Deep morphology definition of Shuangdinggou and Xinling rock of Qingchengzi mine area based on Geological, Gravity-magnetic and Magnetotelluric sounding data integration

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Shuangdinggou and Xinling rock are located in the Qingchengzi mine area， eastern Liaoning. Its tectonic location is in the east of Liaoji rift, the tectonic and magmatic activities are very complex. The results of geochemical studies show that the main ore-forming materials in the area are derived from the strata, and the Mesozoic magmatic hydrothermal fluid superimposed on the mineral composition of the deposit. The mineralization of Shuangdinggou and Xinling rock are with close relationship to the Qingchengzi ore field, and both belong to late Triassic granitic event. Therefore, it is of great significance to define the deep boundary of the two rock bodies and to find out the distribution patterns of the rocks in deep. This paper first studied the physical property data on density, magnetic, susceptibility and resistivity comprehensively in the area, combined with the 1:200000 airborne gravity data of Dandong region, applied two-dimensional interactive inversion method under the constraints of geological information, finally completed 4 inversion sections of deep rock geological structure. Preliminarily find out the spatial distribution, output pattern, and the mineralization process of the Shuangdinggou and Xinling rock.