



# CERTIFICATE OF ACCREDITATION

*This is to attest that*

**TPCU, INC. dba BIOMASS ENERGY LAB, INC.**

1641 SIGMAN ROAD  
CONYERS, GEORGIA 30012

Testing Laboratory TL-516

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2005, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation maintained on the IAS website ([www.iasonline.org](http://www.iasonline.org)).

*This certificate is valid up to OCTOBER 1, 2020.*



*This accreditation certificate supersedes any IAS accreditation bearing an earlier effective date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation. See [www.iasonline.org](http://www.iasonline.org) for current accreditation information, or contact IAS at 562-364-8201.*



A handwritten signature in black ink that reads "Raj Nathan".

**Raj Nathan**  
President



INTERNATIONAL  
ACCREDITATION  
SERVICE®



## SCOPE OF ACCREDITATION

IAS Accreditation Number	TL-516
Company Name	Biomass Energy Lab, Inc.
Address	1641 Sigman Rd. Conyers, GA 30012, USA
Contact Name	Chris Wiberg, Lab Director
Telephone	(770) 922-8000
Effective Date of Scope	August 16, 2017
Accreditation Standard	ISO/IEC 17025:2005

### Physical

ASTM D1102	Standard test method for ash in wood
ASTM D1857	Standard test method for fusibility of coal and coke ash
ASTM D4208	Standard test method for total chlorine in coal by the oxygen bomb combustion/ion selective electrode method
ASTM E711	Standard test method for gross calorific value of refuse – derived fuel by the bomb calorimeter
ASTM E871	Standard test method for moisture analysis of particulate wood fuels
ASTM E873	Standard test method for bulk density of densified particulate biomass fuels
CEN/TS 15370-1	Solid biofuels. method for the determination of ash melting behavior. characteristic temperatures method
EN 14774-1	Solid biofuels. determination of moisture content. oven dry method. total moisture. reference method
EN 14774-3	Solid biofuels. determination of moisture content. oven dry method. moisture in general analysis sample
EN 14775	Solid biofuels. determination of ash content.
EN 14780	Solid biofuels. sample preparation.
EN 14918	Solid biofuels. determination of calorific value.
EN 15103	Solid biofuels. determination of bulk density.



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EN 15104	Solid biofuels. determination of total content of carbon, hydrogen and nitrogen. instrumental methods.
EN 15148	Solid biofuels. determination of the content of volatile matter.
EN 15149-2	Solid biofuels. determination of particle size distribution. vibrating screen method using sieve apertures of 3, 15 mm and below
EN 15210-1	Solid biofuels. determination of mechanical durability of pellets and briquettes pellets.
EN 15289	Solid biofuels. determination of total content of sulfur and chlorine.
EN 16126	Solid biofuels. determination of particle size distribution of disintegrated pellets.
EN 16127	Solid biofuels. determination of length and diameter of pellets.
ISO 540	Hard coal and coke. determination of ash fusibility.
ISO 14780	Solid biofuels – Sample preparation
ISO 16948	Solid biofuels. determination of total content of carbon, hydrogen and nitrogen.
ISO 16994	Solid biofuels. determination of total content of sulphur and chlorine.
ISO 17827-2	Solid biofuels. determination of particle size distribution for uncompressed fuels. vibrating screen method using sieves with aperture of 3,15 mm and below
ISO 17828	Solid biofuels. determination of bulk density.
ISO 17829	Solid biofuels. determination of length and diameter of pellets.
ISO 17830	Solid biofuels. particle size distribution of disintegrated pellets.
ISO 17831-1	Solid biofuels. determination of mechanical durability of pellets and briquettes. pellets
ISO 18122	Solid biofuels. determination of ash content.



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ISO 18123	Solid biofuels. determination of the content of volatile matter.
ISO 18125	Solid biofuels – Determination of calorific value
ISO 18134-1	Solid biofuels. determination of moisture content. oven dry method. total moisture. reference method
ISO 18134-3	Solid biofuels. determination of moisture content. oven dry method. moisture in general analysis sample
ISO 18846	Solid biofuels. determination of fines content in quantities of pellets.
PFI standard specification for residential/commercial densified fuel	