



Twin Ports Testing, Inc.
 1301 North 3rd Street
 Superior, WI 54880
 p: 715-392-7114
 p: 800-373-2562
 f: 715-392-7163
 www.twinportstesting.com

Report No: USR:W221-0444-01
Issue No: 1

Analytical Test Report

Client: BIOMASS FUELS LLC
 700 W Virginia St
 Milwaukee, WI 53204
Attention: Chris Mynthon
PO No:

Signed: *Katy Jahr*
 Katy Jahr
 Chemistry Lab Supervisor
Date of Issue: 8/16/2021
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details
Sample Log No: W221-0444-01
Sample Designation: Hardwood Pellet Fuel
Sample Recognized As: Biomass Pellets
Sample Date:
Sample Time:
Arrival Date: 8/5/2021

	METHOD	UNITS	MOISTURE FREE	AS RECEIVED
Moisture Total	ASTM E871	wt. %		3.68
Ash	ASTM D1102	wt. %	0.51	0.49
Volatile Matter	ASTM D3175	wt. %		
Fixed Carbon by Difference	ASTM D3172	wt. %		
Sulfur	ASTM D4239	wt. %	0.017	0.016
SO ₂	Calculated	lb/mmbtu		0.040
Net Cal. Value at Const. Pressure	ISO 1928	GJ/tonne		
Gross Cal. Value at Const. Vol.	ASTM E711	Btu/lb	8525	8212
Carbon	ASTM D5373	wt. %		
Hydrogen*	ASTM D5373	wt. %		
Nitrogen	ASTM D5373	wt. %		
Oxygen*	ASTM D3176	wt. %		
*Note: As received values do not include hydrogen and oxygen in the total moisture.				
Chlorine	ASTM D6721	mg/kg	33	32
Fluorine	ASTM D3761	mg/kg		
Mercury	ASTM D6722	mg/kg		
Bulk Density	ASTM E873	lbs/ft ³		45.40
Fines (Less than 1/8")	TPT CH-P-06	wt. %		0.21
Durability Index	Kansas State	PDI		97.3
Sample Above 1.50"	TPT CH-P-06	wt. %		0.5
Maximum Length (Single Pellet)	TPT CH-P-06	inch		1.811
Diameter, Range	TPT CH-P-05	inch	0.259 to	0.262
Diameter, Average	TPT CH-P-05	inch		0.261
Stated Bag Weight	TPT CH-P-01	lbs		40.0
Actual Bag Weight	TPT CH-P-01	lbs		40.6

Comments:



Accreditation #60243

Results issued on this report only reflect the analysis of the sample submitted. Our reports and letters are for the exclusive and confidential use of our clients and may not be reproduced, except in their entirety, without the written approval of Twin Ports Testing. Twin Ports Testing Laboratory is accredited to the ISO/IEC 17025:2017 standard by PJLA.