Delineasi zona mineralisasi emas di daerah "X" menggunakan data induced polarization dan resistivity = Delineation zones of gold mineralization in the "X" area using induced polarization and resistivity

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Abstrak

Metode utama IP dan resistivitas yang didukung dengan data magnetik dapat mendelineasi zona mineralisasi emas berdasarkan nilai chargeability dan resistivitasnya. Pengukuran metode IP menggunakan domain waktu dan konfigurasi dipole-dipole sebanyak 4 lintasan dengan spasi elektroda 25 m. Pengukuran dilakukan di daerah 'X' yang mempunyai kondisi geologi pembentukan mineralisasi emas sistem epitermal sulfida tinggi yang terbentuk dengan kedalaman dangkal 100-500 m. Pengukuran metode IP menggunakan instrumen Supersting R8/IP. Dan dari pengukuran didapatkan data yang berupa chargeability semu dan resistivitas semu yang selanjutnya diinversi menggunakan software Res2Dinv untuk mendapatkan nilai chargeability dan resistivitas yang sebenarnya. Hasil pengolahan data IP ditampilkan secara 2D dengan software Res2Dinv dan visualisasi 3D menggunakan software Geoslicer-X.

Dari integrasi data IP, resistivitas dan magnetik didapatkan korelasi hasil berupa 3 zona menarik yang diinterpretasikan sebagai mineralisasi vuggy quartz dengan nilai chargeability > 400 ms yang disertai dengan nilai resistivitas > 800 Ohm.m dan respon profil magnetik yang berundulasi pada lintasan 200. Dan adanya zona lemah berupa patahan terdeteksi dengan nilai chargeability yang rendah yaitu sekitar < 50 ms, nilai resistivitas < 20 Ohm.m dan profil intensitas magnetik yang drop, yang merupakan jalur bagi larutan hidrotermal naik ke permukaan.

......The main methods of IP and resistivity, supported by magnetic data can delineate zones of gold mineralization based on their chargeability and resistivity values. Measurement using time domain IP and dipole-dipole configuration of resistivity along 4 profiles with electrode spacing of 25 m. Measurements were carried out in the area "X" which had gold mineralization geological conditions of formation of high sulphidation epithermal systems formed in shallow depth of 100-500 m. Measurement was done by using instruments Supersting R8/IP IP. The data obtained from measurements in the form of apparent chargeability and apparent resistivity were subsequently inverted using the Res2Dinv software to get the value of the true chargeability and resistivity. IP data processing results displayed in 2D view using Res2Dinv software and 3D visualization using Geoslicer-X software.

From the integration of IP, resistivity and magnetic data correlation, resulted 3 interesting zone interpreted as mineralization of vuggy quartz with chargeability values > 500 ms, resistivity values> 600 Ohm.m and undulated magnetic's response curve along the profile 200. The existence of zone in form of the fault was detected as a low chargeability, at values about < 50 ms, low resistivity at value about < 50 Ohm.m and dropped magnetic intensity profiles, which is interpreted as the pathway for hydrothermal solutions up to the surface.