

AN EXAMPLE FOR THE MULTIVARIATE GEOSTATISTICAL ANALYSES OF GEOCHEMICAL DATA: IRON MINES OF DİVRİĞİ AREA, CENTRAL TURKEY

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ABSTRACT.— Geostatistical analyses were carried out on 160 rock samples for 24 elements from the Divriği iron ore region. The samples were initially treated as one population. Thereafter the individual rock types were divided into several groups and geostatistically analysed. The geostatistical methods are described shortly for univariate and bivariate analyses and, most importantly, the multivariate methods such as Discriminant, Cluster and Factor analyses. The results of the geostatistical analyses yield a division into different rock groups (Discriminant analysis), and several element associations (Cluster and Factor analyses) which reflect the different rock types. In the individual groups the element association tells more about the geological processes e.g. serpentinization and hydrothermal alteration. The difference between Cluster and Factor analyses is seen in the Factor analysis, which is a little more differentiated, enabling a more subtle interpretation of the possible geological environment. The interpretation of the element association suggests that the iron ores are closely associated with mafic to ultramafic rocks, their serpentinization and also later hydrothermal events.