

SARI

Daerah penelitian berada di Desa Cihaur, Kecamatan Simpenan, Kabupaten Sukabumi. Secara regional, daerah penelitian tersusun oleh Formasi Jampang dengan litologi berupa breksi vulkanik yang berselingan dengan lava dan tuff. Beberapa urat kuarsa juga dijumpai dengan orientasi dominan berarah barat laut – tenggara yang mengindikasikan keterdapatan mineralisasi di daerah penelitian. Penelitian terdahulu menyebutkan di utara daerah penelitian dijumpai endapan epitermal dengan urat berorientasi barat laut – tenggara. Penelitian ini bertujuan untuk mengetahui bagaimana kondisi geologi, alterasi, mineralisasi, serta kontrol struktur terhadap alterasi dan mineralisasi di daerah penelitian. Penelitian dilakukan melalui pengambilan data primer berupa pemetaan di lapangan dan pengambilan sampel untuk analisis laboratorium berupa analisis petrografi, mikroskopi bijih, XRD, geokimia AAS, dan mikro-XRF. Hasil penelitian menunjukkan bahwa daerah penelitian tersusun oleh satuan litologi breksi tuff, andesit, dan dasit dengan kehadiran alterasi hidrotermal yang terbagi menjadi tiga zona, yaitu zona silisifikasi, zona argilik, dan zona propilitik. Alterasi silisifikasi dicirikan oleh kehadiran mineral sekunder berupa kuarsa dan silika yang melimpah di batuan, alterasi argilik dicirikan oleh kehadiran mineral kaolinit dan illit sebagai mineral sekunder pada batuan, sementara alterasi propilitik dicirikan oleh kehadiran mineral klorit, albit, dan kalsit sebagai mineral sekunder pada batuan. Mineralisasi di daerah penelitian termasuk kedalam endapan epitermal sulfidasi rendah – menengah yang dijumpai pada tubuh urat kuarsa dan batuan sampling (*wallrock*) dengan arah urat dominan pada N 330° E dan tekstur dijumpai berupa masif, *crustiform*, *stockwork*, *comb*, *accicular*, *cockade*, dan *lattice bladed*. Mineral bijih di daerah penelitian dijumpai berupa emas - perak sebagai *precious metal*, galena - sfalerit sebagai *base metal*, dan kovelit - kalkosit sebagai mineral *supergene*. Logam emas (Au) dijumpai dengan kadar tertinggi pada urat *accicular* dengan kadar 3,71 ppm, sementara perak (Ag) dijumpai dengan kadar tertinggi pada urat *crustiform* dengan kadar 52,6 ppm dan berasosiasi terhadap logam tembaga (Cu), timbal (Pb), dan seng (Zn). Keberadaan alterasi dan mineralisasi di daerah penelitian dikontrol oleh kehadiran struktur geologi yang terbagi menjadi dua yaitu struktur pra mineralisasi yang terbentuk sebelum mineralisasi sehingga menjadi zona lemah dan daerah pengendapan urat pada Sesar Geser Cijiwa dan Sesar Geser Cihaur 5 dengan arah barat laut – tenggara. Struktur lainnya yaitu struktur *post* mineralisasi yang terjadi setelah mineralisasi terbentuk berupa sesar geser berarah timur laut - barat daya Gunung Hanjuang dan sesar turun.

Kata Kunci : sulfidasi rendah - menengah, mineralisasi, struktur

ABSTRACT

The research area is located in Cihaur Village, Simpenan, Sukabumi. Regionally, the study area is composed of Jampang Formation with lithology of volcanic breccia interspersed with lava and tuff. Quartz veins were also found with a dominant orientation trending northwest–southeast which indicates the presence of mineralization in the research area. Previous research shows that in the north of the research area were found epithermal deposits with veins oriented in northwest–southeast. The purposes of this research are to determine the geological conditions, alteration, mineralization, and structural control of alteration and mineralization in the research area. The research was conducted through primary data collection from mapping in the field and sampling some rock for laboratory analysis including petrographic, ore microscopy, XRD, geochemistry AAS, and micro-XRF. The results show that the research area is composed of tuff breccia, andesite, and dacite lithological units with the presence of hydrothermal alteration which is divided into three zones, namely silicification zone, argillic zone, and propylitic zone. Silicification alteration is characterized by the presence of secondary minerals as quartz and silica abundantly in the rock, argillic alteration is characterized by kaolinite and illite as secondary minerals in the rock, while propylitic alteration is characterized by the presence of chlorite, albite, and calcite as secondary minerals in the rock. Mineralization in the research area includes low-intermediate sulfidation epithermal deposits found in quartz vein bodies and wall rock with the dominant vein direction at N 330° E and texture of veins found in massive, crustiform, stockwork, comb, acicular, cockade, and lattice bladed. The ore minerals in the research area are found of gold – silver as a precious metal, galena – sphalerite as base metal, and covellite – chalcocite as supergene minerals. Gold metal (Au) was found with the highest concentration in the acicular vein with a grade of 3.71 ppm, while silver (Ag) was found with the highest concentration in the crustiform vein with a concentration of 52.6 ppm and associated with metals copper (Cu), lead (Pb), and zinc (Zn). The existence of alteration and mineralization in the study area is controlled by the presence of geological structures which are divided into two, namely pre-mineralized structures that formed before mineralization so that they become weak zones and areas of vein deposition on the Cijiwa Shear Fault and Cihaur 5 Shear Fault with a northwest-southeast direction. Another structure is the post mineralization structure that occurs after mineralization is formed in the form of a shear fault trending northeast-southwest of Mount Hanjuang and a descending fault.

Keywords : low – intermediate sulfidation, mineralization, structure