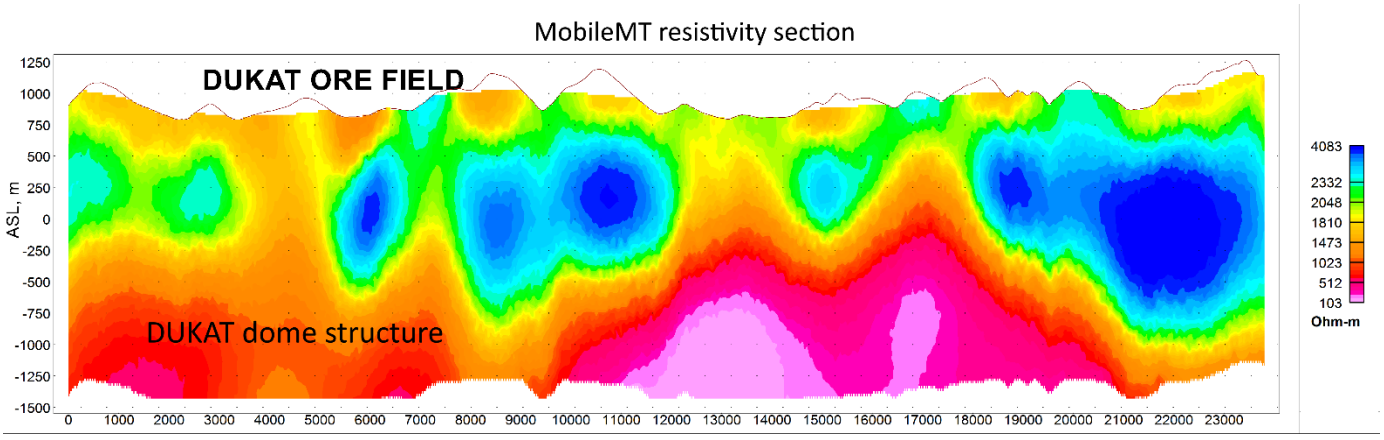
MobileMT resistivity section over an epithermal Au-Ag deposit

Dukat is currently the world's third largest silver deposit and the largest gold-silver deposit in Russia. The ore field occurs in the central section of the Omsukchan riftlike trough formed in the Early Cretaceous along a NS fault system. The framework of the depression (~150 km length) intruded by numerous Early and Late Cretaceous granitoid polyphase stocks and plutons, porphyry and dykes ("Gold Deposits of the CIS" by Gregory Levitan, 2008). The central part of the epithermal-type Au-Ag ore field contains a domelike structure (granite-granodiorite pluton) which is intersected by drill holes at a depth of 1200-1500 m below the surface. The domal structure is broken up by a series of faults filled with mylonite, which were active during magmatic events and in the pre-ore, ore, and post-ore stages. The main elements of the Dukat deposit that govern the ore bodies structure are subvertical zones consisting of systems of sub-parallel shear cracks, zones of mylonite along faults, and individual large fractures. The numerous explosion breccias, which from treelike dikes that broaden toward the surface and veins controlled by faults, are in close spatial association with the ore bodies (Levitan, 2008).

The airborne MobileMT EM technology was able to identify 1) the deep dome structure as the main controlling factor of the Au-Ag mineralization system; 2) other deep dome structures, in the depression, potential for new, near surface and buried, discoveries; 3) the subvertical fault zones as feeding, fluid transport channels from the upper contact of the deep magmatic bodies to the near surface host rocks, and following alteration and ore zones.



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