

COMPOSITION OF THE UPPER MANTLE AND DISTRIBUTION OF NOBLE METALS IN ULTRAMAFITES OF PRECAMBRIAN GREENSTONE BELTS OF SIBERIA

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The calculation variant of geochemical model of the upper mantle (UM) of the Siberia was done. The composition of garnet peridotite from the Archean gneiss basement is taken as the optimum model of UM. The ultramafites of Kansk greenstone belts, productive for Pd, Ni and Cu have the maximum approximation to it. A deep and lateral zonation of ultramafites for petrogenic and ore elements and an association of different-age metallogenic provinces (Pd-Ni-Cu) - (Ti-Zr) - (Pt-Cr) reflect traces of depletion of UM and ore-magmatic system. The analysis of rocks and minerals from inclusion in kimberlites indicates in the depletion of regional UM by platinoids. The accumulation of platinum group elements (PGE) is due pyroxenization of UM and cumulate fractionation in magmatic chambers. Reconcetration of PGE is done under the influence of metasomatic and hydrothermal processes. Minerals-carriers of dispersion form of PGE are clinopyroxene, amphibole, serpentine and chlorite. The near-bottom parts of Kansk greenstone belts intrusives are enriched with PGE, Ni and Cr. Rich pentlandite-pyrrhotite ores of post-magmatuic stage are marked by the maximum saturation of bismuth-tellurides of palladium. Supported by RFFI number 99-05-64761.