

COMPARATIVE ANALYSIS OF DEEP CRUST STRUCTURE FOR SUPERLARGE GOLD ORE REGIONS.

1CHERKASOV, S. V., 2VISHNEVSKAYA, N. A. 1TSNIGRI; 2SGM RAS

The deep crust structure of gold-bearing regions was investigated on the basis of recent geophysical data interpretation. It is shown that for Severo-Eniseisky and Muruntau regions superlarge gold deposits and fields are attached to the marginal parts of cup-like intracrustal structures that are traced as zones of seismic transparency. The upper part of those zones (0-30 km depth) correlates with zones of density deficit. The projection of the cup-like structure occurs at the space images. The geological interpretation of the said intracrustal irregularities includes energy/matter intrusion from the upper mantle into the crust, following granitization in the middle crust, and intrusion of granitic magmas into the upper crust. Giant gold deposits correlate with the density deficit zones that are characterised by the highest density deficit and by lateral density differentiation. The used technology could be applied to the small-scale prognosis for gold as well as to estimation of gold deposits' size.