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Geochemical Characteristics of Snezhnianskaia Zone Coal-bearing Rocks

Lithochemical analysis of coal-bearing rocks of early Carbon (C_1^4) and middle Carbon (C_2^0, C_2^1, C_2^2, C_2^3) gives ability to recognize such regularities:

Comparison of mean compositions of elements with abundance ratios by means of concentration factors estimating shows that each type of coal-bearing rocks of early Carbon and middle Carbon are significantly enriched in nickel (28.5), cobalt (130), niobium (190), copper (32), and algam (89). Plumbum (5.14), vanadium (5.8), wolframium (3.3), chrome (6.45), germanium (5.5), lithium (8.4), manganese (5.1), zinc (8), and scandium (8.8) show lower concentration factor. There are no significant differences in chemical elements distribution on early Carbon and middle Carbon.

Within lower part of Snezhnianskaia zone there are recognized epigenetic mercury scattering halos with $2 \times 10^{-6} - 1 \times 10^{-5}$% content. They are located between Olkhovski and Saur-Mogylski oversteps, and westward of them. Within this very zone part, there are explored numerous low-intensive and medium-intensive plumbum, vanadium, gallium, nickel, cobalt, molybdenum, lithium, copper, arsenic, zinc, and argentum scattering halos.

Linear efficiency on samples in which important (3×10^{-6}% and more) mercury content was estimated to analyze the law of mercuric abnormalities distribution. As for the age, maximum mercury efficiency is associated with C_2^0 series – 73% of specified total zonal efficiency. Sandy shales in C_2^0 series are of maximum efficiency to be 53% of specified total zonal efficiency.

The greatest efficiency values are in the south end of area under study – within a segment with intensive development of disjunctive structure.

Considerations of mercury content estimations help to conclude that sandstones and sandy shales have the highest figures (11.2% and 11.3% accordingly). As for the age, sandstones and sandy shales of C_2^3 series, and sandstones of C_2^3 series have the highest values (12.5%, 17.7%, and 11.3% accordingly).