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Characteristics of Bauxite Ore in Toba Area, Sanggau District, West Kalimantan, Indonesia.

Ibnu Munzir [*1] and Wahdaniah Mukhtar[2]

[1] *Institute of Geological Science, Jagiellonian University, 30387, Poland.*

[2] *Department of Mining Engineering, Tanjungpura University, 78124, Indonesia.*

*Corresponding author: ibnu.munzir@doctoral.uj.edu.pl

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Indonesia's largest bauxite reserves are in the province of West Kalimantan, which is 703 million tons of bauxite is formed from rocks with a high relative aluminium content, low iron content, and a small amount of quartz. The mineralogy and characteristics of lateritic bauxite deposits are closely related to several factors, including the texture and composition of the bedrock. This study discusses the genetic type of bauxite deposits based on the result from petrography analysis, XRD, and XRF methods. The primary data from bauxite ore samples were collected from the stockpile of PT. Dinamika Sejahtera located in Toba area. The bauxite ore appears in concretion texture while the petrographic appearance of the ore shows the traces of gibbsite have been altered from kaolinite. Mineralogically, XRD analysis provides the quantitative composition of the ore are gibbsite (70,4 wt.%) as the major mineral while dickite (23,8 wt.%), hematite (5,8 wt.%), and other minerals (3,9 wt.%) are the accessory minerals. The quantitative result of the geochemical analysis indicates a higher amount of aluminum oxide observed using the XRF method. The deposit is recognized as a Low-Fe bauxite due to comparing Al_2O_3, Fe_2O_3, and Si_2O_3 concentrations. The weathering process has altered the primary texture, remaining resistant and secondary minerals. Based on the Al_2O_3 – CaO + Na_2O + K_2O + MgO – Fe_2O_3 (A–L–F) plot, the deposit experienced the desilication process in the early stage followed by the bauxitization process due to the higher amount of Al_2O_3 comparing with Fe_2O_3.