

INTISARI

Daerah penelitian terletak di daerah Gondang dan sekitarnya, Kabupaten Pacitan, Jawa Timur yang secara litotektonik termasuk ke dalam busur magmatik selatan Pulau Jawa. Tujuan dari penelitian ini adalah untuk mengetahui kondisi geologi, alterasi dan mineralisasi kaitannya dengan karakteristik urat dan mineral bijih di daerah Gondang dan sekitarnya.

Metode penelitian yang digunakan meliputi studi literatur, pemetaan geologi, analisis laboratorium berupa analisis petrografi, mineragrafi, ASD, geokimia AAS dan SEM EDX.

Stratigrafi daerah penelitian tersusun menjadi 3, dari tua ke muda terdiri dari satuan Andesit yang kemudian diterobos oleh satuan Intrusi Dasit dan Breksi Dasit. Struktur yang hadir di daerah penelitian berupa sesar kanan naik Ngepoh berarah tenggara-baratlaut yang kemudian dipotong oleh sesar mendatar kiri Karangtengah berarah timurlaut-baratdaya.

Zona alterasi yang terbentuk yaitu *paragonitic-muscovitic-illite* dan *muscovitic-illite* yang berkembang mengikuti pola struktur dan intrusi dasit serta *chlorite-carbonate±sericite* yang berkembang pada andesit.

Berdasarkan hasil analisis laboratorium AAS pada daerah penelitian berkembang mineralisasi Zn-Pb-Cu yang dicirikan dengan kehadiran mineral sfalerit, galena, kalkopirit, tenanit. Mineralisasi terbentuk dan terdistribusi di dalam urat kuarsa, *disseminated* maupun sebagai matriks di dalam breksi. Berdasarkan analisa AAS menunjukkan komposisi mineral bijih urat terbesar berupa Zn +10000 ppm, Pb 55 ppm, Cu 0,02% dengan Au 0,03 ppm, Ag 1 ppm. Mineralisasi yang ada pada urat kuarsa terjadi secara bertahap dengan terbentuknya urat kuarsa bertekstur *massive-crystalline* (Pb-Zn, Au-Ag minor) bersamaan proses hidrothermal melewati struktur, kemudian di fase berikutnya terjadi proses intrusi dasit, dimana larutan magma membawa dan membentuk urat magnetit, sedangkan sisanya membentuk urat kuarsa dengan tekstur *comb* (Au-Ag-Pb-Zn minor), *banded* (Au-Ag-Pb-Zn minor), *saccharoidal disseminated-cockade* (Pb-Zn-Cu, Au-Ag minor). Berdasarkan akumulasi data diatas, diinterpretasikan mineralisasi pada daerah Gondang dan sekitarnya berada di dalam zona *Crystalline Quartz superzone* (X) sampai *Crustiform-Colloform superzone* (CC) atau *base metals interval endapan epithermal* yang terbentuk pada kedalaman ±350-400 m dibawah *paleosurface*.

Katakunci: Gondang, urat kuarsa, mineral bijih, *precious metals*, *basemetals* epithermal, zonasi tekstur urat

ABSTRACT

The research area is located in the Gondang area and its surroundings, Pacitan Regency, East Java which is tectonically belongs to the southern magmatic arc of Java Island. The purpose of this study was to determine the geological conditions, alteration and mineralization in relation to the characteristics of veins and ore minerals in the Gondang area and its surroundings.

The research methods used literature studies, geological mapping, laboratory analysis in the form of petrographic analysis, mineralogy, ASD, AAS geochemistry and SEM-EDX.

The stratigraphy of the research area is arranged into 3, from old to young consisting of Andesite units which are then intruded by Dacite Intrusion and Dacite Breccia units. The structure present in the study area is the Ngepoh inverse dextral fault in a southeast-northwest direction, which is then cut by sinistral fault, Karangtengah, in a northeast-southwest direction.

The alteration zones formed are paragonite-muscovite-illite and muscovite-illite which develop following the dacite intrusion and structure pattern and chlorite-carbonate±sericite which develop on the andesite.

Laboratory results by AAS show that Zn-Pb-Cu mineralisation is developed in the study area, characterized by the presence of sphalerite, galena, chalcopyrite and tennantite. Mineralization is formed in quartz veins, disseminated or as a matrix in breccias. The results of AAS analysis show that vein sample content is Zn +10000 ppm, Pb 55 ppm, Cu 0,02% with Au 0,03 ppm, Ag 1 ppm. The mineralization in the quartz veins occurs gradually with the formation of massive-crystalline (Pb-Zn, Au-Ag minor) textured quartz veins along with the hydrothermal process through the structure, then in the next phase a dacite intrusion process occurs, where the magma solution carries and forms magnetite veins, while the rest forms quartz veins with a comb (Au-Ag-Pb-Zn minor), banded (Au-Ag-Pb-Zn minor), saccharoidal disseminated-cockade textures (Pb-Zn-Cu, Au-Ag minor). Based on the accumulated data, it is interpreted that the mineralization of the Gondang area and its surroundings is in the Crystalline Quartz superzone (X) to Crustiform-Colloform superzone (CC) or base metals interval epithermal deposits formed at a depth of ±350-400 m below the paleosurface.

Keywords: *Gondang, quartz veins, ore minerals, precious metals, base metals epithermal, texture zone*