

Report No. 02077/EOBOAR
Date: February 6, 2024

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REPORT OF ANALYSIS

CLIENT : **KOPERASI PRODUSEN ENERGI BIOMASSA INDONESIA**
QQ : PT. THERMAX INTERNATIONAL INDONESIA
 Gedung Sandipura Lantai Dasar
 Jalan KH. Abdullah Syafei Bukit Duri, Tebet
 Kota Adm. Jakarta Selatan, DKI Jakarta, 12840

THE FOLLOWING SAMPLE (S) WAS/ WERE SUBMITTED AND IDENTIFIED BY CLIENT AS:

TYPE OF SAMPLE : **BIOMASS**
 DATE OF RECEIVED : January 29, 2024
 DATE OF ANALYSIS : January 30 up to February 6, 2024
 TEST REQUIRED : Mean analysis
 DESCRIPTION OF SAMPLE : Form : Solid
 Weight / Volume : ± 5 Kg
 Packing : Plastic bag

SAMPLE IDENTIFICATION : **WOOD PELLET (WP)**
 (STATED BY CLIENT)

We have tested the sample (s) submitted and the following results were obtained:

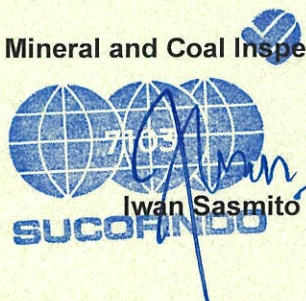
Parameters	Unit	AR (As received)	DB (Dry Basis)	Test Method
Total Moisture	% wt	6.31	---	ASTM E871 - 82 (2019)
Ash Content	% wt	3.97	4.24	ASTM D1102 - 84 (2013)
Volatile Matter	% wt	71.30	76.10	ASTM E872 - 82 (2019)
Fixed Carbon	% wt	18.42	19.66	ASTM D3172 - 13 (2021)e1
Total Sulfur	% wt	0.06	0.06	ASTM D4239 - 18e1 Method A
Gross Calorific Value	Kcal/Kg	4425	4724	ASTM D5865/D5865M - 19
Nett Calorific Value	Kcal/Kg	4093		ASTM D5865/D5865M - 19
Ultimate Analysis:				
Carbon	% wt	48.65	51.93	ASTM D5373 - 21 Method A
Hydrogen (*)	% wt	5.78	6.17	
Nitrogen	% wt	0.74	0.79	
Oxygen (*)	% wt	34.49	36.81	ASTM D3176 - 15

(*) Hydrogen and Oxygen do not include H and Ox sample moisture

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Dept. Of Mineral and Coal Inspection and Testing

71030524000312



Iwan Sasmito
SUCOFINDO



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REPORT OF LABORATORY ANALYSIS

Principal : KOPERASI PRODUSEN ENERGI BIOMASSA INDONESIA
QQ : PT. THERMAX INTERNATIONAL INDONESIA
PO Number : 1412046 - BOUGHT OUT WOOD PALLETS FOR UPRG90 PROJECT
Subject : Wood Chip Sample Analysis
Date Received : October 25th, 2023
Tested For : Proximate Analysis, Total Sulfur, and Gross Caloric Value (GCV)
Description of Sample : Sample Code : Wood Chip
Packing : Unsealed Plastic Bag
Weight : 1,901 Kg
Order Number : CKG. DOS. 23.0135
Date of Report : October 31st, 2023
No. of Pages Including Cover : 1 Page

THIS IS TO REPORT that upon the request of the principal, the sample received was analyzed in the laboratory in accordance with ASTM method.

The results are as follows:

PARAMETER	STANDARD	RESULTS			
		adb	ar	db	daf
A. Proximate Analysis					
Total Moisture	ASTM D3302/ D3302M-19	-	33.45	-	-
Moisture in the Analysis Sample	ASTM D 3173-17	7.37	-	-	-
Ash Content	ASTM D 3174-12	1.89	1.36	2.04	-
Volatile Matter	ASTM D 3175-20	71.33	51.25	77.01	78.61
Fixed Carbon	ASTM D 3172-13	19.41	13.94	20.95	21.39
B. Total Sulfur, Weight %	ASTM D4239-18e1	0.02	0.01	0.02	0.02
C. Gross Calorific Value, Kcal/kg	ASTM D 5865-19	4,647	3,339	5,017	5,121

Remarks :- This report refers to the tested sample only

This Report reflects our findings at time and place of analysis only and does not certify (or report) any other matters.

This Report is issued without prejudice and our responsibility is limited to the exercise of reasonable care and due diligence.

Cikarang, October 31st, 2023

PT. CARSURIN

for
CAR SURIN
Dede Jemmi S
1968
Laboratory Manager



For verification of authenticity of certificate or reports, please contact us at coal.sales@carsurin.com.

This report is made and issued by the Company upon the Principal/Applicant's request and the analysis contained therein reflects the Company's findings on the sample(s) submitted by Principal/Applicant and/or sample(s) drawn by the Company at the time and place of analysis only and does not certify (or report) any other matters. Furthermore, the Company shall not be responsible to any parties on any business, financial and/or legal consequences for any transaction by using this report/analysis. Any unauthorised alteration or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document cannot be reproduced except in full, without prior approval of the Company.



Certificate of Analysis