

**GEOLOGI DAN POTENSI PENYEBARAN ENDAPAN
NIKEL LATERIT PADA *HILL X* BERDASARKAN DATA
BOR DI PT. TBP DESA KAWASI, KECAMATAN OBI,
KABUPATEN HALMAHERA SELATAN,
PROVINSI MALUKU UTARA**

ABSTRAK

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Indonesia memiliki cadangan nikel terbesar di dunia yaitu sebesar 52% cadangan nikel dunia dan 90% sebaran nikel di Indonesia berada di Sulawesi Tengah, Sulawesi Selatan, Sulawesi Tenggara, dan Maluku Utara (Badan Geologi, 2020). Penulis tertarik melakukan penelitian untuk mengkaji mengenai penyebaran endapan nikel laterit khususnya pada daerah penelitian yang berada di area pertambangan nikel laterit PT. Trimegah Bangun Persada yang merupakan anak perusahaan PT. Harita Nickel Group pada wilayah Kawasi, Kecamatan Obi, Kabupaten Halmahera Selatan, Provinsi Maluku Utara. Secara geografis daerah penelitian terletak pada koordinat X: 326592-325092, Y: 9830292-9833292 UTM (*Universal Transverse Mercator*) WGS 1984 zona 52S.

Tujuan penelitian ini yaitu untuk interpretasi geomorfologi dan pola pengaliran, interpretasi stratigrafi, interpretasi struktur geologi, pemetaan geologi lapangan, pengambilan sampel untuk analisa petrografi serta pembuatan peta kadar nikel laterit dan peta potensi penyebaran nikel laterit pada lokasi penelitian.

Metode yang digunakan dalam penelitian ini merupakan metode yang dilakukan antara lain akuisisi data primer dan data sekunder, analisis data primer dan data sekunder serta sintesis serta laporan akhir.

Secara geomorfologi lokasi penelitian tersusun atas perbukitan denudasional (D1) dan lahan bukaan tambang (A1). Daerah penelitian tersusun atas batuan ultrabasa dan batuan metamorf berderajat rendah. Bentuk morfologi terkontrol oleh proses pensesaran yang diperkirakan yaitu sesar naik berarah timurlaut-baratdaya, sesar dekstral berarah baratlaut-tenggara dan sesar normal berarah timurlaut-baratdaya. Pola pengaliran pada lokasi penelitian berupa pola pengaliran ubahan yaitu subtrellis. Stratigrafi daerah penelitian tersusun oleh batuan ultrabasa yaitu harsburgit serta berupa serpentinit.

Berdasarkan pengolahan data pemboran perusahaan didapatkan hasil peta kadar Ni pada saprolit dan limonit. Peta kadar tersebut menunjukkan persebaran kadar Ni baik di saprolit maupun limonit daerah penelitian. Hasil dari persebaran kadar Ni tersebut menunjukkan nilai unsur Ni yang heterogen namun secara umum tinggi berkisar antara 0.91%-1.95% pada bagian utara dan selatan serta nilai kadar Ni yang rendah berkisar antara 0.90%-1.11% pada bagian tengah sampai timur dari daerah penelitian.

Kata Kunci: data pemboran, nikel laterit, obi, potensi, topografi

**GEOLOGY AND POTENTIAL FOR THE DISTRIBUTION
OF NICKEL LATERITE DEPOSITS BASED ON
DRILLING DATA AT PT. TBP KAWASI REGION,
OBI SOUTH HALMAHERA DISTRICT,
NORTH MALUKU PROVINCE**

ABSTRACT

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Indonesia has the largest nickel reserves in the world, accounting for 52% of the world's nickel reserves, with 90% of nickel distribution in Indonesia located in Central Sulawesi, South Sulawesi, Southeast Sulawesi, and North Maluku (Geological Agency, 2020). The author is interested in conducting research to study the distribution of laterite nickel deposits, particularly in the research area located within the laterite nickel mining area of PT. Trimegah Bangun Persada, a subsidiary of PT. Harita Nickel Group, in Kawasi, Obi District, South Halmahera Regency, North Maluku Province. Geographically, the research area is located at coordinates X: 326592-325092, Y: 9830292-9833292 UTM (Universal Transverse Mercator) WGS 1984 zone 52S.

The aim of this research is to interpret geomorphology and drainage patterns, interpret stratigraphy, interpret geological structures, conduct field geological mapping, collect samples for petrographic analysis, and create maps of laterite nickel grades and the potential distribution of laterite nickel in the research location.

The method used in this research is a method that includes acquisition of primary data and secondary data, analysis of primary data and secondary data as well as synthesis and final report.

Geomorphologically, the research location consists of denudational hills (D1) and mining open land (A1). The research area is composed of ultrabasic rocks and low-grade metamorphic rocks. The morphology is controlled by faulting processes, which are suspected to include a northeast-southwest thrust fault, a northwest-southeast dextral fault, and a northeast-southwest normal fault. The drainage pattern at the research location is a modified subtrellis pattern. The stratigraphy of the research area consists of ultrabasic rocks, namely harzburgite, and serpentinite.

Based on the company's drilling data processing, a nickel grade map for saprolite and limonite was obtained. The grade map shows the distribution of nickel grades in both saprolite and limonite in the research area. The results of the nickel grade distribution show a heterogeneous nickel content, but generally high, ranging from 0.91%-1.95% in the north and south parts, and low nickel content ranging from 0.90%-1.11% in the central to eastern parts of the research area.

Keywords: *drilling data, nickel laterite, obi, potential, topography*