ANALYTICAL REPORT № 231980

In pursuance of an order for inspection given to us

BY THE PRINCIPAL	: New Forest Pro JSC
COMMODITY (AS DECLARED)	: Wood Pellets in bulk
QUANTITY (AS DECLARED)	: 12000 MT
PLACE OF INSPECTION	: Warehouse "New Forest Pro"
DATE OF INSPECTION	: 15 October 2019
REQUIRED INSPECTION	: Preliminary visual inspection, sampling and analysis
SGS REFERENCE NO.	: 231980

In compliance with the instructions received from our Principal, we attended Warehouse "New Forest Pro", located in Vanino, Khabarovsk Region, Russia, to perform stock inspection of the commodity as mentioned above, and we report the following:

VISUAL INSPECTION: The material was found to be stored in warehouse "New Forest Pro", located in Vanino, Khabarovsk Region. As per SGS visual estimation approx. 12000 MT of Wood Pellets diameter 8 mm in bulk have been accumulated in storage, at the time of our inspection. Cargo at storage was found to be in sound condition - mostly clean and dry, free flowing, brown/dark-brown colour, without fuming, stored in two stock pile. 1/3 of piles top surface is covered with a layer of sawn dust, abt. 1-3 cm thick.

SAMPLING

The manual sampling method was agreed with the SGS Principal, as sampling by more reliable methods that provide probability samples was not possible or was not selected by the SGS Principal. The Holder of this document is cautioned that collected MANUAL samples of this type do not satisfy the minimum requirements for probability sampling, and as such cannot be used to draw statistical inferences such as precision, standard error, or bias. The suitability of this sampling method is defined by the sampling standard

Due to the inaccessibility of part of the cargo, the samples collected have indicative value only and will not necessarily be representative of the entire cargo, but only of that part accessible and sampled at the date, time, and place of inspection.

SAMPLE DISTRIBUTION:

One composite sample, per warehouse, was sent to SGS Sankt-Peterburg laboratory for further testing, one composite sample was delivered to SGS Vanino laboratory for further testing and the two composite samples remain in storage at the SGS office in Vanino.

ANALYSIS:

Analysis performed on composite Stockpile Sample in accordance with below indicated methods. Results reportad are indicative only and cannot be considered as representative of total quantity of material contained in the Stockpile.

We report the folowing:

Parameters	Methods	Units	As-Received Basic (ar)	As-Determined Basis (ad)
Total Nitrogen	EN ISO 16948	% mass	0.15	0.15
Oxygen (excludes O in moisture)	EN ISO 16948	% mass	39.05	39.14
Hydrogen (excludes H in moisture)	EN ISO 16948	% mass	5.69	5.70
Total Carbon	EN ISO 16948	% mass	47.50	47.60

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Parameters	Methods	Units	As-Received Basic (ar)	As-Determined Basis (ad)
Moisture	ISO 18134-3:2015	% mass	6.80	6.80
Ash	ISO 18122:2015	% mass	0.3	0.32
Volatile matters	ISO 18123	% mass	77.53	77.70
Total Sulphur	EN ISO 16994	% mass	0.01	0.02
Total Chlorine	ISO 16994:2015	% mass	<0.005	<0.005
Gross CV	EN 14918-2009	Kcal/kg	4453	4463
Net CV, constant pressure	EN 14918-2009	Kcal/kg	4117	4127
Net CV, constant volume	EN 14918-2009	Kcal/kg	4135	4145
Net CV (AR) constant pressure	EN 14918-2009	MJ/kg	17.24	

Parameters	Methods	Units	Reducing	Oxidizing
Ash Fusion Temperatures	ISO 540-2008	Deg.C		
Initial Deformation	ISO 540-2008	Deg.C	1495	1462
Spherical (Softening)	ISO 540-2008	Deg.C	>1500	1476
Hemispherical	ISO 540-2008	Deg.C	>1500	1479
Flow	ISO 540-2008	Deg.C	>1500	1486

Parameters	Methods	Units	Results
Diameter	EN16127	mm	8.04
Length	EN16127	mm	18.5
Bulk Density	EN 15103	kg/m^3	698
Fines content (<3.15 mm – round holes)	ISO 18846:2016	% mass	0.5
Mechanical Durability	ISO 17831-1:2015	%	99.2

Granulometry (dry):

Parameters	Methods	Units	Results
Upper 3.15 mm	ISO 17827-2:2016	%	99.0
2 - 3.15 mm	ISO 17827-2:2016	%	0.1
1 - 2.0 mm	ISO 17827-2:2016	%	0.4
Below 1.0 mm	ISO 17827-2:2016	%	0.5

Granulometry (wet):

Parameters	Methods	Units	Results
Upper 3.15 mm	ISO 17830-2:2016	%	1.0
2 - 3.15 mm	ISO 17830-2:2016	%	1.9
1 - 2.0 mm	ISO 17830-2:2016	%	33.2
Below 0.25 mm	ISO 17830-2:2016	%	63.9

Major elements:

Parameters	Methods	Units	Results
Fe	ISO 16967:2015	mg/kg	31.0
Na	ISO 16967:2015	mg/kg	8.8
K	ISO 16967:2015	mg/kg	434.5

Minor elements:

Parameters	Methods	Units	Results
As	ISO 16967	mg/kg	<1.0
Zn	ISO 16968:2015	mg/kg	7.8
Cd	ISO 16968:2015	mg/kg	<0.05
Pb	ISO 16968:2015	mg/kg	<0.5
Cr	ISO 16968:2015	mg/kg	0.3
Hg	ISO 16968:2015	mg/kg	<0.05
Cu	ISO 16968:2015	mg/kg	0.7
Mn	ISO 16968:2015	mg/kg	<0.1
Ni	ISO 16968:2015	mg/kg	0.1
V	ISO 16968:2015	mg/kg	0.1
Co	ISO 16968:2015	mg/kg	<0.1

This document is a witness of services in collection and processing of information rendering.
The results of this inspection are valid for the time and place of inspection only.

Signed and dated at
Vanino, Russia
October 30th, 2019

FOR AND ON BEHALF OF
SGS VOSTOK LIMITED