

ABSTRAK

PENDUGAAN ZONA MINERALISASI KARANGSAMBUNG BERDASARKAN DATA GEOMAGNETIK DAN INDUKSI POLARISASI KONFIGURASI DIPOLE-DIPOLE

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Besarnya keberadaan potensi sumber daya alam di suatu daerah sangat disayangkan jika tidak tepat dalam pemanfaatannya. Penelitian dilakukan guna menduga keberadaan zona mineralisasi di Karangsambung tepatnya pada bagian tengah-selatan pulau Jawa, yang secara geografis terletak pada $7^{\circ}27' - 7^{\circ}50'$ Lintang Selatan dan $109^{\circ}22' - 109^{\circ}50'$ Bujur Timur. Metode yang digunakan adalah metode geomagnetik 2D dan model 2,5D serta geolistrik 2D. Dihasilkan peta bawah permukaan geomagnetik dan geolistrik. Filtering yang digunakan dalam geomagnetik yaitu reduce to pole dan kontinuitas. Dalam geolistrik digunakan slicing penampang induksi polarisasi guna mendapatkan informasi distribusi dari nilai *chargeability*.

Berdasarkan hasil analisa dari Peta *Total Magnetic Intensity*, Peta *Reduce To Pole*, Peta *Continuation*, Permodelan 2,5D, 6 Lintasan Peta Induksi Polarisasi dan *Resistivity* serta Peta *Slice* Induksi Polarisasi bahwa daerah penelitian dipengaruhi oleh adanya faktor pengontrol struktur berupa sesar dan intrusi. susunan bawah permukaan didominasi oleh batuan metamorf dan batuan sedimen terkontak oleh batuan beku intrusi. Pendugaaan zona mineralisasi terdapat pada zona grid X 353000 hingga 354000 dan Y 9166000 hingga 9167000 dengan nilai variasi respon magnetik 250 nT hingga 310 nT. Data Induksi Polarisasi menunjukkan keberadaan lapisan permukaan batuan berupa batulempung dan batugamping yang bernilai -89 ms hingga 211 ms. Nilai anomaly 63.9 ms hingga 680 ms yang diidentifikasi sebagai basal. Zona mineralisasi berupa sistem lingkungan alterasi yang dipengaruhi oleh temperatur dan tekanan dengan kontrol struktur geologi berupa sesar dan intrusi.

Kata kunci : Mineralisasi, Geomagnetik, Induksi Polarisasi, Dipole- Dipole

ABSTRACT

MINERALITATION PREDICT OF KARANGSAMBUNG FROM BASED DATA OF GEOMAGNETIC AND INDUCED POLARITATION DIPOLE-DIPOLE CONFIGURATION

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The large potential of natural resources in an area is very unfortunate if it is not properly utilized. The study was conducted to estimate the existence of a mineralized zone in Karangsambung to be precise in the south-central part of Java Island, which is geographically located at $7^{\circ}27' - 7^{\circ}50'$ South Latitude and $109^{\circ}22' - 109^{\circ}50'$ East Longitude. The method used is 2D geomagnetic method and 2.5D model and 2D geoelectric. Generated geomagnetic and geoelectric subsurface maps. Filtering used in geomagnetics is reduce to pole and continuity. In geoelectricity, polarization induction cross section slicing is used to obtain distribution information from the chargeability value.

Based on the results of the analysis of the Total Magnetic Intensity Map, Reduce To Pole Map, Continuation Map, 2.5D Modeling, 6 Trajectories of Polarization and Resistivity Induction Maps and Polarization Induction Slice Maps that the research area is influenced by structural control factors in the form of faults and intrusions. subsurface composition is dominated by metamorphic rocks and sedimentary rocks contacted by intrusive igneous rocks. Estimated zone of mineralization is found in the grid zones X 353000 to 354000 and Y 9166000 to 9167000 with a magnetic response variation value of 250 nT to 310 nT. Polarization Induction data shows the existence of rock surface layers in the form of claystone and limestone with values of -89 ms to 211 ms. Anomalies of 63.9 ms to 680 ms were identified as basal. The mineralization zone is in the form of an alteration environment system that is influenced by temperature and pressure with control of the geological structure in the form of faults and intrusions.

Key words: Mineralization, Geomagnetic, Polarization Induction, Dipole-Dipole

