Studi geologi alterasi dan mineralisasi endapan skarn kawasan Ertsberg East Skarn System area eksplorasi PB5 DMLZ = Study of geology alteration and mineralization of skarn deposit in Ertsberg East Skarn System Exploration area PB5 DMLZ

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Abstrak

Penelitian Kawasan Ertsberg East Skarn System (EESS) merupakan endapan skarn mineralisasi Cu-Au. Kegiatan pertambangan pada kawasan EESS sudah masuk tahap produksi, namun masih terdapat tahap eksplorasi lanjutan yang menjadi latar belakang penelitian. Penelitian ini bertujuan untuk mengidentifikasi dan menganalisis karakteristik geologi, alterasi, dan mineralisasi serta mengkorelasikannya dengan data kandungan unsur kimia pada kawasan EESS. Penelitian ini dilakukan dengan melakukan analisis terhadap data bor sehingga karakteristik geologi, alterasi, dan mineralisasi diketahui. Lalu dilakukan analisis komprehensif dengan mengkorelasikan karakteristik- karakteristik tersebut dengan data assay dan XRF. Terdapat empat batuan asal pada lokasi yaitu granodiorit, mudstone, batupasir, dan batulanau. Terdapat tiga formasi yaitu Intrusi Erstberg, Formasi Waripi, dan Formasi Ekmai. Terdapat sesar Ertsberg 1. Terdapat sembilan zona alterasi yaitu (Biotit sekunder + K feldspar), (Magnetit + Diopsid ± Garnet ± Klorit ± Epidot), (Magnetit + Diopsid ± Garnet ± Anhidrit ± Serpentin), (K feldspar + Klorit ± Biotit sekunder), (Serisit), (Pirit + Pirotit ± Magnetit), (Kuarsa), (Diopsid ± Epidot ± Garnet ± Klorit ± Magnetit), dan (Kalsit). Kandungan Cu paling tinggi pada alterasi eksoskarn pada Formasi Waripi dan paling rendah pada alterasi kalsit. Mineral magnetit memperburuk bacaan metode XRF.

.....Ertsberg East Skarn System (EESS) area is a Cu-Au mineralized skarn deposit. Mining activities in the EESS have entered the production stage, but there is still an advanced exploration stage which is this research’s background. This research aims to identify and analyze geological characteristics, alteration and mineralization and correlate them with chemical data in EESS area. This research was carried out by analyzing drill data so that the characteristics of geology, alteration and mineralization are known. Then a comprehensive analysis was carried out by correlating these characteristics with assay and XRF data. There are four protoliths at the location, granodiorite, mudstone, sandstone and siltstone. There are three formations, the Erstberg Intrusion, Waripi Formation, and Ekmai Formation. There is the Ertsberg 1 fault. There are nine alteration zones, (Secondary biotite + K feldspar), (Magnetite + Diopside ± Garnet ± Chlorite ± Epidote), (Magnetite + Diopside ± Garnet ± Anhydrite ± Serpentine), (K feldspar + Chlorite ± Secondary biotite), (Sericite), (Pyrite + Pyrrhotite ± Magnetite), (Quartz), (Diopside ± Epidote ± Garnet ± Chlorite ± Magnetite), and (Calcite). The Cu content is highest in exoskarn alteration in the Waripi Formation and lowest in calcite alteration. The mineral magnetite worsens the XRF readings.