INTISARI

IDENTIFIKASI ZONA ALTERASI SEBAGAI INDIKASI KEBERADAAN MINERAL EMAS MENGGUNAKAN METODE GEOMAGNETIK DAN POLARISASI TERINDUKSI DI LAPANGAN "SW", KABUPATEN BOGOR, PROVINSI JAWA BARAT

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Penelitian geofisika menggunakan metode geomagnetik dan polarisasi terinduksi telah dilakukan di Lapangan "SW", Kabupaten Bogor, Provinsi Jawa Barat. Penelitian dilakukan untuk mengidentifikasi zona alterasi di daerah penelitian sebagai kontrol mineralisasi emas. Pengambilan data geomagnetik dan polarisasi terinduksi dilakukan pada 5 lintasan yang sama dengan panjang masing-masing lintasan 1 km. Pada pengukuran geomagnetik, jarak antara titik ukur adalah 25 m sedangkan pengukuran polarisasi terinduksi menggunakan konfigurasi dipol-dipol dengan jarak antar elektroda 50 m.

Pengolahan data geomagnetik menghasilkan peta anomali medan magnet yang menggambarkan sebaran anomali magnetik setelah dilakukan koreksi diurnal dan koreksi IGRF. Kemudian, pengolahan lanjutan berupa kontinuasi ke atas dan transformasi RTE (*Reduce to Equator*) dilakukan untuk mengetahui posisi sumber anomali. Data polarisasi terinduksi diolah untuk mendapatkan penampang 2D resistivitas dan *chargeability* bawah permukaan dan dilakukan sayatan vertikal pada tiap lintasan untuk dilakukan delineasi kemenerusan perkiraan target.

Anomali magnetik residual yag telah di RTE menunjukkan keberadaan 2 zona anomali magnet rendah yang diperkirakan terjadi karena adanya proses demagnetisasi oleh fluida hidrotermal. Zona anomali magnet rendah pada bagian barat daerah penelitian yang menerus dengan arah barat daya - tenggara diduga sebagai sesar yang mengontrol alterasi dan zona anomali rendah lainnya diperkirakan sebagai zona alterasi. Nilai resistivitas dan *chargeability* pada zona target menunjukkan nilai <120 ohm.m dan >60 mV/V yang dikategorikan sebagai pasangan resistivitas rendah dan *chargeability* sedang-tinggi. Profil resistivitas dan *chargeability* zona target memperlihatkan adanya pola kemenerusan yang diperkirakan mengontrol alterasi.

keywords: alterasi, RTE, resistivitas, *chargeability*

ABSTRACT

ALTERATION ZONE IDENTIFICATION FOR GOLD MINERAL PROSPECTING BY USING GEOMAGNETIC AND INDUCED POLARIZATION METHODS AT "SW" FIELD, BOGOR REGENCY, WESTERN JAVA PROVINCE

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Geophysical research using geomagnetic and induced polarization methods have been carried out at "SW" Field, Bogor Regency, Western Java Province. This research aims to identify alteration zone as a control of gold mineralization. Data acquisition of geomagnetic and induced polarization methods were taken in 5 lines with a total of 1 km each line. Geomagnetic method has 25 m spacing between acquisition points while induced polarization method has 50 m spacing between electrodes in dipole-dipole configuration.

Processing of geomagnetic data gives a result of magnetic anomaly map which shown magnetic anomaly distribution after diurnal and IGRF correction were applied. Upward continuation and RTE (Reduce to Equator) transformation were applied as further processing step to locate exact position of magnetic source. Induced polarization data were processed to obtain 2D resistivity and chargeability cross section beneath the surface and vertical slicing of each line were also applied to delineate estimated target.

Magnetic residual anomaly which has been transformed by RTE showing alteration zone that indicated by low magnetic anomaly surrounded by high magnetic anomaly. Alteration zone which referred as zone of interest is located in western side of research area and its location is nearby the prophylit alteration zone that controlled by north-south oriented strike-slip fault. Resistivity and chargeability value in zone of interest are <120 ohm.m and >60 mV/V respectively, categorized as low resistivity - medium to high chargeability zone. Resistivity and chargeability profile in zone of interest show some extending features that probably controlling alteration and mineralization in research area.

keywords: alteration, mineralization, RTE, resistivity, chargeability