

INTISARI

ANALISIS DATA *INDUCED POLARIZATION* UNTUK MENGIDENTIFIKASI KEMENERUSAN ZONA MINERALISASI AU-CU PADA KECAMATAN TIRTOMOYO, KABUPATEN WONOGIRI, JAWA TENGAH

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Tingginya potensi mineral di Pulau Jawa menjadikan kegiatan eksplorasi mineral menjadi cara terbaik untuk menggali potensi sumber daya mineral yang belum terungkap. Salah satu daerah yang memiliki prospek mineral berada pada Kecamatan Tirtomoyo, Kabupaten Wonogiri, Jawa Tengah. Maka dari itu, telah dilakukan penelitian untuk mengidentifikasi kemenerusan zona mineralisasi Au-Cu yang menjadi potensi cadangan mineral logam di daerah penelitian.

Penelitian ini menggunakan metode Polarisasi Terinduksi dalam kawasan waktu dengan konfigurasi dipol-dipol dengan jarak antar elektroda 20 m dan n maksimal 8. Data Polarisasi Terinduksi diperoleh dari 6 lintasan pengukuran pada 2 lokasi, yaitu 3 lintasan di Lokasi Penelitian A yang berada di Desa Hargosari, dan 3 lintasan di Lokasi Penelitian B yang berada di Desa Hargorejo. Pengolahan data dilakukan dengan menggunakan perangkat lunak *Res2Dinv* untuk mendapatkan model 2D resistivitas dan *chargeability* bawah permukaan dan diolah lebih lanjut menggunakan perangkat lunak *Surfer 19* dan *Rockworks 16* untuk mendapatkan kemenerusan zona mineralisasi Au-Cu di daerah penelitian.

Berdasarkan nilai resistivitas dan *chargeability* daerah penelitian, dapat dikelompokkan menjadi 4 zona, yaitu zona aluvium/*top soil* yang memiliki nilai resistivitas 0 – 150 Ohm.m dan nilai *chargeability* 0 – 4 ms, zona batuan dasar yang berupa andesit dan dasit yang memiliki nilai resistivitas >150 Ohm.m dan nilai *chargeability* 0 – 75 ms, zona alterasi logam memiliki resistivitas <75 Ohm.m dan nilai *chargeability* >11,5 ms, zona alterasi silisik-serisit dengan resistivitas <150 Ohm.m dan *chargeability* >11,5 ms, serta zona mineralisasi Au-Cu yang memiliki nilai resistivitas >75 Ohm.m dan nilai *chargeability* >35 ms. Dari korelasi penampang 2D diperoleh bahwa pada Lokasi Penelitian A, ditemukan kemenerusan yang berorientasi Timur Laut – Barat Daya. Sedangkan pada Lokasi Penelitian B tidak ditemukan kemenerusan zona mineralisasi Au-Cu.

Kata kunci: Polarisasi Terinduksi, mineralisasi Au-Cu, resistivitas, *chargeability*

ABSTRACT

INDUCED POLARIZATION DATA ANALYSIS TO IDENTIFY THE CONTINUITY OF AU-CU MINERALIZATION ZONE IN TIRTOMOYO DISTRICT, WONOGIRI REGENCY, CENTRAL JAVA

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The high mineral potential on the island of Java makes mineral exploration activities is the best way to explore the untapped potential of mineral resources. One area that has mineral prospects is in Tirtomoyo District, Wonogiri Regency, Central Java. Therefore, research has been carried out to identify the continuity of the Au-Cu mineralization zone that are potential minerals in Tirtomoyo District, Wonogiri Regency, Central Java.

This research using time domain Induced Polarization Method by dipole-dipole configuration with electrode distances was 20 m and 8 as the n value. Induced Polarization data was obtained from 6 lines of measurement at 2 locations, 3 lines at Research Location A which is in the village of Hargosari, and 3 lines at Research Location B which is in the village of Hargorejo. Data processing is done using Res2Dinv software to get 2D cross-section of subsurface resistivity and chargeability which processed further using Surfer 19 and Rockworks 16 to get the continuity of the Au-Cu mineralization zone of the research area.

Based on the assessment of resistivity and chargeability, the research area can be group into 4 zones, that is alluvium/top soil zone which has resistivity value 0 – 150 Ohm.m and chargeability value 0 – 4 ms, andesite and dacite as host rock which has resistivity value >150 Ohm.m and chargeability value 0 – 75 ms, metal alteration zone which has resistivity value <75 Ohm.m and chargeability value >11,5 ms, silicic-sericite alteration zona which has resistivity value >150 Ohm.m and chargeability >11,5 ms and Au-Cu mineralization zone which have resistivity value >75 Ohm.m and chargeability value >35 ms. From the correlation of 2D cross-section, a continuity of Au-Cu mineralization zone was found at Research Location A with an orientation of Northwest – Southeast. Meanwhile, at Research Location B, a continuity of Au-Cu mineralization zone was not found.

Keyword: Induced Polarization, Au-Cu mineralization, resistivity, chargeability