Handelsweg 70
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T. +31 (0)10-28 23 292
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INTERNATIONAL LABORATORIES

Analytical Report

Control Union Certifications Germany GmbH
Attn: . .
Dorotheastrasse 30
D-10318 Berlin
Germany

Reportnr.	: **1768344 version 1**		
Sample Arrival Date	: 27-Jul-2023 13:46	Sampling Date *	: 13-Jul-2023
ReportDate Version	: **25-Aug-2023 22:02**	Samplesize (kg)	: 15,02
Packing	: Plastic, ambient	Seal / Seal Code	: No /

Sample information *

Disponent Number	: PRJ 896390	Product specification	: Woodpellets Quality class A1
Seller Unloader	: Woodpoint LLC	Reference	: /A2 6mm/8mm
		AWB / BarCode	: Woodpoint_2023_07_13 %02988DB1300930009653210 1528

*** Information supplied by customer (TLR takes no responsibility for this information).**

Composition Determination

Parameter	Result (as received)	Result (on dry)	Result (as det)	Result (dry ash free)			
Total Moisture	7,58				%	Q	R
Moisture Airdry			9,09		%	Q	R
Ash	0,45	0,49	0,44		%	Q	R
Volatile matter incl. moisture.			86,37		%	Q	R
Volatile matter	78,56	85,01	77,28	85,42	%		
Fixed Carbon	13,40	14,50			%		
Gross Calorific Value	4515,3	4885,7	4441,4	4909,7	kcal/kg	Q	R
	18,90	20,46	18,60	20,56	GJ/mt		
	8127,6	8794,2	7994,6	8837,4	B.T.U.'s/Lb		
Nett Calorific Value (cV)	4194,0				kcal/kg	Q	
	17,56				GJ/mt		
	7549,2				B.T.U.'s/Lb		
	4,9				kWh/kg		
Nett Calorific Value (cP)	17,48				GJ/mt	Q	
Emissionfactor CO2 (cV)	99,15				t CO2/TJ		
Emissionfactor CO2 (cP)	99,58				t CO2/TJ		
Hydrogen	5,68	6,14	6,60	6,17	%	Q	R
Carbon	47,48	51,37	46,70	51,62	%	Q	R
Nitrogen.	0,08	0,09	0,08	0,09	%	Q	R
S. (Sulfer)	< 0,010	< 0,010	< 0,010	< 0,010	%	Q	R
Oxygen (by difference)				42,110	%		

Preparation

Common

Parameter	Result (as received)	Result (on dry)	Result (as det)			
Preparation sample	B-wood preparation according NEN EN 14780 and NEN EN 15443				Q	R

Composition Determination

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Common

Parameter	Result (as received)	Result (on dry)	Result (as det)			
AFT. (oxid) DT			1410	gr. C		R
Diameter pellets (n=25)	6,3			mm	Q	R
Length of pellets	13,4			mm	Q	R
Sieve < 3,15 mm.	0,22			%		R

Metal and other elements

Parameter	Result (as received)	Result (on dry)	Result (as det)			
Cd (Cadmium)	0,106	0,115	0,105	mg/kg	Q	R
Pb (Lead)	0,06	0,06	0,06	mg/kg	Q	R
As (Arsenic)	< 0,040	< 0,040	< 0,040	mg/kg	Q	R
Hg (Mercury)	< 0,020	< 0,020	< 0,020	mg/kg	Q	R
Ni (Nickel)	< 3,0	< 3,0	< 3,0	mg/kg	Q	R
Cl (Chlorine).	< 0,005	< 0,005	< 0,005	%	Q	R
Cr.(Chromium)	< 5,0	< 5,0	< 5,0	mg/kg		R
Cu.(Copper)	< 5,0	< 5,0	< 5,0	mg/kg		R
Zn. (Zinc)	8,2	8,9	8,1	mg/kg		R

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Parameter	Result (as received)	Result (on dry)	Result (as det)			
Sieve < 5,6 mm			0,5	%		R

Other Analysis

Common

Parameter	Result (as received)	Result (on dry)	Result (as det)			
Mechanical Durability	99,0			%	Q	R
Bulk density-	647			kg/m3	Q	R
Particle density			1,28	g/cm3		R
Share of pellets< 10mm			19,5	w %		R
Category	Category L					R

Sample Remarks :

Sample is a copy of SampleID: 1767142

Q - Analyses ISO 17025 accredited by RvA (ILAC)
R - Carried out by TLR International Laboratories, location Ridderkerk

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ANNEX

Method Descriptions

Composition Determination

Common

Method Description	Method Code
Determination of ash; gravimetric method Coal: NEN-ISO 1171 Biomass: NEN-EN15403; Secondary bio fuels: NEN-EN- ISO 18122	..
Determination of carbon (C), nitrogen (N), hydrogen (H) with the element analyser Coal : NEN-ISO29541, Biomass: NEN-EN-ISO 16948 : Secondary bio fuels NEN-EN 15407	..
Determination of fusibility of ash; ash formed (815°C), cube form	NEN-EN-ISO 21404
Determination of gross caloric value by bombcaloric method and calculation of net caloric value Coal: NEN-ISO 1928, Solid Biofuels NEN-EN-ISO18125; secundairy biofuels NEN-EN15400	..
Determination of moisture in the analyse sample; gravimetric method Coal: NEN-ISO 11722;Biomass: NEN-EN-ISO 18134-3; Secondary bio fuels : NEN-EN15414-3	..
Determination of Sulphur (S); NEN-EN-ISO 16994	..
Determination of the amount of material passing through a sieve with 3,15 mm diameter round hole ISO 18846:2016	.
Determination of the length and diameter of the woodpellets; Own method	Acc. NEN-EN-ISO17829
Determination of total moisture in the sample; gravimetric method Coal:NEN-ISO-589 MB biomasss: NEN-EN-ISO 18134-1; Secondary bio fuels : NPR-CEN/TS 15414-1	..
Determination of volatile matter content; gravimetric method Coal: NEN-ISO 562; Biomass: NEN-EN-ISO 18123; secundairy biofuels: NEN-EN 15402	.

Metal and other elements

Method Description	Method Code
Determination of Chlorine (Cl); Ion chromatography Biomass: according NEN-EN-ISO 16994 Coal: Own method	NEN-EN-ISO 16994
Determination of mercury (Hg); CV-AAS	Acc. NEN-EN-ISO16968
Determination of minor elements. As, Cd, Co, Cr, Cu, Hg, Mn, Mo, Ni, Pb, Sb, V and Zn	eq.nen-en-iso16968

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Method Description	Method Code
Determination of the amount of material passing through a sieve with 3,15 mm diameter round hole ISO 18846:2016	.

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Other Analysis

Common

Method Description	Method Code
Determination of bulk density (poured) bulk density	Acc.NEN-EN-ISO 17828
Determination of mechanical durability of pellets	NEN-EN-ISO 17831-1
Determination of Share of pellets with a length < 10 mm	ISO 18847

Abbreviations:

acc: in accordance with
eq: Equivalent to

Demanded 27-Jul-2023 by Control Union Certifications Germany GmbH
Analyses according to annex
P.W. Platteschor, Managing Director TLR International Laboratories