Karakteristik Geokimia Batuan Peridotit
Kecamatan Seram Barat dan Sekitarnya, Provinsi Maluku

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SARI

Penelitian ini bertujuan untuk mengetahui karakteristik batuan peridotit, afinitas magma pembentuk batuan peridotit, dan untuk mengetahui lingkungan tektonik pembentuk batuan peridotit di daerah penelitian. Pada penelitian ini digunakan metode kuantitatif dengan analisis laboratorium dari sampel batuan peridotit yaitu analisis petrografi, analisis XRF (*X-Ray Fluorescense*), dan analisis SEM (*Scanning Electron Microscopy*), serta analisis studio dengan data sekunder untuk mendapatkan gambaran umum geologi di daerah penelitian seperti geomorfologi dan kelurusan struktur. Data yang dihasilkan dari analisis tersebut diolah dengan klasifikasi para ahli untuk mendapatkan hasil berupa karakteristik batuan peridotit, penamaan batuan peridotit berdasarkan analisis geokimia, asal magma, afinitas magma, evolusi magma, setting tektonik, geomorfologi, dan kelurusan struktur di daerah penelitian.

Gambaran umum geologi daerah penelitian meliputi geomorfologi daerah penelitian dibagi menjadi 4 yaitu satuan pantai, satuan dataran denudasional, satuan punggungan hogback, dan satuan perbukitan horst, serta kelurusan struktur berarah Utara-Selatan, Barat-Timur, dan Barat Laut-Tenggara. Pada pengamatan petrografi karakteristik batuan peridotit di daerah penelitian telah menunjukkan proses alterasi dengan ditemukannya mineral ubahan seperti Antigorite, Chrysotile, Lizardite, Chlorite, Talc, dan Hematite. Serta ditemukan struktur corona pada olivine, ubahan olivine berupa palimsets, dan mineral logam Magnetite, Hematite, dan Galena. Berdasarkan data deskripsi mineral pada petrografi didapatkan penamaan batuan peridotit di daerah penelitian yaitu Lherzolite, Harzburgite, dan Serpentinite. Lalu berdasarkan data geokimia didapatkan penamaan batuan yaitu Peridot Gabbro, asal magma berada di *Ocean Ridge and Floor*, afinitas magmanya *Tholeiite Series* dan *Calc-Alkaline Series*. Evolusi magma menunjukan proses diferensiasi magma meliputi *fractional crystallization* dan *crystal settling* dari unsur-unsur Ca, Mg, Fe, Al, dan Ti , dan setting tektonik di daerah penelitian yaitu Bonninite. Setelah itu dilakukan analisis SEM didapatkan data berupa mineral Olivine, jenis mineral Serpentine seperti Antigorite, Chrysotile, serta mineral logam Magnetite, Hematit, dan Galena.

Kata Kunci : Batuan Peridotit, Geokimia, Afinitas Magma, Tektonik, Pulau Seram

Geochemical Characteristics of Peridotite Rocks
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ABSTRACT

This research aims to determine the characteristics of peridotite rock, the affinity of magma that forms peridotite rock, and to determine the tectonic environment that forms peridotite rock in the research area. In this research, quantitative methods were used with laboratory analysis of peridotite rock samples, namely petrographic analysis, XRF (X-Ray Fluorescence) analysis, and SEM (Scanning Electron Microscopy) analysis, as well as studio analysis with secondary data to get a general picture of the geology in the research area such as geomorphology and structural alignment. The data resulting from this analysis is processed using expert classification to obtain results in the form of peridotite rock characteristics, naming of peridotite rocks based on geochemical analysis, magma origin, magma affinity, magma evolution, tectonic setting, geomorphology, and structural alignment in the research area.

The general description of the geology of the research area includes the geomorphology of the research area which is divided into 4, namely the coast unit, the denudational plain unit, the hogback ridge unit, and the horst hill unit, as well as the structural lineaments trending North-South, West-East, and North-West-Southeast. Petrographic observations of the characteristics of peridotite rocks in the research area have shown an alteration process with the discovery of alteration minerals such as Antigorite, Chrysotile, Lizardite, Chlorite, Talc and Hematite. And corona structures were found in olivine, changes in olivine in the form of palimsets, and the metal minerals Magnetite, Hematite, and Galena. Based on mineral description data in petrography, the names of the peridotite rocks in the research area are Lherzolite, Harzburgite and Serpentinite. Then, based on geochemical data, the name of the rock was obtained, namely Peridot Gabbro, the origin of the magma was in the Ocean Ridge and Floor, the magma affinity was Tholeite Series and Calc-Alkaline Series. Magma evolution shows the magma differentiation process including fractional crystallization and crystal settling of the elements Ca, Mg, Fe, Al, and Ti, and the tectonic setting in the research area, namely Bonninite. After SEM analysis was carried out, data was obtained in the form of Olivine minerals, Serpentine mineral types such as Antigorite, Chrysotile, as well as the metal minerals Magnetite, Hematite and Galena.

Keywords: Peridotite Rock, Geochemistry, Magma Affinity, Tectonics, Seram Island