SARI

Intrusi Ertsberg terletak di Distrik Tambang Ertsberg, Kabupaten Mimika, Provinsi Papua. Intrusi Ertsberg merupakan intrusi yang berperan dalam proses mineralisasi yang membentuk endapan bijih skarn Cu-Au. Penelitian ini memiliki tujuan utama untuk mengetahui karakteristik tubuh Intrusi Ertsberg dan membuat model 3-dimensi dari tubuh intrusi. Terdapat 40 sampel batuan yang berasal dari singkapan batuan dan batuan inti. Sampel batuan diambil dari berbagai titik yang tersebar di antara elevasi 2500 – 4000 mdpl. Pembuatan model 3-dimensi bergantung pada hasil analisis petrografi terhadap sampel-sampel batuan. Berdasarkan hasil analisis terhadap seluruh sampel, terdapat 2 fase intrusi yang hadir pada daerah penelitian, yakni Intrusi Ertsberg dan aplite *dike*. Intrusi Ertsberg terdiferensiasi menjadi 3 zona, yakni zona monzonit, zona monzonit kuarsa, dan zona monzogranit. Ketiga zona dibedakan dari persentase kelimpahan mineral-mineral utama pembentuk batuan, yaitu mineral plagioklas, kuarsa, dan alkali feldspar. Kelimpahan mineral kuarsa pada seluruh sampel sangat variatif sehingga mineral ini menjadi mineral yang membedakan masing-masing zona. Zona yang tersusun atas batuan monzogranit merupakan zona yang paling asam. Konsentrasi mineral asam menurun secara berurut pada zona monzonit kuarsa hingga zona monzonit. Zona monzonit yang memiliki tingkat keasaman paling rendah terletak di bagian terluar dari tubuh intrusi dan melingkupi sebagian dari zona monzonit kuarsa. Zona monzogranit berada di tengah tubuh intrusi dan dilingkupi oleh zona monzonite kuarsa. Aplite *dike* hadir sebagai intrusi dari sumber magma yang lebih muda dan menerobos tubuh Intrusi Ertsberg.

Kata kunci: Pemodelan Geologi, Batuan Intrusif, Ertsberg

ABSTRACT

Ertsberg Intrusion is located in the Ertsberg Mining District, Mimika Regency, Papua Province. Ertsberg Intrusion is the intrusion had a significant role in the mineralization process to generate the Cu-Au skarn deposit. The main goals of this research are to understand the characteristic of the Ertsberg Intrusion and to create the 3-dimensional model of the intrusion body. There are 40 rocks samples derived from rocks outcrops and cores. The samples taken from various location spread between elevations 2500 – 4000 meters above sea level. The 3-D geological model depends on the results of the petrographic analysis. Based on the results towards the samples, there are 2 phases of intrusion in the research area, Ertsberg Intrusion and aplite dike. Ertsberg Intrusion differentiated into 3 zones, monzonite zone, quartz monzonite zone, and monzogranite zone. The zones distinguished by the percentage of major rock forming minerals, such as plagioclase, quartz, and alkali feldspar. The abundance of quartz minerals in all samples is very varied so that these minerals become the main mineral that differentiate each zone. Monzogranite zone is the most felsic zone. The concentration of felsic minerals decreases sequentially from the quartz monzonite zone to the monzonite zone. The monzonite zone, as the least felsic zone, spread in the outer part of the intrusion body and covers some parts of the quartz monzonite zone. Monzogranite zone which located in the middle part of the intrusion body, covered by the quartz monzonite zone. Aplite *dike* appear as an intrusion from younger magma sources and intruded the Ertsberg Intrusion.

Keyword: *Geological Modelling, Intrusive Rocks, Ertsberg*