SARI

Geologi dan Studi Alterasi dan Mineralisais Daerah Pakisrejo dan Sekitarnya, Kecamatann Tanggungunung, Kabupaten Tulungagung, Jawa Timur.

Abdul Hadi

Daerah penelitian termasuk kedalam zona sesar mendatar dengan keberadaan gunung api purba yang berkaitan erat dengan jalur keluarnya fluida hidrotermal ke permukaan dalam sistem alterasi dan mineralisasi. Pengetahuan tentang kondisi geologi, tipe dan pola alterasi, potensi mineralisasi, dan pengaruh struktur geologi dalam persebaran alterasi dan mineralisasi daerah penelitian sangat penting. Perolehan data dilakukan dengan melakukan pengamatan dan pemetaan geologi, pemetaan alterasi dan mineralisasi, mengambil contoh batuan, analisis geomorfologi, struktur geologi, dan analisis laboratorium petrografi, *XRD*, mineragrafi, dan mikropaleontologi,. Satuan geomorfologi daerah penelitian terdiri dari Satuan Perbukitan Karst Pakisrejo, Satuan Perbukitan Sisa Gunung Api Campurdarat, Satuan Dataran Aluvial Campurdarat, dan Satuan Bukit Intrusi Campurdarat. Urutan stratigrafi dari yang paling tua sampai muda, dari kala Oligosen Akhir – Miosen tengah yaitu Satuan Lava Andesit, Satuan Breksi Andesit, Satuan Breksi Vulkanik, Satuan Intrusi Andesit, Satuan Intrusi Dasit, dan Satuan Batugamping, serta Satuan Aluvium yang merupakan endapan sedimen kuarter. Struktur geologi daerah penelitian merupakan komplek sesar mendatar dan sesar turun. Zona alterasi daerah penelitian terdiri dari zona propilitik, zona argilik, zona argilik lanjut, dan zona silisifikasi yang sebarannya dipengaruhi oleh struktur sesar mendatar dan terbentuk pada kisaran suhu 150 – 320 derajat *celcius*. Sistem endapan mineral daerah penelitian merupakan sistem endapan epitermal sulfida tinggi dengan *host rock* berupa intrusi batuan andesit dan dasit. Bentuk deposit mineral berupa *disseminated* dan *vinlet* dengan tekstur bijih berupa *vuggy quartz*. Mineral bijih yang terdapat di daerah penelitian yaitu mineral kovelit, kalkosit, enargit, pirit, kalkopirit, dan malasit dengan mineral aksesoris yaitu mineral alunit, kaolinit, pirofilit, dikit, dan illit.

Kata kunci: Geologi, Alterasi, Epitermal sulfida tinggi, Mineralisasi.

ABSTRACT

Geology and Study of Alteration and Mineralization in Pakisrejo and Adjacent Area, Tanggunggunung Subdistrict, Tulungagung District, East Java.

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The research area is a strike-slip fault zone and an ancient volcano area that are closely related to the distribution of hydrothermal fluid and mineral deposits in the system of alteration and mineralization. The boiling fluid rises along permeable zones, depositing ore and gangue minerals. Informations of geological setting, types of hydrothermal alteration, presence of ore minerals, and structure that control deposits are very important. The primary data has collected by observating and mapping the geological conditions, the distributin of alteration and mineralization zones, rock samples, geomorphology and geological structure analysis, and laboratory analysis of petrography, XRD, mineragraphy, and micropaleontology. This research area consists of 4 geomorphological units including Pakisrejo Karstic Hills, Campurdarat Volcanic Remnants Hills, Campurdarat Aluvial Plains, Campurdarat Dikes Hill. Stratigraphy in this research are grouped into 7 units in order from the oldest to the youngest, from Late Oligocene to Middle Miocene are Andesite Lava, Andesite Breccia, Volcanic Breccias, Andesite Intrusion, Dacite Intrusion, Limestones, and Alluvium unit that formed as quartenary sedimen deposits. The research area is influenced by strike-slip faults and normal faults. The alteration zones of research area consists of prophylitic zone, argilic zone, advance argilic zone, and silisic zone that contolled by faults and form over the temperature range of 150 – 320 ^{o}C. The system of mineral deposits in reseacrh is high sulfidation epithermal deposits with andesite and dacite intrusions as a host rock. The ore minerals are deposits in form as disseminated and veinlet with texture that related to vuggy quartz. The ore minerals in research area are covellite, chalcosite, enargite, pyrite, chalcopyrite, and malachite, with gangue minerals are alunite, kaolinite, pyrophyllite, dickite, and illite.

Keywords: Geology, Alteration, High-sulfidation, epithermal, mineralization.