A STATISTICAL EVALUATION OF GOLD GRADE ESTIMATES OBTAINED BY GEOSTATISTICS, AVERAGING AND INVERSE DISTANCE METHODS AS APPLIED TO A ZONE IN ANTAMOK, BENGUET

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The purpose of this study was to compare geostatistics, averaging, and inverse distance square methods in grade estimation and investigate the alleged improvements, if any, of employing geostatistics. A set of block grades was first simulated. These grades, which utilized sample information within the range of influence, were calculated using the geostatistical method. Since sample grades followed a lognormal distribution, logarithmic variograms and hence, relative variances, were used to investigate the spatial continuity. Ordinary kriging was next utilized in estimating the block grades. The grades for these same blocks were calculated using the averaging and inverse distance square methods. A set of estimates, utilizing a subset of the available sample information, were next generated using the three methods. For each method, the sets of estimates were then compared with grade values obtained after using the larger set of sample information. The results indicate that in the estimation of gold grades in this mineralized zone, geostatistics performs slightly better than the averaging or inverse square methods.