

LOW SULPHIDATION AU-AGEPITHERMAL ASSOCIATED MINERALS USING T² HOTELLINGS METHOD

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Abstract

The presence of low sulphidation epithermal gold at is a part of the geological process of the Sunda arc, Indonesia. This process encourages the formation of mineralized zones very closely with rock fractures in the Honje Formation and Cipacar Formation. This study describes the role of associated minerals (Ag, Cu, Pb, Zn and As) in Au-Ag Mineralization using the T² Hotellings method. To obtain field data, namely surface mapping, this study analysed rock sampling for the petrographic test of 17 samples, and drill assay data with drilling depth between 50-450 meters. Meanwhile, the lithological zones were studied by BRAN, VNBR and VEIN and the multivariate normality test showed that the data were multivariate normally distributed between gold (Au) content and associated mineral content. The Multivariate Analysis of Variance average comparison test shows that there is a significant difference between the main mineral content and associated minerals in the lithology of BRAN, VEIN, and VNBR rocks. Minerals Ag, Cu, Pb, Zn and As are significant to Au, although not all lithological zones are significant because the values of the deterministic coefficient are different. Ag in each zone is significant for Au while for Zn and As in each zone is insignificant. Based on the arithmetic regression model on VNBR (Breccia Vein) with a small significance value, it shows that Ag, Cu and Pb influence changes in the grade value of Au. The implication of this research is to provide convenience for metal mineral exploration activities in predicting the role of associated minerals (associated minerals) on the main mineral content, especially for Low Sulphidation epithermal gold (Au).

Keywords: Arsenic, Associated minerals, Epithermal low sulphidation, Gold grade, T² hotellings.]