

INTISARI

Daerah Doup merupakan salah satu daerah di lengan utara Pulau Sulawesi yang memiliki mineralisasi emas. Daerah Doup mempunyai karakteristik tipe endapan porfiri, epitermal sulfidasi menengah, kontak metasomatik, dan *carbonate replacement*. Penelitian ini berada pada Prospek "P" di Daerah Doup dengan mineralisasi porfiri *overprinting* epitermal sulfidasi menengah. Tujuan dari penelitian ini yaitu mengkaji kondisi geologi, tipe alterasi, karakteristik mineralisasi, serta proses pembentukan mineralisasi di daerah penelitian. Penelitian ini menggunakan data pemetaan lapangan, pengamatan lubang pemboran, serta analisis laboratorium, berupa petrografi, mineragrafi, FA-AAS (*Fire Assay – Atomic Absorption Spectrometry*), XRD (*X-Ray Diffraction*), dan XRF (*X-Ray Fluorescence*).

Berdasarkan hasil pemetaan lapangan dan analisis laboratorium dapat diketahui bahwa daerah penelitian terdiri atas 11 satuan batuan dari tua ke muda, yaitu satuan batugamping, satuan batupasir karbonatan, satuan batuserpih, satuan tuf lapili, satuan lava dasit, satuan andesit, satuan diorit kuarsa 1, satuan tonalit, satuan diorit kuarsa 2, satuan breksi epiklastik, dan satuan endapan koluvium. Adapun tipe alterasi yang diidentifikasi yaitu alterasi klorit - kalsit, biotit - magnetit + K-feldspar ± epidot ± klorit, epidot - klorit - kalsit, serisit, serisit - ilit - klorit ± pirit, dan kuarsa - serisit - ilit - pirit. Karakteristik mineralisasi di daerah penelitian dicirikan dengan urat tipe porfiri (urat tipe M, tipe A, tipe AB, tipe B, tipe D) dan urat *basemetal* (dengan tekstur *crustiform*, *comb*, *symmetrical*, *stockworks*, dan *vugs*). Sementara itu, mineral bijih yang dijumpai yaitu pirit, sfalerit, galena, magnetit, kalkopirit, dan hematit. Pembentukan mineralisasi di daerah penelitian diawali oleh intrusi multifase yaitu satuan diorit kuarsa 1 yang diintrusi oleh satuan tonalit yang membentuk endapan porfiri. Setelah itu, terjadi intrusi diorit kuarsa 2 yang bersifat *barren*. Kemudian, aktivitas sesar dekstral naik dengan orientasi NW – SE membuat jalur bagi fluida hidrotermal baru sehingga terendapkan urat *basemetal*, yang mengindikasikan pembentukan endapan epitermal sulfidasi menengah.

Kata kunci: alterasi, mineralisasi, epitermal sulfidasi menengah, porfiri, Doup

ABSTRACT

The Doup area is one of the areas in the northern arm of Sulawesi Island that has gold mineralization. The Doup area has the characteristics of porphyry deposits, intermediate epithermal sulfidation, metasomatic contact, and carbonate replacement. This research is located in Prospect "P" in the Doup area, which has a porphyry mineralization overprinting intermediate epithermal sulfidation. The purpose of this research is to examine the geological conditions, alteration type, mineralization characteristic, and mineralization formation processes in the research area. This research uses field mapping data, drill hole observations, and laboratory analysis, in the form of petrography, mineragraphy, FA-AAS (Fire Assay – Atomic Absorption Spectrometry), XRD (X-Ray Diffraction), and XRF (X-Ray Fluorescence).

Based on the results of field mapping and laboratory analysis, it can be known that the research area consists of 11 rock units from oldest to youngest, which are limestone units, carbonate sandstone units, shale units, lapilli tuff unit, dacite lava unit, andesite unit, quartz diorite 1 unit, tonalite unit, quartz diorite 2 unit, epiclastic breccia unit, and colluvial deposit unit. The types of alteration identified were alteration chlorite - calcite, biotite - magnetite - K-feldspar ± epidote ± chlorite, epidote - chlorite – calcite, sericite, sericite - illite - chlorite ± pyrite, and quartz - sericite - illite - pyrite. The characteristic mineralization in the research area is characterized by porphyry-type veins (M type, A type, AB type, B type, D type) and base metal veins (with crustiform, comb, symmetrical, stockworks, and vugs textures). Meanwhile, the ore minerals that can be found are pyrite, sphalerite, galena, magnetite, chalcopyrite, and hematite. The formation of mineralization in the research area began with a multiphase intrusion, the quartz diorite 1 unit, which was intruded by a tonalite unit, causing a porphyry deposit type. Subsequently, there was a re-intrusion of barren quartz diorite 2. Then, dextral thrust faulting with a NW-SE orientation created pathways for new hydrothermal fluids, resulting in the deposition of base metal veins, indicating the formation of intermediate sulfidation epithermal deposits.

Keywords: *alteration, mineralization, intermediate sulfidation epithermal, porphyry, Doup.*