The role of magnetite mineral in the qualitative interpretation of ground magnetic data for exploration of new reserves in the eastern part of Takel1, Taknar polymetal mine - Bardaskan

Abstract:
Magnetic survey is one of the most effective geophysical methods for exploration and prospecting of ore deposits along with magnetic minerals particularly magnetite. Correct analysis of magnetic data can identify the location, extension, and the relative depth of ore zones along with magnetic minerals. Considering the presence of magnetite along with mineralization in Taknar ore deposition and the absence of it in the host rock, magnetic survey is the most suitable method for exploration of new reserve at Taknar polymetal mine which is located to the northwest of Bardaskan, Khorasane Razavi. Total Magnetic Intensity (TMI) 103 points in eastern part Take1 in a grid of 10×10 were measured. Total Magnetic Intensity maps, Rotation to the pole, First Vertical Derivative and Upward Continued were prepared. Inspection of the produced maps indicates the presence of a big anomaly in eastern part Take1 that is not any outcrop of mineralization in surface. The causative source of this anomaly is presence of magnetite along with mineralization. The position of the anomaly is proposed for drilling.

Keywords:
Magnetic survey, Magnetite, Geophysical method, Ore deposit, Magnetic mineral, TMI, Khorasane Razavi.