

IMPLICATION OF EXPLORATION USING AERO GEOPHYSICAL SURVEY IN DESERT AREA: AN EXAMPLE FROM KANGGUERTAGE,XINJIANG,CHINA

1WU, QIFAN, 2LU, FENGXIANG,1ZHANG,TIANGE 1Aero Geophysical Survey And Remote Sensing Center, Beijing, China

Kangguertage area located in the south of eastern Tianshan is a very important metallogenetic belt of gold and copper. Aero geophysical survey seems to be significant because ground geology and geophysical work is hard to be carried out in the desert and Gobi area. A region occupied 6300Km² has been flown by airborne magnetic, gamma-ray spectra and electromagnetic survey of the scale of 1:25,000. Many achievements have been made, including compilation of geological map of the scale of 1:50,000 based on the geophysical survey; and discovery of one gold deposit and several gold and/ or copper-bearing locations as well. The following methods were used in our work. The content of K, Th and U from airborne geophysical survey was used to develop RGB color images and classify for delineation and identification of various strata. The locations of gold-bearing belts in the RGB color images are more reddish than their surroundings because potassium alteration occurs there. Some basic and ultra basic rock related to copper deposits were recognized according to the results of magnetic survey. The results of the electromagnetic survey have been used to look for water underground and to determinate the thickness of Quaternary strata. The follow-up ground geologic and geophysical surveys were done to further define potential anomalies and to confirm and modify the result of geophysical mapping.