



**INCOLAB SERVICES RUSSIA S.C.**  
**COMMODITY SAMPLERS AND ANALYTICAL CHEMISTS**

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## Certificate of Sampling and Analysis

### TO WHOM IT MAY CONCERN

We have examined the sample(s) of  
and report the following to be the result:

Date : 18 January 2024  
Our ref. : 2401341RUS Ye  
Material : COAL IN BULK  
Ex. : m/v "VOLARIS-52"  
Lot : AVERAGE  
Weight : 5'296.733 mt  
Port : KAVKAZ, RUSSIA  
Sampling date : 13 - 14 January 2024

We, the undersigned Incolab Services R.S.C., confirm to have attended the loading and sampling the material of coal, which was loaded on board of the vessel "VOLARIS-52" on 13 - 14 January 2024 at the ports of Kavkaz.

### SAMPLING

Sampling of coal was carried out during all loading in accordance with I.S.O. Standard 18283.

### ANALYSIS

TOTAL MOISTURE	:	11.6 %	ISO 589
ASH IN DRY	:	10.5 %	ISO 1171
ASH AS RECEIVED	:	9.3 %	
VOLATILE MATTER IN DRY	:	10.4 %	ISO 562
VOLATILE MATTER AS RECEIVED	:	9.2 %	
GROSS AND NET CALORIFIC VALUE			ISO 1928
GROSS CALORIFIC VALUE IN DRY	:	7599 kcal/kg	
GROSS CALORIFIC VALUE AS RECEIVED	:	6718 kcal/kg	
NET CALORIFIC VALUE IN DRY	:	7430 kcal/kg	
NET CALORIFIC VALUE AS RECEIVED	:	6504 kcal/kg	
SULPHUR IN DRY	:	0.64 %	ISO 19579
SULPHUR AS RECEIVED	:	0.57 %	
PHOSPHORUS IN DRY	:	0.10 %	ASTM D 6349
PHOSPHORUS AS RECEIVED	:	0.09 %	
FIXED CARBON IN DRY	:	79.1 %	ISO 17246
FIXED CARBON AS RECEIVED	:	69.9 %	
Na <sub>2</sub> O+K <sub>2</sub> O IN ASH	:	2.0 %	
H.G.I.	:	68	ISO 5074

### SIZING TEST

	+	50	mm	:	4.3 %
50	-	6	mm	:	49.0 %
	-	6	mm	:	46.7 %
				:	100.0 %

Sizing test was carried out using square mesh sieves in accordance with ISO 1953

For and on behalf of,  
Incolab Services R.S.C.

