

Karakterisasi bijih nikel laterit berdasarkan batuan induk di Lapangan "DS" Kabupaten Konawe, Provinsi Sulawesi Tenggara =  
Characterization of laterite nickel ore based on bedrock in "DS" field Konawe Regency, Southeast Sulawesi Province

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Abstrak

Pulau Sulawesi merupakan salah satu pulau dengan deposit nikel laterit terbesar di Indonesia, yang berkaitan erat dengan keberadaan East Sulawesi Ophiolite (ESO). Deposit nikel laterit merupakan hasil dari pelapukan batuan ultramafik yang ditemukan pada sekuen ofiolit, sehingga mengalami pengayaan unsur tertentu pada setiap profil laterit. Penelitian mengenai hubungan antara batuan induk terhadap karakteristik deposit nikel laterit yang dihasilkan masih jarang ditemukan sehingga sangat menarik untuk diteliti lebih lanjut. Penelitian ini bertujuan untuk mengetahui batuan induk serta kaitannya terhadap karakteristik deposit nikel laterit yang terdapat di Kabupaten Konawe, Sulawesi Tenggara tepatnya di lapangan DS. Penelitian diawali dengan klasifikasi batuan induk berdasarkan data geokimia XRF dengan menggunakan pembelajaran mesin tersupervisi yang kemudian dilanjutkan dengan analisis petrografi dan mikro XRF pada setiap tipe batuan dasar yang ditemukan. Berdasarkan hasil penelitian, diketahui bahwa daerah penelitian tersusun atas batuan ultramafik harzburgit tipe 1, 2 dan 3 yang dibedakan berdasarkan komposisi mineral utama. Dari hasil analisis data XRF setiap zona, didapatkan hasil bahwa persentase nikel tertinggi ditemukan pada profil saprolit lunak pada zona harzburgite tipe tiga yang didukung oleh kondisi kemiringan lereng.

.....Sulawesi is one of the islands with the largest nickel laterite deposits in Indonesia, which is closely related to the existence of East Sulawesi Ophiolite (ESO). Laterite nickel deposit is the result of weathering of ultramafic rocks found in ophiolite sequences, with certain element enrichment in each laterite profile. Research on the relationship between the source rock and the characteristics of the laterite nickel deposit is still rarely found, so it is very interesting for further research. This study aims to determine the source rock and its relation to the characteristics of laterite nickel deposits in Konawe Regency, Southeast Sulawesi, precisely in the DS field. The study began with the classification of the bedrock based on XRF geochemical data using supervised machine learning which was continued with petrographic and micro XRF analysis for each type of bedrock. Based on the research results, it is known that the research area is consisted of ultramafic harzburgite rocks types 1, 2 and 3 which are differentiated based on the composition of the major minerals. From the analysis of XRF data for each zone, the result shows that the highest percentage of nickel was found in the soft saprolite profile in the Harzburgite zone type three which was supported by morphological conditions.