



## **The specific features of gold ore provinces of the south of Siberia in a magnetic field at ground height and heights of flight of satellite Champ.**

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For allocation of specific features known gold ore objects (Olimpiadninskoje, Suchoi Log, etc.) is executed the morphological analysis of the magnetic field received on materials of aeromagnetic data and satellite measurements at heights of 100 and 400 km.

On the ground data on a map of magnetic anomalies of Russia of scale 1:2 500000 of 50 km on the extended structures crossing known gold ore deposits and promising ore units have been constructed geomagnetic and density sections up to depth. On geomagnetic and density sections to known large gold ore deposits are dated deep synvertical the permeable zones described by a synclinal layered structure. Extended horizons of non-magnetic formations are located on depths about 10, 12, 15-18, 30 and 40 km. On deep density sections reference sites – the Suchoi Log, Olimpiadninskoje and Vodorazdelnoje – is characterized by zones of inversion of density. Areas of the loosened breccias are dated to synvertical to deep zones of hydrothermal and fluid study of breccias inside which the loosened lenses in intervals of depths from 2 up to 5 km are formed, 8-13 km, 18-20 and 25-30 km of 35-40 km within the limits of the bottom bark. The analysis of a magnetic field has shown, that gold mineralization in researched region is dated for zones of long-living regional explosive intrusions, to permeable terrigenous to thicknesses of depressions, to adjournment depression structures in units of crossing of tectonofluid zones of diagonal orientation. Terrigenous adjournment depression structures are shown on a geomagnetic section as the powerful deflections filled with low-magnetic thicknesses. These deflections are dated to synvertical to deep zones of low-magnetic breccias, probably, reflecting influence of the high-temperature tectonofluid processes occurring on the big depths (up to 30 - 35 km), and explosive intrusions shown through systems. It testifies to presence of a long-living deep zone of differentiation of substance when inside the base lenses of the loosened breccias are formed, and more dense breccias mapping in near-surface formations.

It was represented interesting to track as the laws allocated on the ground aeromagnetic data are reflected in satellite anomalies. The analysis has shown, that gold ore areas Barguzino – Vitim orogenic zones gravitate to a local minimum of a magnetic field of satellite Champ at height of 100 km.

Zones of minima at height of 100 km coincide with position of permeable blocks of the earth's crust allocated on extended structures, executed by results of ground shooting. The considered zones of minima at height of 400 km practically do not change the morphology. Local steady minima in area Barguzino - Vitim zones on maps of satellite Champ can be connected with heated-up long-living fluidized channels providing gold ore and rare-metal mineralization of the region.