

GOLD AND THE PLATINUM GROUP ELEMENTS IN CARBONACEOUS FORMATION OF THE UKRANIAN CARPATHIANS.

SUBBOTIN A.G., ZAITSEVA V.M. Institute of Applied Physics of NAS, Kyiv, Ukraine; Transcarpathian Geological Expedition, Berehiv, Ukraine

The distribution of noble metal elements were studied in Cretaceous and Paleogene black and brown mudstones, siltstones, and sandstones of the Flysch Carpathians. These carbonaceous sedimentary rocks in different parts of the Flysch Carpathians are characterized by increased contents of Au (5ppb - 1ppm and 3ppm), Pd (3 ppb - 1ppm), Pt (3ppb - 10ppb), and Ir (traces - 5ppb). Contents of elements determin geochemical specialization of the Cretaceous and Paleogene suits of the flysch strata. In the described sediments the Au is connected with numerous disseminate insertions of pyrite which is found in the form of the framboid and fine grain accumulations. Palladium is connected with organic substance. There are two ways for gold and PGE accumulation in carbonaceous layers of Flysch which are as follows: 1) a supply of these elements in Flysch basin due to synchronous destruction of old rocks; 2) their supply from the hydrothermal solutions during of sinchronous exhalative hydrothermal processes in Oligocene. Carpathian Cretaceous and Paleogene throgh flysch basins consisted of several deeps with individual features of evolution. Thus, some difference in composition of hydrothermal solutions can be suggested, which explains the Au-Pt-Pd, Au-Pd, and Au-Pt-Ir geochemical specialization of carbonaceous sediments in different parts of the Flysch Carpathians.