

ABSTRAK

PENDETEKSIAN PENYEBARAN ZONA MINERALISASI MENGUNAKAN METODE GEOMAGNET, *RESISTIVITY*, DAN *INDUCED POLARIZATION* (IP) KAWASAN FREKUENSI DAERAH NUNGGUL GUNUNG PONGKOR KABUPATEN BOGOR PROPINSI JAWA BARAT

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Telah dilakukan penelitian geofisika dengan menggunakan metode geomagnet dan *induced polarization* (IP) kawasan frekuensi di daerah prospek Nunggul Gunung Pongkor. Penelitian bertujuan untuk menganalisa dan mengidentifikasi daerah penyebaran alterasi-mineralisasi dari hasil interpretasi peta total intensitas magnet, penampang 2D *resistivity* dan IP, model 3D *resistivity* dan IP. Lintasan pengukuran yang digunakan berjumlah 6 lintasan untuk pengukuran metode geomagnet, dengan spasi antar titik 5 meter, spasi antar lintasan 400 meter, dan total jumlah titik pengukuran geomagnet 3329 titik, arah lintasan pengukuran N 60⁰ E. Dari 6 lintasan geomagnet terdapat 4 lintasan yang dilakukan pengukuran IP, yaitu GP1700, GP2100, GP2500, dan GP2900. Pengukuran IP dilakukan dengan jarak antar titik elektroda 50 meter. Pengolahan data penelitian ini menggunakan software Geosoft Oasis Montaj v6.4.2, Res3Dinv, Surfer 10, dan Rockware Rockwork v.2006 dan v.15.

Dari hasil interpretasi yang telah dilakukan, zona alterasi yang berkembang di daerah penelitian adalah alterasi argilik dan alterasi silisik. Pada hasil penampang peta total intensitas magnet yang telah dilakukan reduksi ke kutub dan hasil *upward continuation* 200 meter, zona alterasi-mineralisasi terdapat nilai intensitas magnetik sedang cenderung tinggi dengan harga 44800-45000 nT. Daerah alterasi argilik memiliki nilai resistivitas dengan harga 5 ohm.m – 80 ohm.m, dan zona alterasi silisik ditunjukkan dengan nilai *resistivity* dengan harga >100 ohm.m. Daerah prospek mineralisasi logam sulfida diprediksi pada nilai PFE >2,5%.

Kata kunci : Argilik, Geomagnetik, *Induced Polarization*, PFE, *Resistivity*, Silisik.

ABSTRACT

SPREAD MINERALIZED ZONE DETECTION USING MAGNETIC, RESISTIVITY, AND INDUCED POLARIZATION METHOD FREQUENCY DOMAIN NUNGGUL PROSPECT AREA PONGKOR MOUNTAIN BOGOR DISTRICT WEST JAVA

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Geophysical research has been carried out using geomagnetic and induced polarization (IP) frequency domain in the prospect area Nunggul Mount Pongkor. The research aims to analyze and identify areas of alteration-mineralization dissemination of the results of total magnetic intensity map interpretation, section 2D resistivity and IP, resistivity and IP 3D models. Running track measurements used were 6 track for geomagnetic measurement method, with a space between a point 5 meters, spaced between a track 400 meter, and a total number of 3329 points geomagnetic measurement point, direction of the track measurements N 60⁰ E. Geomagnetic tracks of 6 there are 4 tracks that IP measurements, the GP1700, GP2100, GP2500, and GP2900. IP measurements performed with electrode spacing of 50 meter point. This study uses data processing software Geosoft Oasis Montaj v6.4.2, Res3Dinv, Surfer 10, and Rockware Rockwork v.2006 and v.15.

Interpretation of the results that have been done, the alteration zones in the study area is developed alteration and argillic and silicification alteration. In the results section total magnetic intensity map has been done and the results of reduction to the pole upward continuation 200 meters, there is a zone of alteration-mineralization magnetic intensity values are likely to be high with the values between 44800-45000 nT. Argillic alteration area has resistivity value with values ohm.m 5 - 80 ohm.m, and silicification alteration zones indicated by resistivity value with values >100 ohm.m. Metal sulphide mineralization prospect area predicted on PFE values >2.5%.

Keyword : *Argillic, Geomagnetic, Induced Polarization, PFE, resistivity, silicification*