

INTISARI

IDENTIFIKASI ZONA MINERALISASI EMAS MENGGUNAKAN METODE POLARISASI TERINDUKSI DAN GEOMAGNETIK DI LAPANGAN “BK”, KABUPATEN SAROLANGUN, PROVINSI JAMBI

Oleh:

Bachrudin Ashari Pujakusuma
14/362698/PA/15780

Penelitian geofisika menggunakan metode geomagnetik dan polarisasi terinduksi (IP) kawasan frekuensi telah dilakukan di Lapangan “BK” Kabupaten Sarolangun, Provinsi Jambi yang merupakan salah satu daerah pengendapan mineral emas sistem epitermal sulfidasi tinggi. Pengambilan data telah dilakukan pada bulan Desember tahun 2012. Pengambilan data polarisasi terinduksi dan geomagnetik telah dilakukan pada 10 lintasan dan panjang setiap lintasan 1100 meter. Pengukuran polarisasi terinduksi menggunakan konfigurasi dipol-dipol kawasan frekuensi dan jarak antar elektroda 50 meter sedangkan pada pengukuran geomagnetik, jarak antar titik ukur adalah 5 meter.

Pengolahan data metode geomagnetik menggunakan *software oasis montaj* untuk mendapatkan peta anomali medan magnet, peta anomali medan magnet hasil *reduce to pole* (RTP), peta kontinuitas keatas (anomali regional) dan peta anomali residual. Pengolahan data metode polarisasi terinduksi menggunakan *software Res2Dinv* untuk mengetahui penampang bawah permukaan berupa resistivitas dan *percent frequency effect* (PFE) yang sebenarnya. Kemudian profil anomali magnetik pada peta anomali residual dikorelasikan dengan nilai resistivitas dan PFE di setiap lintasan.

Berdasarkan hasil interpretasi yang telah dilakukan, diketahui bahwa zona mineralisasi diduga hampir terdapat di semua lintasan dan dikontrol oleh sesar geser. Mineralisasi pada daerah penelitian ditandai dengan nilai anomali magnetik rendah hingga tinggi, resistivitas tinggi (>350 ohm.meter) dan PFE tinggi (>10%). Zona mineralisasi emas ini memiliki kemenerusan berarah utara – selatan.

Kata kunci : polarisasi terinduksi, resistivitas, PFE, magnetik, mineralisasi, alterasi

ABSTRACT

IDENTIFICATION GOLD MINERAL PROSPECTING BY USING INDUCED POLARIZATION AND GEOMAGNETIC METHODS AT "BK" FIELD, SAROLANGUN REGENCY, JAMBI PROVINCE

By

Bachrudin Ashari Pujakusuma
14/362698/PA/15780

Geophysical research using geomagnetic and induced polarization methods have been carried out at "BK" Field, Sarolangun Regency, Jambi Province which is one of the high sulphidation epithermal system gold mineral deposit. Data acquisition which are carried out on December, 2012. Data acquisition of induced polarization and geomagnetic methods were taken in 10 lines and each line length is 1100 meters. Induced polarization method using frequency domain and 50 meters spacing between electrodes in dipole-dipole configuration while geomagnetic method has 5 meter spacing between acquisition points.

Geomagnetic data were processed using Oasis Montaj Software gives a result of magnetic anomaly map, magnetic anomaly with reduce to pole (RTP) map, upward continuation (regional anomaly) map and residual map. IP data were processed using Res2Dinv software to determine the subsurface cross-section of true resistivity and true percent frequency effect (PFE). Then the magnetic anomaly profile on the residual anomaly map is correlated with the resistivity value and PFE value on each line.

Based on interpretation, it can estimated that mineralization exists on almost all lines and controlled by strike-slip fault. Mineralization at research area is marked by low-high profile magnetic anomaly, high resistivity value (>350 ohm.m) and high PFE value (>10%). The mineralization zone was imaged continuously in the direction of North-South.

Keywords: induced polarization, resistivity, PFE, magnetic, mineralization, alteration