

## Alteration and Mineralization Study of The Section 30 of Porphyry Copper-Gold Deposit, Batuhijau, Nusa Tenggara based on Geological Logging and Petrographic Analysis

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### **Abstract**

The study area is located in the Batu Hijau, on the southwestern island of Sumbawa, West Nusa Tenggara Province coordinates  $08^{\circ} 57' 55''$  latitude and  $116^{\circ} 52' 21''$  longitude. Research area is part of the mining area of PT. Newmont Nusa Tenggara 30 is a cross-sectional area of research studies the authors. In general, this section includes 7 drill bores, that the SBD 281, SBD 229, SBD 269, SOD 094. SBD 018, SBD 002. and SBD 050. The method research conducted to understand the geological core logging of lithology conditions, alteration, mineralization, vein mineral carriers, the density of quartz calculated content of copper (Cu). and the geological structure at a point or hole drilling (Drillhole) Further petrographic analysis of thin incision and the incision poles to determine the microscopic appearance of the spread of lithology. alteration and the percentage ratio of sulphide mineralization. The final study a map of lithology. map of alteration, map of the ratio of sulphide mineralization, map of vein density, and map of Cu grade. Lithological units are contained in section 30 of volcanic rock units, quartz diorite equigranular rock unit intermediate tonalitic rock unit. and young tonalite rock unit Hydrothermal alteration or alteration in the cross section 30 is divided into 4 types: chlorite-epidote alteration, PGM alteration, secondary biotite alteration and partial biotite alteration. In Microscopic analysis on petrographic thin slice is known that the alteration Secondary Biotite alteration is strong because the percentage of secondary minerals have a more dominant /

alteration than the other. On the percentage of opaque mineral content is generally associated with higher levels of its mineralization. Petrographic analysis of the incision on the poles can be seen the percentage of metallic minerals in the form of bornite mineral, chalcopyrite mineral, pyrite mineral, kovelite mineral and magnetite mineral disseminated in the body of rock in the section 30.