



CERTIFICATE OF SAMPLING AND ANALYSIS

Our Principal : PGE Paliwa Sp. z o.o.  
Vessel : MV ASTAKOS  
Port of Discharge : Poland, Szczecin; Bytomskie quay  
Inspection commenced : 13<sup>th</sup> October 2022 at 08:00  
Inspection completed : 26<sup>th</sup> October 2022 at 22:45  
Quantity (SGS Draft survey) : 26,868,4 Metric Tons  
Description of goods : coal in bulk  
Our Reference : 51/20000721/1450-001A

Inspection body accredited by the Polish Center for Accreditation, No. AK 013

This is to report that at the request of our Principal, we have performed inspection in accordance with the internal SGS procedures PQ-10 ed. 14 dd 26.07.2021, "The process of contract implementation, customer orders", IS-MIN-09 manual ed.11 dd. 10.09.2019, "Solid fuels quality inspection", IS-MIN-13 ed. 4 dd. 10.02.2019 manual "Screen test" in the scope of sampling, screen test analysis and we hereby report following:

**SAMPLING** Sampling during cargo reloading from the vessel mv M/V „ASTAKOS” at Szczecin Port. Cargo was divided into 3 lots.

cargo was discharged from 5 vessel's holds by 1-2 shore cranes equipped with grabs, relation: vessel – trucks -stock yard and vessel – wagons and vessel – stock place.

Samples were taken from stockpiles during discharge.

Manual sampling was performed by SGS, as per ISO 18283 5.2 during the discharge of the vessel. Increments were collected from a freshly exposed surface while the material was in motion, on a systematic, known-mass interval basis, with a fixed-increment mass.

The manual sampling method was agreed with the SGS Principal, as sampling by more reliable methods was not possible.



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Results of Analysis for fraction 0-8 mm:

|                       | Unit    | As Received Basis | As Determined Basis | Dry Basis | Dry Ash-Free Basis (daf) | Standard                  |
|-----------------------|---------|-------------------|---------------------|-----------|--------------------------|---------------------------|
| Total Moisture        | %       | 11,7              | 5,3                 | ----      | ----                     | PN - ISO 589 :2006 met A1 |
| Ash                   | %       | 12,5              | 13,4                | 14,1      | ----                     | PN-ISO 1171:2002          |
| Volatile Matter       | %       | 38,5              | 41,3                | 43,6      | 50,8                     | ISO 562:2010              |
| Total Sulphur         | %       | 1,09              | 1,17                | 1,24      | ----                     | ISO 19579:2006            |
| Gross Calorific Value | kJ/kg   | 24560             | 26340               | 27814     | ----                     | PN - ISO 1928:2020-05     |
| Gross Calorific Value | kcal/kg | 5866              | 6291                | 6643      | ----                     |                           |
| Net Calorific Value   | kJ/kg   | 23347             | 25206               | 26746     | ----                     |                           |
| Net Calorific Value   | kcal/kg | 5576              | 6020                | 6388      | ----                     |                           |

Analyses performed by SGS laboratory in Pszczyna, Poland, a company authorised by PCA to provide such analyses under authorisation number AB 313. Findings are limited to the date, time and place of our inspection only. Partial reproduction of this certificate is not allowed without our written permission.

Issued by SGS Polska Sp z o.o.  
04<sup>th</sup> November 2022  
Approved by: Paulina Milewska

SGS  
Paulina Milewska  
for and on behalf of  
SGS Polska Sp z o.o.



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