

GEOLOGI DAN STUDI GRANIT TERHADAP MINERALISASI TIMAH DAERAH PERMIS DAN SEKITARNYA, PROVINSI KEPULAUAN BANGKA BELITUNG

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Sari

Daerah penelitian berada di daerah Permis dan sekitarnya, Kabupaten Bangka Selatan, Provinsi Kepulauan Bangka yang meliputi wilayah darat dan laut. Penelitian dilakukan untuk mengetahui kondisi geologi, karakteristik granit, alterasi dan mineralisasi batuan permukaan dan *basement*, dan sebaran urat pada daerah penelitian. Metode penelitian dilakukan melalui survei pendahuluan, pemetaan geologi, pengeboran *counterflush* bawah permukaan, analisis struktur geologi, petrografi, XRF, ASD, dan Mineragrafi. Morfologi daerah penelitian meliputi Satuan Perbukitan Struktural Intrusi (S11), Satuan Dataran Denudasional (D1), Satuan Dataran Pantai (M3) dan Satuan Dataran Fluvial (F4). Litologi penyusun terdiri atas batupasir kuarsa, granit dan endapan lempung, lumpur, pasir. Granit pada daerah penelitian menunjukkan alkali granit, bersifat *peraluminous* hingga *metaluminous* menurut diagram ASI (*Alumina Saturation Index*), termasuk dalam granit tipe S dan magma asal termasuk seri *shosonitik*. Granit ini diperkirakan bagian *Main Range Granit* sebagai sumber pembawa endapan timah placer di darat maupun di laut sebagai endapan *kaksa*. Zonasi alterasi pada daerah penelitian dibagi menjadi 2 yaitu zonasi serisit ± klorit ± kuarsa ± illit/smektit ± muskovit dan zonasi kaolin ± illit ± smektit ± kuarsa ± muskovit. Tahap greisenisasi dimulai pada *late* magmatik yang dilanjutkan tahap *post* magmatik menyebabkan pengayaan kuarsa dan muskovit (greisenisasi) yang diikuti oleh silisifikasi, albitisasi II, dan mikroklinisasi II. Mineral bijih yang berkembang berupa kasiterit, pirit, zirkon dan rutil. Mineralisasi pada urat dikontrol oleh struktur geologi dengan arah orientasi NW-SE dengan pengisi tourmaline, kuarsa dan kaolin. Sistem endapan mineral diperkirakan merupakan sistem endapan greisen.

Kata kunci: granit, peralumina, metalumina, mineralisasi, sistem endapan greisen.

GEOLOGY AND GRANITE STUDY TOWARDS TIN MINERALIZATION AT PERMIS AND THE SURROUNDING REGION, BANGKA BELITUNG ISLAND PROVINCE

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Abstract

The study area is located at Permis and surrounding region, South Bangka District, Bangka Belitung Island Province including the land and sea area. The study is used to know the geology conditions, granite characteristics, alteration and mineralization, alteration and mineralization surface and basement rocks, vein distribution in area of study. The study methods which are used at initial survey such as geological mapping, subsurface counterflush drilling, geological structure, petrography, XRF, ASD, and mineralogy analysis. Morphology of study area includes Intrusion Structural Hill Unit (S11), Denudational Plain Unit (D1), Marine Plain Unit (M3), Fluvial Plain Unit (F4). Lithology composed of quartz sandstone, granite and sand, mud, clay deposits. Granite at study area shows alkali granite, based on ASI (Alumina Saturation Index) diagram, peraluminous to metaluminous property, it is included as S type granite and the magma source includes shoshonitic series. The granite is assumed to be a part of the Main Range Granite as bearing of tin placer deposits which are deposited in the land or in the sea as a kaksa. Alteration which develops in the study area can be divided into 2 which are sericite \pm chlorite \pm quartz \pm illite/smectite \pm muscovite zone and kaoline \pm illite \pm smectite \pm quartz \pm muscovite zone. Greisenization phase started at late magmatic continued post magmatic causing quartz and muscovite enrichment (greisenization) which followed by silicification, albitisation II and microclinisation II. Ore Minerals which develop are cassiterite, pyrite, zircon and rutile. Mineralization in vein controlled by geology structure with NW-SE orientation. Mineral deposit system assumed as greisen deposit system.

Keywords: granite, peraluminous, metaluminous, mineralization, greisen deposit system