

## **RELATIONSHIP BETWEEN SECONDARY ANOMALY HALOS AND MINERALIZATION BY USING GEOCHEMICAL ZONALITY ASSESSMENT**

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Comparing results of secondary halos with results of a known anomaly halo lead us to establish a standard coefficient of zonality to identify a possible mineralization. Arghash gold - antimony ore field near the Neishbour city in Khorasan Province, Northeastern Iran, was covered by 1050 stream sediment samples and analyzed for Au, Cu, Pb, Zn, As, Sb, Ag and W. Two main antimony and gold - antimony anomaly halos were discovered by this survey. From two main geochemical anomaly halos of antimony, one is associated with a vein type hydrothermal antimony deposit. Multiplitive ratios of  $(Sb. As. Hg. Ag) / (Cu. Bi. W. Zn)$  showed the mean coefficient of productivity and the coefficient of mineralization based on the analytical values of elements within the anomaly zone. The multiplitive ratio of anomaly halo No.1 which is associated with an outcropped antimony mineralization,  $(Sb.As.Hg.Ag/Cu.Bi.W.Zn) = 78822$  , is much larger than the second anomaly (same ratio for No.2 = 0.022). The coefficient of contrast of two zonalities is  $78822: 0.022 = 3557$ . This shows the coefficient of zonality zone No.1 is 3557 times more than the coefficient of zonality of zone No.2. Comparative study of the coefficient of zonality of geochemical antimony halos (halos No.1 and No.2 in Arghash ore field) indicates that the halo No.2 is a barren anomaly halo. Field checking of the antimony anomaly No.2 approved that there is no promising antimony mineralization within the anomaly zone.