NEW PERSPECTIVES IN MINERAL EXPLORATION CONNECTED WITH BIOGEOCHEMISTRY, GEOPHYSICS AND NEW TYPES OF ORE DEPOSITS

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The experience of polymetallic and platinum deposits in Buryatia have some demonstrative examples of the great significance of a rational complex of deepened methods and new types of mineralization. Before the revealing of the Ozernoe sulphide-polymetallic deposit in 1963-1970 Buryatia was considered as an prospectless territory for polimetallic deposits. The great Ozernoe deposit revealed with the help of geophysics and the world's greatest Kholodnenskoe deposit revealed in 1968-1975 disproved long-lived eroneous prognosises. The quantity of the polymetallic deposits, revealed with the help of geophysics, is more than dozen now. Another demonstrative example is connected with accidental revealing of some new types of Pt mineralization in syenitoids in the Gilbera ring structure more than 300 sq. km in size. After investigations of 16000 biogeochemical samples maximal content of Pt in 10 samples of nonbarrier, quantitavely informative bioobjects reached 1000-5000 ppb, in the background <1 ppb. By the verification of the first biogeochemical anomalies with Pt content 100-500 ppb it was established that nutrition horizon for pine (*Pinus silvestris*) is situated here at a depth of 1,5-2,5 m; plant-rock and plant-ore coefficients for Pt and Pd ≈1,0. Because of this soil-geochemical haloes above Pt zones are absent here. This is a real example when biogeochemistry is very effective for revealing of shallow buried Pt mineralization when traditional soil geochemistry is uneffective. The first data obtained that some variants of biogeophysical or dowsing methods are effective for revealing, contouring and prospecting for Ag and Pt mineralization.