Pemodelan dan estimasi sumberdaya nikel laterit menggunakan metode ordinary kriging di PT Vale Indonesia Tbk, Sorowako, Kecamatan Nuha Kabupaten Luwu Timur, Provinsi Sulawesi Selatan = Modeling and estimation of nickel laterite resources using ordinary kriging method at PT Vale Indonesia Tbk, Sorowako, Nuha District, East Luwu Regency, South Sulawesi Province

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Abstrak

Nikel merupakan hasil bahan galian tambang yang sangat melimpah di Indonesia. Kebutuhan nikel kian meningkat terutama pada dunia industri pembuatan baja. Penelitian ini dilakukan di wilayah pertambangan PT Vale Indonesia Tbk, Sorowako, Kecamatan Nuha, Kabupaten Luwu Timur, Provinsi Sulawesi Selatan. Daerah ini secara umum dipisahkan menjadi 3 bagian lapisan nikel, yaitu limonite, saprolite dan bedrock. Penelitian ini bertujuan untuk menganalisis karakteristik dan pola penyebaran nikel laterit serta menghitung deposit cadangan nikel laterit pada wilayah penelitian. Penelitian ini membutuhkan data berupa data collar, data assay, dan data zona profil nikel laterit. Analisis pemodelan dilakukan untuk mengetahui pola penyebaran nikel laterit dan merancang model 3D endapan nikel laterit. Analisis menggunakan metode Ordinary Kriging dilakukan untuk menghitung deposit cadangan nikel laterit. Berdasarkan hasil penelitian, penggunaan metode Ordinary Kriging mempertimbangkan proses pengisian block model dan banyak sampel yang digunakan, sedangkan block model Nearest Neighbor Point tidak.

.....Nickel is a very abundant mining material in Indonesia. The need for nickel is increasing, especially in the steel industry. This research was conducted in the mining area of PT Vale Indonesia Tbk, Sorowako, Nuha District, East Luwu Regency, South Sulawesi Province. This area is generally divided into 3 nickel layers, namely limonite, saprolite and bedrock. This study aims to analyze the characteristics and distribution patterns of laterite nickel and calculate the laterite nickel reserve deposits in the research area. This study requires data in the form of collar data, assay data, and geological data. Modeling analysis was carried out to determine the distribution pattern of laterite nickel and to design a 3D model of laterite nickel deposits. Analysis using the Ordinary Kriging method was carried out to calculate the laterite nickel reserve deposits. Based on the results of the study, the use of the Ordinary Kriging method considers the block model filling process and the number of samples used, while the Nearest Neighbor Point block model does not.