR§30-5.1.c.]

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 002-01 through 9 Material Handling and Transfer Operations	Emission unit name: See Attachment D	List any control devices associated with this emission unit. E-02-03,04,06 Full enclosure E-02-05,07,08 Partial enclosure E-02-09 - Wet scrubber (C-09)
--	--	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Wet bark is transferred from the KMC storage piles (E-01-01, 02) to the bark handling and transfer operations or directly into trucks for shipment to the Parsons facility via a front end loader (E-02-01). The bark conveying and handling operations consist of various hoppers, chutes, and conveyors that move the bark from the storage piles through a bark sizing hog to the rotary wood dryer (E-03-01) followed by the multi-hearth retort furnace (E-03-02). After the bark has been converted to char, the material handling and transfer operations convey the char to trailers for shipment to the KMC Parsons, WV facility.

Manufacturer: Not applicable	Model number: Not applicable	Serial number: Not applicable
--	--	---

Construction date: See Attachment D	Installation date: See Attachment D	Modification date(s): See Attachment D
---	---	--

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 See Attachment D

Maximum Hourly Throughput: See Attachment D	Maximum Annual Throughput: See Attachment D	Maximum Operating Schedule: 8,760 hours/yr
---	---	--

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? Not applicable <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
--	---

Maximum design heat input and/or maximum horsepower rating: Not applicable	Type and Btu/hr rating of burners: Not applicable
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 Not applicable

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Not applicable			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	7.17 E-07	3.14E-06
Particulate Matter (PM _{2.5})	0.07	0.30
Particulate Matter (PM ₁₀)	0.12	0.51
Total Particulate Matter (TSP)	0.18	0.78
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix B for detailed emissions summary</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See E-01-01,02,03 requirements

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See E-01-01,02,03 requirements

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 003-01	Emission unit name: Rotary Wood Dryer E-03-01	List any control devices associated with this emission unit. Primary Dryer Cyclone C-05 (2) Secondary Dryer Cyclones C-06 After Combustion Chamber (ACC) C-08
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 Sized, wet bark is dried by the wood dryer with heat provided by the ACC. The dried wood is fed to the retort furnace where it is converted into char through pyrolysis in a starved air environment. Heat is provided to the dryer by the ACC (C-08) afterburner. The dryer exhaust passes through the primary dryer cyclone (C-05) followed by the secondary dryer cyclones (C-06) followed by the ACC (C-08). The cyclones are primarily used for product recovery. The primary cyclone recovers the dry wood which is then conveyed to the retort furnace. Dried wood particles captured by the secondary cyclones are combined with the char produced by the furnace.

Manufacturer: Heil	Model number: SD-105-32	Serial number: 1427
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Construction date: 1998	Installation date: 1998	Modification date(s): Not applicable
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
40 tph wet wood

Maximum Hourly Throughput: 40 tph wet wood	Maximum Annual Throughput: Not determined	Maximum Operating Schedule: 8,760 hours/.yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, is it? Not applicable <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: Not applicable	Type and Btu/hr rating of burners: Not applicable
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 Not applicable

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Not applicable			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	See emissions listed for EU 003-02.	
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants		
	PPH	TPY
See emissions listed for EU 003-02.		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
See emissions listed for EU 003-02.		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

(Per Title V Operating Permit No R30-05700003-2012)

4.1. Limitations and Standards

4.1.1. The Rotary Wood Dryer, identified as E-03-01, shall be operated according to the following requirements:

- a. At all times the dryer is in operation, the exhaust gases from the unit shall be routed to and combusted by the After Combustion Chamber (ACC) prior to their release to the atmosphere; and
- b. The maximum throughput of wet wood processed by the dryer shall not exceed 40 TPH or 192,000 TPY [45CSR13, R13-2117D, 4.1.1]

4.1.2. Reserved

4.1.3. The control devices in the Emission Units Table 1.0. for the Rotary Wood Dryer, shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. [45CSR§30-5.1.c.]

4.1.4. The permittee shall inspect all control systems, specified in the Emission Units Table 1.0 for the Rotary Wood Dryer, weekly to ensure that they are operated and maintained in conformance with their designs. [45CSR§30-5.1.c.]

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

(Per Title V Operating Permit No R30-05700003-2012)

4.4. Recordkeeping Requirements

4.4.1 The permittee shall maintain accurate records on the amount of wet wood charged to the Rotary Wood Dryer. [45CSR13, R13-2117D, 4.2.2]

4.4.2. The permittee shall maintain accurate records on the hours of operation of the Rotary Wood Dryer on a daily basis. According to the facility process specifications, hours of operation of the Rotary Wood Dryer are equivalent to the time to load trailers with finished wood char. [45CSR§30-5.1.c.]

4.2.3. Compliance with the hourly maximum limit [of wet wood charged to the Rotary Wood Dryer] shall be calculated on the basis of a rolling thirty day average expressed in pounds per hour based on the hours of production for any specific 30 day period. Compliance with the annual limits shall be determined using a rolling yearly total. A rolling yearly total shall mean the sum of measured parameter, in tons, at any given time for the previous twelve (120 months).[45CSR13, R13-2117D,4.2.2]

4.2.4. Calculation of amount of wood charged to the Rotary Wood Dryer shall be performed as set forth in Section 5.2.4.

4.2.5. The permittee shall maintain records of the results of weekly inspections of the control systems per Requirement 4.1.4. Records shall state the times the systems were inoperable, what corrective actions taken as a result of the weekly inspections and all scheduled and unscheduled maintenance procedures. Such records shall be maintained on site for a period of no less than five (5) years and shall be made available to the Director or his/her duly authorized representative upon request. [45CSR§30-5.1.c.]

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 003-02	Emission unit name: Multi-Hearth Retort Furnace E-03-02	List any control devices associated with this emission unit. (2) Furnace Cyclones C-07 After Combustion Chamber (ACC) C-08
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Dried bark is pyrolyzed into char in a 5-hearth continuous retort furnace. Charred wood is quenched with water and transferred by screws to trailers (E-02-09) for shipment to the KMC Parsons, WV plant. The furnace exhaust gas stream passes through the furnace cyclones (C-07) for material recovery followed by the ACC (C-08) for combustion. Charred wood particles captured by the furnace cyclones are combined with the char produced by the furnace. Natural gas burners, 6 @ 4MMBtu/hr, are used during startup of the furnace. The ACC is equipped with two (2) 40 MMBtu/hr propane-fired burners to maintain temperatures in the afterburner of at least 1,400F. During normal operations, the ACC heat is supplied by the combustion of retort furnace off-gases.

Manufacturer: Nichols-Herreshoff	Model number: None	Serial number: None
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Construction date: Retort 1962 Burners 1998	Installation date: Retort 1962 Burners 1998	Modification date(s): Retort 1998 Burners 1998/2015/2017
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
20 tph dry wood
5.0 tph char

Maximum Hourly Throughput: 20 tph dry wood 5.0 tph char	Maximum Annual Throughput: 32,000 tpy char	Maximum Operating Schedule: 8,760 hours/yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: Two (2) propane-fired burners @ 40 MMBtu/hr each (ACC burners) Six (6) natural -gasburners @ 4 MMBtu/hr, each (Retort Furnace burners)	Type and Btu/hr rating of burners: Not applicable
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural gas	Not applicable	Not applicable	1,020 Btu/scf
Propane	Not applicable	Not applicable	91,500 Btu/gal

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	10.3	32.94
Nitrogen Oxides (NO _x)	65.0	208
Lead (Pb)	2.67E-03	0.009
Particulate Matter (PM _{2.5})	25.0	80.0
Particulate Matter (PM ₁₀)	33.9	108.46
Total Particulate Matter (TSP)	50.0	160.0
Sulfur Dioxide (SO ₂)	15.0	48.0
Volatile Organic Compounds (VOC)	2.90	9.26
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Methanol	0.03	0.11
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO ₂ -e	N/D	105,877
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix B for detailed emissions summary</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

(Per Title V Operating Permit No R30-05700003-2012)

5.1. Limitations and Standards

- 5.1.1. The Multi-Hearth Retort Furnace, identified as E-03-02, shall be operated according to the following requirements:
 - a. At all times the furnace is in operation, the exhaust gases from the unit shall be routed to and combusted by the ACC prior to their release to the atmosphere; and
 - b. The maximum throughput of dry wood processed by the furnace shall not exceed 20 TPH or 92,000 TPY.

[45CSR13, R13-2117D, 4.1.2]

- 5.1.2. The maximum production of wood char at the facility shall not exceed 5.0 TPH or 32,000 TPY. [45CSR13, R13-2117D, 4.1.3]

5.1.3. Reserved

- 5.1.4. The control devices in the Emission Units Table 1.1. for the Multi-Hearth Retort Furnace, shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. [45CSR§30-12.7]

- 5.1.5. The permittee shall inspect all control systems, specified in the Emission Units Table 1.1 for the Multi-Hearth Retort Furnace, weekly to ensure that they are operated and maintained in conformance with their designs. [45CSR§30-5.1.c.]

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

(Per Title V Operating Permit No R30-05700003-2012)

5.4. Recordkeeping Requirements

- 5.4.1. The permittee shall maintain accurate records on the amount of dry wood charged to the Multi-hearth Retort Furnace. [45CSR13, R13-2117D, 4.2.2]
- 5.4.2. The permittee shall maintain accurate records on the hours of operation of the Multi-hearth Retort Furnace on a daily basis. According to the facility process specifications, hours of operation of the Multi-hearth Retort Furnace are equivalent to the time to load trailers with finished wood char. [45CSR§ 30-5.1.c.]
- 5.4.3. Compliance with the hourly maximum limit [of the amount of dry wood charged to the Multi-hearth Retort Furnace] shall be calculated on the basis of a rolling thirty day average expressed in pounds per hour based on the hours of production for any specific 30 day period. Compliance with the annual limit shall be determined using a rolling yearly total. A rolling yearly total shall mean the sum of dry wood, in tons, at any given time for the previous twelve (12) months. [45CSR13, R13-2117D, 4.2.2]
- 5.4.4. The permittee shall maintain accurate records on the amount of wood char produced by the facility. The permittee shall keep accurate records of the date and time to load each truck at the Beryl Facility (production time), the quantity (tons) of char loaded on each truck and the monthly total of char produced. The rate of char production will then be utilized to back calculate the amount of wet and dry wood charged to the process. Said records shall be certified by a responsible official and maintained on site for a period of no less than five (5) years. [45CSR13, R13-2117D, 4.2.2]

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Above

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

(Per Title V Operating Permit No R30-05700003-2007)

5.4. Recordkeeping Requirements (continued)

- 5.4.5. Compliance with the hourly maximum limit of wood char produced shall be calculated on the basis of a rolling thirty day average expressed in tons per hour based on the hours of production for any specific 30 day period [45CSR13, R13-2117, 4.2.2]
- 5.4.6 Compliance with the yearly char production limit shall be determined using a rolling yearly total. A rolling yearly total shall mean the sum of char production, in tons, at any given time for the previous twelve (12) months [45CSR13, R13-2117, 4.2.2]
- 5.4.7 The permittee shall maintain records of the results of weekly inspections of the control systems per Requirement 5.1.5. Records shall state the times the systems were inoperable, what corrective actions as a result of the weekly inspections and all scheduled and unscheduled maintenance procedures. Such records shall be maintained on site for a period of no less than five (5) years and shall be made available to the Director or his/her duly authorized representative upon request. [45CSR§30-5.1c]

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 004-01 and 02 Paved Roads	Emission unit name: End loader traffic (E-04-01) Vehicle Traffic (E-04-02)	List any control devices associated with this emission unit. None
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 A front end loader (E-04-01) is used to move wet bark from the bark conveyor drop (E-01-03) to the wood and mulch piles (E-01-01, 02) as well as the Material Handling and Transfer Operations (E-02-01 through E-02-09). Char and mulch are transferred out of the facility using tractor trailers (E-04-02). Actual plant traffic has been greatly reduced since the installation of the bark conveyor (E-01-03) which reduced the need to transport bark into the plant using trucks, although some bark still is delivered via truck during production or maintance downtime for the conveyor and trucks are also used to convey a portion of unprocessed bark to the Parsons facility (E-04-01).

Manufacturer: Not applicable	Model number: Not applicable	Serial number: Not applicable
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Construction date: 1990	Installation date: Not applicable	Modification date(s): Not applicable
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 Not applicable

Maximum Hourly Throughput: Not applicable	Maximum Annual Throughput: Not applicable	Maximum Operating Schedule: 8,760 hours/.yr
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes <input checked="" type="checkbox"/> No	If yes, is it? Not applicable ___ Indirect Fired ___ Direct Fired
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Maximum design heat input and/or maximum horsepower rating: Not applicable	Type and Btu/hr rating of burners: Not applicable
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 Not applicable

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Not applicable			

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	NA	NA
Nitrogen Oxides (NO _x)	NA	NA
Lead (Pb)	NA	NA
Particulate Matter (PM _{2.5})	0.013	0.059
Particulate Matter (PM ₁₀)	0.055	0.240
Total Particulate Matter (TSP)	0.274	1.201
Sulfur Dioxide (SO ₂)	NA	NA
Volatile Organic Compounds (VOC)	NA	NA
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
NA		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix B for detailed emissions summary</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See E-01-01,02,03 requirements

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (*Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.*)

See E-01-01,02,03 requirements

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number: 006-01 Emergency Generator	Emission unit name: Emergency Generator (E-06-01)	List any control devices associated with this emission unit. None
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
 A 238-hp, natural gas-fired emergency generator is located at the facility to provide electricity during power outages.

Manufacturer: Kohler	Model number: 150REZGB	Serial number: 97A04628S
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Construction date: 2012	Installation date: 2012	Modification date(s): Not applicable
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
 Not applicable

Maximum Hourly Throughput: Not applicable	Maximum Annual Throughput: Not applicable	Maximum Operating Schedule: Not applicable
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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Maximum design heat input and/or maximum horsepower rating: 238 hp	Type and Btu/hr rating of burners: Not applicable
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List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
 Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural gas	Not applicable	Not applicable	1,020 Btu/scf

<i>Emissions Data</i>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.16	0.01
Nitrogen Oxides (NO _x)	0.06	0.01
Lead (Pb)	9.56E-07	4.83E-08
Particulate Matter (PM _{2.5})	0.0382	0.0019
Particulate Matter (PM ₁₀)	0.0382	0.0019
Total Particulate Matter (TSP)	0.0382	0.0019
Sulfur Dioxide (SO ₂)	1.16E-03	5.79E-05
Volatile Organic Compounds (VOC)	0.06	0.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Total HAPs	6.38E-02	3.19E-03
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
NA		
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>See Appendix B for detailed emissions summary</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

8.1. Limitations and Standards

8.1.1. The emergency generator is subject to General Permit G60-C047 (Attachment A). Non-emergency operation of the generator will be less than 100 hours per year. Maximum emissions from the emergency generator during non-emergency operation shall not exceed the limits given in the following table:

Pollutant	Maximum Hourly Emissions (lb/hr)	⁽¹⁾ Maximum Annual Emissions
Carbon Monoxide (CO)	0.16	0.01
THC + NOx	0.06	0.01

⁽¹⁾ Based on operating the engine 100 hours per year. [45CSR13, G60-C047, Emission Limitations (Attachment A)]

8.1.2. Pursuant to 40 CFR 63 Subpart ZZZZ National Emission Standards For Stationary Reciprocating Internal Combustion Engines, the facility is subject to the following provision given below:

(c) Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets the criteria in paragraph (c)(1) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) a new or reconstructed stationary RICE located at an area source; [40 C.F.R. 63 Subpart ZZZZ, §63.6590(c)]

8.1.3. Pursuant to 40 CFR 60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, the facility is subject to the following limitations and standards given below:

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to 40 C.F.R. 60 Subpart JJJJ for their stationary SI ICE. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4233(e)]

Table 1 to Subpart JJJJ of Part 60

Engine Type and Fuel	Max. Engine Power	Manufacture Date	Emission Standards ^a					
			g/HP-hr		ppmvd at 15% O ₂			
			NOx	CO	VOC ^d	NOx	CO	VOC ^d
Emergency	HP≥130	1/1/2009	2.0	4.0	1.0	160	540	86

^aOwners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O₂.

^dFor purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, Table 1]

(h) Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of §60.4233. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4233(h)]

Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in §60.4233 over the entire life of the engine. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4234]

(c) For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in §60.4233 after January 1, 2011. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4236(c)]

(c) If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to nonemergency engines, you must install a non-resettable hour meter upon startup of your emergency engine. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4237(c)]

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4243(a)(1)]

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

(2) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in §60.4233(d) or (e) and according to the requirements specified in §60.4244, as applicable, and according to paragraph (b)(2)(i) of this section.

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 HP and less than or equal to

500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4243(b)]

(d) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4243(d)]

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of §60.4233. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4243 (e)]

(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and ... you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a). [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4243(f)]

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4243(g)]

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

8.3. Testing Requirements

8.3.1. The permittee shall comply with all applicable testing requirements as given under 40 CFR 60, Subpart JJJJ, §§60.4244(a) through (g). [45CSR16; 40 C.F.R. §§60.4244(a) through (g)]

8.4. Recordkeeping Requirements

8.4.1. Pursuant to 40 CFR 60 Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, the facility is subject to the following recordkeeping provisions given below:

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048.

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

(b) ...For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §§60.4245(a), (b)]

8.5. Reporting Requirements

8.5.1. The permittee shall comply with all applicable reporting requirements as given under 40 CFR 60, Subpart JJJJ, §60.4245(d). [45CSR16; 40 C.F.R. 60 Subpart JJJJ, §60.4245(d)]

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the Schedule of Compliance Form as ATTACHMENT F.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
C-05 Primary Dryer Cyclone

List all emission units associated with this control device.
E-03-01 Rotary Wood Dryer

Manufacturer:
Heil

Model number:
None

Installation date:
1963

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input checked="" type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM10	100%	90+%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

The wood dryer exhaust is passed through this cyclone for the primary purpose of material recovery. The recovered material is sent to the retort and the exhaust gas goes on to the secondary dryer cyclones (C-06).

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** The cyclone is used to recover the dry wood from the rotary wood dryer, it is not primarily a pollution control device.

Describe the parameters monitored and/or methods used to indicate performance of this control device.
See the requirements for the ACC (C-08).

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
C-06 Two (2) Secondary Dryer
Cyclones

List all emission units associated with this control device.
E-03-01 Rotary Wood Dryer

Manufacturer:
Fisher-Klosterman

Model number:
XQ 120-41

Installation date:
1997

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input checked="" type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM10	100%	90+%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

The primary dryer cyclone (C-05) exhaust is passed through two (2), 22,000 cfm secondary dryer cyclones (C-06) in parallel for the purpose of material recovery. The recovered wood is mixed with char and shipped offsite. The cyclone exhaust is sent to the ACC (C-08).

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.** The cyclones are primarily used for product recovery rather than for air pollution control.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

See the requirements for the ACC (C-08).

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
C-08 Thermal After-Combustion Chamber (ACC)

List all emission units associated with this control device.
E-03-01 Rotary Wood Dryer
E-03-02 Multi-hearth Retort Furnace

Manufacturer:
Kingsford Mfg. Co.

Model number:
None

Installation date:
1997

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input checked="" type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
CO	100%	99%
VOC	100%	99%
PM/PM10	100%	95%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

The purpose of the ACC is waste heat energy recovery and control of particulates, CO and VOC. Volatile gases from the retort furnace are ducted by the furnace cyclones (C-07) to the ACC where they are combusted. Some of the resulting combustion gases are routed to the wood dryer as a heat source with the remainder of the ACC exhaust gases venting through the ACC stack (S-02). Two (2) 40 MMBtu/hr propane-fired burners are used during startups short duration maintenance shutdowns, and periodically during operation to maintain ACC temperatures above 1,400°F.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.
See attached sheets.

ATTACHMENT G - Air Pollution Control Device Form

Describe the parameters monitored and/or methods used to indicate performance of this control device.
(Per Title V Operating Permit No R30-05700003-2012)

6.1. Limitations and Standards

6.1.1. Emissions generated as a result of the operation of the After Combustion Chamber shall be limited to the following:

Pollutant	Maximum Allowable Emissions		
	Lbs/tons-char	(lbs/hr)	(tons/yr)
CO	2.06	10.30	32.94
NOx	13.00	65.00	208.00
PM ⁽¹⁾	10.00	50.00	160.00
PM10 ⁽¹⁾	6.78	33.90	108.46
PM2.5 ⁽¹⁾	5.00	25.00	80.00
SO2	3.00	15.00	48.00
VOC	0.58	2.90	9.26

⁽¹⁾ Includes sensibiles

[45CSR13, R13-2117D, 4.1.4]

6.1.2. No person shall cause, suffer, allow or permit the emission of particles of unburned or partially burned refuse or ash from any incinerator which are large enough to be individually distinguished in the open air.
[45CSR§6-4.5.]

6.1.3. Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors. [45CSR§6-4.6.]

6.2. Monitoring Requirements

6.2.1. The permittee shall install, calibrate, maintain, and operate a monitoring device with recorder for the measurement of the ACC combustion chamber temperature. The monitoring device is to be certified by the manufacture to be accurate within + one (1) percent in degrees Fahrenheit. [45CSR§30-5.1.c and 40CFR §64.3(a), §54.3 (b) and §64.6(c)(2)]

6.2.2. Compliance with the hourly emission limits set forth in Requirement 6.1.1. will be demonstrated if the ACC combustion chamber temperature is maintained at or above a minimum of 1,400°F on a 3-hour rolling average during normal operations (~~not including periods of system startup, shutdown or maintenance~~) An excursion shall be defined as: if during normal operation, the 1-hour average ACC temperature drops below 1,450°F. Excursions trigger an on-screen alarm, an inspection and evaluation, corrective action, recordkeeping and reporting requirements (permit condition 6.4.1 and 6.5.2). The monitoring system shall continually sense the indicator, poll the indicator every second, compute 15 second averages, and use these 15-second averages to compute and record a 1-hour average. [45CSR§30-12.7 and 40CFR §64.3(a), §54.3 (b) and §64.6(c)(2)]

6.2.3. Compliance with Section 3 of 45CSR7 and with requirement of Section 6.1.2. of this Permit shall be determined by conducting daily visual emission observations in accordance with Method 22 of 40 CFR 60, Appendix A for emission point S-02. These observations shall be conducted during periods of normal facility operation for a sufficient time interval to determine if the unit has visible emissions using procedures outlined in 40CFR60 Appendix A, Method 22. If sources of visible emissions are identified during the survey, the permittee shall conduct an Opacity Evaluation as outlined in 45CSR7A-2.1.a,b, within 24 hours. A 45CSR7A-2.1.a,b evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operated at normal operating conditions with no visible emissions being observed. Records shall be maintained on site reporting the results of each test. An Opacity Evaluation shall only be conducted by an employee or contractor certified in 40CFR60 Appendix A, Method 9. Upon observing any visible emissions during an Opacity Evaluation in excess of twenty percent (20%) opacity (but less than forty percent (40%) opacity) for any period or periods aggregating more than five (5) minutes in any sixty (60) minute period, or upon observing any visible emissions in excess of forty percent (40%) opacity, the Company shall submit a written report, certified by a responsible official, to the Director of the Division of Air Quality within five (5) days after taking said reading. When in compliance on a daily basis for four (4) consecutive weeks, then the observation frequency shall be decreased to a once-a-week sampling schedule. If an exceedance of the opacity limit is measured, then the observation frequency shall be reverted to the once-a-day sampling schedule and begin the progressive monitoring cycle again. [45CSR13, R13-2117D, 4.2.1. and 45CSR§30-5.1.c.]

ATTACHMENT G - Air Pollution Control Device Form

Describe the parameters monitored and/or methods used to indicate performance of this control device.
(Per Title V Operating Permit No R30-05700003-2003)

6.2. Monitoring Requirements (continued)

6.2.4. Each opacity evaluation observation per 45CSR§ 7A-2.1.a,b (6.2.3.) shall be a minimum of six (6) minutes (24 single fifteen (15) second readings) without averaging of results, unless any one fifteen (15) second reading is greater than the opacity limit for the emission unit, in which case the observation period shall be extended to a 60 minutes or until a violation of the emissions standard per 45CSR§7-3.2. has been documented (more than twenty (20) single fifteen (15) second readings of opacity are in excess of 20% opacity, but less than 40% opacity, or any single reading is equal or in excess of 40% opacity); whichever is the shorter period. [45CSR§30-5.1.c.]

6.3. Testing Requirements

6.3.1. The permittee shall demonstrate compliance with the emission limits set forth in Requirement 6.1.1. by conducting performance tests utilizing the methods listed below. The performance tests shall be conducted in accordance with the schedule specified in Condition 6.3.2.

Test Method	Pollutant
EPA Reference Method 5	PM
EPA Reference Method 201 and 202	PM10
EPA Reference Method 6	SO2
EPA Reference Method 7E	NOx
EPA Reference Method 10	CO
EPA Reference Method 18, 25 or 25A	VOC

This compliance testing shall be conducted in accordance with corresponding U.S. EPA test method. The Director may require a different test method or approve an alternative method in light of any new technology advancements or special operating conditions that may occur. [45CSR§30-5.1.c.]

6.3.2. Stack testing per Requirement 6.3.1. shall be performed in accordance with 40 C.F.R. 60, Appendix A, once per permit term within the first 14 months of the Permit issuance. The permittee shall submit an emissions testing protocol for DAQ review within 180 days after issuance of the permit. Results from such testing shall be submitted to the Director within sixty (60) days from the date of completion of said testing. The test shall demonstrate that the ACC unit can operate at the maximum processing rate specified in Requirements 4.1.1. and 5.1.1. in compliance with the emissions limits set forth in Requirement 6.1.1. [45CSR§30-5.1.c.]

6.4. Recordkeeping Requirements

6.4.1. Records shall be maintained on site reporting the results of each visible emission test (as per Requirement 6.2.3.). A record of each visible emission check required above shall be maintained on site for a period of no less than five (5) years. Said record shall include, but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the check, what action(s) if any, was/were taken, and the name of the observer. [45CSR§30-5.1.c.]

6.4.2. a. The combustion chamber temperature records per Requirement 6.2.2 shall be recorded hourly.
b. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR §64.8 and any activities undertaken to implement a quality improvement plan, and any other supporting information required to be maintained under 40 CFR Part 64
c. Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements [45CSR§30-5.1.c and 40 CFR §64.9(b)]

6.4.3. To demonstrate compliance with Requirement 6.1.3 the permittee shall maintain a record of all odor complaints received. Such record shall contain an assessment of the validity of the complaints as well as any corrective actions taken. [45CSR§30-5.1.c.]

6.5. Reporting Requirements

6.5.1. Reporting shall be initiated as noted in 6.2.3.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number:
C-09 Wet Scrubber

List all emission units associated with this control device.
E-02-09 Char to Trailer

Manufacturer:
Hosokawa

Model number:
30DS.2

Installation date:
1999

Type of Air Pollution Control Device:

- | | | |
|---|--|---|
| <input type="checkbox"/> Baghouse/Fabric Filter | <input type="checkbox"/> Venturi Scrubber | <input type="checkbox"/> Multiclone |
| <input type="checkbox"/> Carbon Bed Adsorber | <input type="checkbox"/> Packed Tower Scrubber | <input type="checkbox"/> Single Cyclone |
| <input type="checkbox"/> Carbon Drum(s) | <input checked="" type="checkbox"/> Other Wet Scrubber | <input type="checkbox"/> Cyclone Bank |
| <input type="checkbox"/> Catalytic Incinerator | <input type="checkbox"/> Condenser | <input type="checkbox"/> Settling Chamber |
| <input type="checkbox"/> Thermal Incinerator | <input type="checkbox"/> Flare | <input type="checkbox"/> Other (describe) _____ |
| <input type="checkbox"/> Wet Plate Electrostatic Precipitator | | <input type="checkbox"/> Dry Plate Electrostatic Precipitator |

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
PM/PM10	100%	90+%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

The char conveying system and char truck loading operations are controlled by a wet scrubber. The scrubber is used to control dust from the char transfer process. The scrubber water is discharged to an onsite settling pond.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, Complete ATTACHMENT H

If No, Provide justification. Potential uncontrolled PM emissions have been calculated to be less than 100 tpy for the scrubber.

Describe the parameters monitored and/or methods used to indicate performance of this control device.

See the requirements for material handling and transfer operations (E-02-01 through 11).

**APPENDIX B
FACILITY EMISSIONS**

**TABLE B-1
FACILITY POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA**

Source	Potential Annual Emissions (tons/yr) ^a						Potential Maximum Hourly Emissions (lbs/hr) ^a						
	NO _x	CO	VOC	SO ₂	PM	PM _{2.5}	NO _x	CO	VOC	SO ₂	PM	PM ₁₀	PM _{2.5}
Wood Pile Management and Traffic													
Material Handling					5.65	0.40				1.29	0.61	0.09	
Drying and Charring	208.00	32.94	9.26	48.00	0.78	0.30				0.18	0.12	0.07	
ACC Burners	0.99	0.30	0.07	0.005	160.00	80.00	65.00	10.29	2.89	50.00	33.89	25.00	
Plant Roadways					0.06	0.06	9.90	3.00	0.70	0.61	0.61	0.61	
Emergency Generator	0.003	0.01	0.003	0.00006	1.20	0.06	0.06	0.16	0.06	0.27	0.05	0.01	
Total	208.99	33.25	9.33	48.00	167.69	80.82	74.96	13.46	3.66	52.39	35.32	25.82	

^a See Table B-5 through B-13 for emissions calculations.

^b CO_{2e} total is total from wood combustion only, no auxiliary fuels

Source	Operating Schedule (hr/yr)	Units	Maximum Annual Production (ton/yr)	Average Hourly Production (ton/hr)	Maximum Hourly Production (ton/hr)	Yield (wood:char)	Wood Moisture Content (%)
Wood Pile	8,760	Wood (wet)	192,000			3.00	50%
		Wood (dry)	96,000				
Mulch Pile	8,760	Mulch (wet)	33,900				
		Mulch (dry)	16,950				
ACC	8,760	Char	32,000	3.65	5.00		

TABLE B-2
STORAGE PILE POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA

EMISSIONS UNIT NUMBER	EMISSIONS POINT NUMBER	NAME OF EMISSIONS UNIT	ANNUAL THROUGHPUT (WET TONS)	ANNUAL THROUGHPUT (DRY TONS)	EMISSION FACTOR ^a (LB/DRY TON)	HOURLY PM ₁₀ EMISS. RATE (LBS)	HOURLY PM _{2.5} EMISS. RATE (LBS)	HOURLY PM ₁₀ EMISS. RATE (LBS)	HOURLY PM _{2.5} EMISS. RATE (LBS)	ANNUAL PM ₁₀ EMISS. RATE (TONS)	ANNUAL PM _{2.5} EMISS. RATE (TONS)	ANNUAL PM ₁₀ EMISS. RATE (TONS)	ANNUAL PM _{2.5} EMISS. RATE (TONS)
01	01	BARK PILE	192,000	96,000	0.1	1.10	0.52	0.08	4.80	2.26	4.80	2.26	0.34
	02	MULCH PILE	33,900	16,950	0.1	0.19	0.09	0.01	0.85	0.40	0.85	0.40	0.06
TOTALS						1.29	0.61	0.09	5.65	2.65	5.65	2.65	0.40

^a Emission factor based on conservative adjustment of AP-42 factors. PM₁₀ and PM_{2.5} fractions were calculated pursuant to AP-42 Section 13.2.4. See Table B-6 for details.

TABLE B-3
MATERIAL HANDLING POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA

EMISSIONS UNIT NUMBER	EMISSIONS POINT NUMBER	NAME OF EMISSIONS UNIT	ANNUAL TYPY NORMAL CPM (WET TONS)	PM ₁₀ EMISSION FACTOR* (LB/WT TON)	PM ₁₀ EMISSION FACTOR* (GR/CF)	PM _{2.5} EMISSION FACTOR* (LB/WT TON)	PM _{2.5} EMISSION FACTOR* (GR/CF)	CONTROL FACTOR	HOURLY PM EMISSION RATE (LBS)	HOURLY PM ₁₀ EMISSION RATE (LBS)	HOURLY PM _{2.5} EMISSION RATE (LBS)	ANNUAL PM EMISSION RATE (TONS)	ANNUAL PM ₁₀ EMISSION RATE (TONS)	ANNUAL PM _{2.5} EMISSION RATE (TONS)
02	01	TRANSFER BY FRONT-END LOADER TO HOPPER OR TRUCK	735,800	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	0.03710864	0.01171569	0.001688206	0.049	0.049	0.007
02	02	HOPPER VERSUS CHAIN TO GROUND	235,200	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	0.03710864	0.01171569	0.001688206	0.104	0.104	0.007
02	03	CONVEYER TO 48' BELT	235,200	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	0.03710864	0.01171569	0.001688206	0.104	0.104	0.007
02	04	48' BELT INTO HOPPER	235,200	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	0.03710864	0.01171569	0.001688206	0.104	0.104	0.007
02	05	SCREEN BOTTOM OF 48' BELT TO GROUND	235,200	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	2.37108E-05	1.1144E-05	1.69831E-06	0.000	0.000	7.44E-06
02	06	BLOCK CONVEYER TO LIVE BOTTOM BIN	187,000	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	0.02015E-09	0.00051E-09	0.0001441E-03	0.000	0.000	0.000
02	07	MULCH CRATE TO GROUND	33,200	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	0.002558105	0.001688206	0.000254844	0.016	0.016	0.001
02	08	WOOD BYPASS SCREW TO HOPPER	107	3.19E-04	4.35E-04	6.59E-05	6.59E-05	0	1.1185E-05	5.2953E-06	8.0186E-07	4.90E-05	2.39E-05	3.51E-06
		SUBTOTAL							0.1119	0.0596	0.008	0.519	0.246	0.037
		TOTALS	760	0.1	0.1	0.1	0.1	0.9	0.06	0.06	0.06	0.263	0.263	0.263
									0.18	0.12	0.07	0.78	0.51	0.30

PM₁₀ and PM_{2.5} emissions factors are based on EPA 13.2.4 (1/06) Emission Factor - Inside Size Multiplier 0.0025 x (Wind Speed)^{0.14} / (Moisture Content)^{2.4} per EPA-2, Section 13.2.4. Turbine size multiplier = 0.74 for PM₁₀, 0.093 for PM_{2.5}. Moisture content conservatively assumed to be similar to sand. (4 #3)

**TABLE B-4
ACC POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA**

Emissions Unit Number	Emissions Point Number	Name of Emissions Point	Pollutant	Maximum Annual Char Production (tons/yr)	Maximum Hourly Char Production (tons/hr)	Emission Factor (lbs/ton char)	ACC Stack Emission Rate ^a	
							(lb/hr)	(ton/yr)
03	01/02	Drying/Charring System	NO _x	32,000	5.0	13.0	65.0	208.00
			CO	32,000	5.0	2.1	10.3	32.94
			VOC	32,000	5.0	0.6	2.9	9.26
			SO ₂	32,000	5.0	3.0	15	48.00
			PM	32,000	5.0	10.0	50	160.00
			PM ₁₀	32,000	5.0	6.8	33.9	108.46
			PM _{2.5}	32,000	5.0	5.0	25.0	80.00

^a Criteria pollutant ACC emission factors based on current operating permit (R30-05700003-2012), except PM which was lowered to 10.0 . Hourly and annual emissions based on projected maximum hourly throughput and emission factors.

TABLE B-5
ACC BURNER COMBUSTION EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA

Emissions Unit Number	Emissions Point Number	Source	Rated Capacity (MMBtu/hr)	Propane Btu Content (Btu/gal)		Propane Throughput (10 ³ gal/hr)		Pollutant	Propane Emission Factors ^b (lb/10 ³ gal)	Hours of Operation ^c (hours/yr)	Emission Rate (ton/yr)	
				(10 ³ gal/hr)	(10 ³ gal/yr)	(lb/hr)	(ton/yr)					
03	01/02	Both (80 MMBtu/hr total) Propane-Fired ACC Burners	80	91,500	0.87	174.86	NOx	NA	200	9.9	0.990	
			80	91,500	0.87	174.86	CO	NA	200	3.0	0.300	
			80	91,500	0.87	174.86	VOC	0.8	200	0.699	0.070	
			80	91,500	0.87	174.86	SO ₂	0.054	200	0.047	0.005	
			80	91,500	0.87	174.86	PM/PM ₁₀ /PM _{2.5}	0.7	200	0.612	0.061	

^aBtu content per EPA AP-42.

^bNA = Not Available. Emission factors based upon EPA AP-42 emission factors for propane-fired boilers (Section 1.5, 07/2008). Sulfur content of propane assumed to be 0.54 wt/100 lb.

^cMaximum annual hours of operation for propane burners of 2000/yr based on conservative estimates of number of cold starts, hot starts, and upsets per year plus a safety factor.

**TABLE B-6
PLANT ROAD POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA**

Emissions Unit Number	Emissions Point Number	Path	Throughput (tons)	Truck Payload (tons)	Round Trips (#)	Round Trip Distance (miles)	Annual VMT (miles)	Annual Operating Schedule (hours/yr)	Pollutant	Emission Factor (lbs/VMT) ^a	Emission Rate (lb/hr)	Emission Rate (tons/yr)
04	01	Hogfuel Traffic	192,000	7	27,429	0.102	2,805	8,760	PM	0.664	0.213	0.931
								8,760	PM10	0.133	0.043	0.186
								8,760	PM2.5	0.033	0.010	0.046
		Beryl Outbound	32,000	14	2,286	0.140	320	8,760	PM	0.664	0.024	0.106
								8,760	PM10	0.133	0.005	0.021
								8,760	PM2.5	0.033	0.001	0.005
		Mulch Lower End (Dirty)	22,600	20	1,130	0.106	120	8,760	PM	0.664	0.009	0.040
								8,760	PM10	0.133	0.002	0.008
								8,760	PM2.5	0.033	0.000	0.002
		Mulch Lower End (Clean)	22,600	20	1,130	0.091	103	8,760	PM	0.664	0.008	0.034
								8,760	PM10	0.133	0.002	0.007
								8,760	PM2.5	0.033	0.000	0.002
Mulch Upper End	11,300	20	565	0.303	171	8,760	PM	0.664	0.013	0.057		
						8,760	PM10	0.133	0.003	0.011		
						8,760	PM2.5	0.033	0.001	0.003		
Routine Traffic					100	8,760	PM	0.664	0.008	0.033		
						8,760	PM10	0.133	0.002	0.007		
						8,760	PM2.5	0.033	0.000	0.002		
Totals									PM		0.274	1.201
									PM10		0.055	0.240
									PM2.5		0.013	0.059

^aEmission factor calculated according to AP-42 Chapter 13.2.1 (1/11), Paved Roads using the equation $lb/VMT = k(sL)^{0.01} \times (W)^{0.02}$ where k = particle size multiplier, sL = road surface silt loading in g/m², and W = average vehicle weight in tons.
 For the Beryl Plant, the following data was used:
 $sL = 2$ g/m², based on worst case silt loading result of road dust sampling conducted at the KMC Parsons plant.
 $W = 30$ tons (average tractor-trailer weight)
 $k = 0.011$ for PM₁₀ and 0.00054 for PM_{2.5}

**TABLE B-7
EMERGENCY GENERATOR POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA**

Emissions Using Manufacturer Supplied Emission Factors						
Rated Capacity (kW/hr)	Rated Capacity (bhp-hr)	Annual Operating Schedule (hr/yr)	Pollutant	Emissions Factors (g/kW-hr) ^a	Emissions Factors (g/bhp-hr)	Emissions (tons/yr)
177.50	238	100	NO _x	0.166	0.124	0.06
177.50	238	100	VOC	0.166	0.124	0.06
177.50	238	100	CO	0.417	0.311	0.16
Emissions Using AP-42 Emission Factors						
Rated Capacity (MMBtu/hr) ^c	Annual Operating Schedule (hr/yr)	Pollutant	Emissions Factors ^d (lbs/MMBtu)	Emissions (lbs/hr)	Emissions (tons/yr)	NSPS Emission Standards ^b (g/bhp-hr)
1.969	100	TPM/PM ₁₀ /PM _{2.5} ^e	0.0194	0.0382	0.0019	2.0
1.969	100	SO ₂	5.88E-04	1.16E-03	5.79E-05	4.0
HAPs						
1.969	100	1,1,2,2-Tetrachloroethane	2.53E-05	4.98E-05	2.49E-06	
1.969	100	1,1,2-Trichloroethane	1.53E-05	3.01E-05	1.51E-06	
1.969	100	1,3-Butadiene	6.63E-04	1.31E-03	6.53E-05	
1.969	100	1,3-Dichloropropene	1.27E-05	2.50E-05	1.25E-06	
1.969	100	Acetaldehyde	2.79E-03	5.49E-03	2.75E-04	
1.969	100	Acrolein	2.63E-03	5.18E-03	2.59E-04	
1.969	100	Benzene	1.58E-03	3.11E-03	1.56E-04	
1.969	100	Carbon Tetrachloride	1.77E-05	3.48E-05	1.74E-06	
1.969	100	Chlorobenzene	1.29E-05	2.54E-05	1.27E-06	
1.969	100	Chloroform	1.37E-05	2.70E-05	1.35E-06	
1.969	100	Ethylbenzene	2.48E-05	4.88E-05	2.44E-06	
1.969	100	Ethylene Dibromide	2.13E-05	4.19E-05	2.10E-06	
1.969	100	Formaldehyde	2.05E-02	4.04E-02	2.02E-03	
1.969	100	Methanol	3.06E-03	6.02E-03	3.01E-04	
1.969	100	Methylene Chloride	4.12E-05	8.11E-05	4.06E-06	
1.969	100	Naphthalene	9.71E-05	1.91E-04	9.56E-06	
1.969	100	PAHs	1.41E-04	2.78E-04	1.39E-05	
1.969	100	Styrene	1.19E-05	2.34E-05	1.17E-06	
1.969	100	Toluene	5.58E-04	1.10E-03	5.49E-05	
1.969	100	Vinyl Chloride	7.18E-06	1.41E-05	7.07E-07	
1.969	100	Xylene	1.95E-04	3.84E-04	1.92E-05	
Total HAPs				6.38E-02	3.19E-03	

^a Manufacturer combined emission factor for combined THC + NO_x of 0.166 g/kW-hr used individually for both NO_x and VOC to demonstrate compliance with owner-operator emission standards in 40 CFR 60 Subpart JJJJ Table 1.

^b From 40 CFR Subpart JJJJ Table 1, Emergency Engines greater than 130 hp.

^c Based on maximum fuel consumption of 1930 c.f. an hour at 100% load.

^d Emission factors from U.S. EPA AP-42 Chapter 3.2, (07/2000) Natural Gas-fired Rich-Burn 4-stroke Reciprocating Engines.

^e Assumes all particulate matter is less than 1 μm as per EPA AP-42 Section 3.2 Table 3.2-3(07/2000).

TABLE B-8
CHARRING SYSTEM METHANOL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA

Emissions Unit Number	Emissions Point Number	Source	Pollutant	Maximum Annual Char Production (tons/yr)	Maximum Hourly Char Production (tons/hr)	Emission Factor ^a (lb/ton char)	ACC Stack Emission Rate (lb/hr)	ACC Stack Emission Rate (ton/yr)
03	01/02	Charring System/Briquet Drying Operations	Methanol	32,000	5.0	0.007	0.03	0.11

^a Emission factor based on 68.7 lb methanol per ton of char from Kirk-Othmer (Vol. 11, 1980) and W.G. Nelson paper (1930) with ACC methanol destruction efficiency assumed to be 99.99% based on high ACC residence time and temperatures.

**TABLE B-9
FACILITY LEAD EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA**

Emissions Unit Number	Emissions Point Number	Source	Maximum Hourly PM Emissions (lb/hr)	Maximum Annual PM Emissions (tons/yr)	Maximum Pb Concentration (ppm)	Emission Factor ^a (lb Pb/lb PM)	Pb Emission Rate (ton/yr)		Particulate Matter Characteristics
							(lb/hr)	(ton/yr)	
03	01/02	Charring System/ACC	50	160.0	53.33	5.3E-05	2.67E-03	0.009	All particulate emissions assumed to be char ash
02	09	Char Truck Loadout	0.06	0.26	8.00	8.00E-06	4.80E-07	2.10E-06	
02	01-08	Wood Receipt	0.12	0.52	2.00	2.00E-06	2.37E-07	1.04E-06	All particulate emission assumed to be wood dust
01	01/02	Wood Storage	1.29	5.65	2.00	2.00E-06	2.58E-06	1.13E-05	All particulate emission assumed to be wood dust
			Maximum Hourly Fuel Consumption (scf/hr)	Annual Operating Schedule (hr/yr)	Maximum Annual Fuel Consumption (scf/yr)	Emission Factor^a (lb/10⁶ scf)			
			1240	8760	10862400	5.00E-04	6.20E-07	2.72E-06	
06	01	Emergency Generator	1930	100	193000	5.00E-04	9.65E-07	4.83E-08	
			Total				0.0027	0.009	

^aEmission factors based on following material lead content assumptions:
 Wood - 2 ppm, dry wood per University of Missouri study
 Char - based on worst-case char yield assumption of 4 (8 ppm * 4)
 Char ash content assumed to be 15%, ACC PM assumed to be char ash (80 ppm = 8 ppm / 15).
 Natural Gas Emission Factor from AP-42 Chapter 1.4, Table 1.4-2.

**TABLE B-10
FACILITY GREENHOUSE GAS POTENTIAL EMISSIONS
KINGSFORD MANUFACTURING CO. - BERYL, WEST VIRGINIA**

Potential Energy/Fuel/Chemical Usage	Actual Annual Usage	Units of Measurement t	Actual Use Conversion Factor	Units of Measurement t	Actual Use	CO ₂ Emission Factors		CH ₄ Emission Factors		N ₂ O Emission Factors		Total Annual Metric Tons CO ₂ -e	Total Annual Short Tons CO ₂ -e	
						Value	Units of Measurement	Value	Units of Measurement	Value	Units of Measurement			
<i>Stationary Sources</i>														
Natural Gas Combustion	2,212,776	therms	100,000	BTU/therm	2.213E+11	BTU	53.02	metric tons CO ₂ /Billion BTU	0.001	kg CH ₄ /MMBTU	0.0001	lb N ₂ O/MMBTU	11,744	12,945
Propane Combustion	7,008,000	therms	100,000	BTU/therm	7.008E+11	BTU	61.46	kg CO ₂ /mmBTU	0.003	kg CH ₄ /MMBTU	0.0006	lb N ₂ O/MMBTU	43,249	47,673
Net Wood Combustion ^a	64,000	tons	8,000	BTU/lb	1.024E+12	BTU	CO ₂ Emissions from Wood Combustion are Biogenic (See Below)		0.032	kg CH ₄ /MMBTU	0.0042	lb N ₂ O/MMBTU	2,021	2,238
<i>Biogenic Emissions</i>														
CO ₂ from Wood Combustion	64,000	tons	8,000	BTU/lb	1.024E+12	BTU	93.8	metric tons CO ₂ /Billion BTU ^(b)				96,051	105,877	62,847
Total Reportable (Non-biogenic) CO₂-e												96,051	105,877	

^aNet Wood Combustion = dry wood use minus char produced.

Potential Capacities

Burners	Number	Heat Input (MMBtu/hr)	Total Heat Input (MMBtu/hr)
ACC (Propane)	2	40	80
Retort (Natural Gas)	6	4	24
Boiler (Natural Gas)	1	1.26	1.26
Wood/Char Use	Tons/Year	Limit Type	
Dry Wood Use	96,000	Calculated	
Yield	3.0		
Char Produced	32,000	Permit	