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Qualitative Characteristics of Seam h₁₁ of Mine №81 “Kievskaya”

Coal seam h₁₁ has complex mostly two-cluster structure and characterized by relatively stable thickness from 0.60 to 1.78 m (with the prevailing one of 0.75-0.85). Rock benches in amounts of 1-2 are represented by clay and sandy shales with the thickness of 0.02-0.50 m. Coal belongs to anthracites (average index of vitrinite reflection is more than 2.40%, emission of volatile substances is less than 9%).

As for average index of vitrinite reflection, volume emission of volatile substances to dry ashless state and as for anisotropism of of vitrinite reflection, anthracite belongs to 3A, vitrinite one.

Table 1. Average Values of indices Charactering Degree of Coal Metamorphism

Emission of Volatile Substances, V ^{daf} , %	Volume Emission of Volatile Substances, V ₀₀ ^{daf} , cm ³ /g	Logarithm of Specific Electric Resistance lgp	Density of Organic Mass, d _a , g/cm ³	Reflection Index, R ₀ , %	Anisotropism of Vitrinite Reflection, Ak, %	Total of Surrounding Components ΣOK%
0.97-5.16	47-96	0.770-1.706	1.54-1.76	4.41-5.15	61-60	3-7

As for the appearance the coal of assessed seams is black, banded due to the alternation of lustrous and dead layers, strong, divided with cleavage fissures, with shell-like break. As for microscopic structure coal of the studied seams is ultraglace, in some points it is glance with fusainized components. Mineral spots are represented by clay, pyrite, carbonates, and quartz.

Ash content of coal seam within mine field varies from 16.1 to 25,9%. The following oxides are prevailing in ash composition: SiO₂ – from 23.22% to 78.81%, Fe₂O₃ – from 6.42% to 63.35%, Al₂O₃ - from 2.20% to 23.69%.

Average temperature of the beginning of liquid smelting state varies from 1178°C to 1245°C, i.e., ashes of the assessed seams are medium-melting.

As for sulfur content anthracite of the seam h₁₁ belongs to medium-grained. Mass fraction of general moisture varies from 4.96 to 5.33%.