

ABSTRACT

IDENTIFICATION OF ANDESITE ROCK LAYERS USING TYPE RESISTIVITY GEOELECTRIC METHOD AND LOG RESISTIVITY IN MALINGPING UTARA VILLAGE, MALINGPING UTARA SUB-DISTRICT, LEBAK REGENCY

By

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The research area is located in North Malingping Village, North Malingping District, Lebak Regency. The research area is an andesite excavated area that is already in production and is being carried out with additional exploration. Data in the study area include 5 points of 1D geoelectric measurement Wenner configuration, 3 paths of geoelectric measurement of Pole-Dipole configuration, and well data. This study aims at (1) Interpreting rock layers based on the value of variation of Geoelectric resistances and Well Logging, (2) Determining the area of distribution and thickness of andesite rock layers, (3) determining reserves based on 3D models and calculation of Inferred reserves. Based on geoelectric measurements and resistivity log the study area has the lithology of sandy clay, sandstones, andesite rocks, tuff breccia, volcanic breccia, and overburden. The results of 3D geoelectric modeling and correlation from resistivity log data are assumed that the layer of andesite is found at a depth of 5 - 20 m with a range of resistivity values between 800 - 2000 danm and has a thickness of 15 m. For the area of the study amounting to 146,584 m², the calculation of reserves using the probable reserve method with a confidence level (20-30)% has an estimated reserve of about 1,292,251.25 tons while the calculation using voxler 4 software is 965,902 tons.

Keywords : *Geoelectric, Resistivity Log, Andesite, Wenner, Pole-Dipole*

ABSTRAK

IDENTIFIKASI PERSEBARAN LAPISAN BATUAN ANDESIT MENGUNAKAN METODE GEOLISTRIK TAHANAN JENIS DAN RESISTIVITY LOG PADA DESA MALINGPING UTARA, KECAMATAN MALINGPING UTARA, KABUPATEN LEBAK

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Telah dilakukan penelitian prospek batuan andesit di Desa Malingping Utara, Kecamatan Malingping Utara, Kabupaten Lebak. Daerah penelitian merupakan daerah bahan galian andesit yang sudah berproduksi dan sedang dilakukan ekspolarasi tambahan. Data pada daerah penelitian meliputi 5 Titik pengukuran geolistrik 1D konfigurasi Wenner, 3 lintasan pengukuran geolistrik 2D konfigurasi Pole-Dipole, dan data sumur. Penelitian ini bertujuan Menginterpretasikan lapisan batuan berdasarkan nilai variasi tahanan jenis Geolistrik dan Well Logging, Menentukan daerah persebaran dan ketebalan lapisan batuan andesit, menentukan cadangan berdasarkan metode perhitungan cadangan Tereka. Berdasarkan hasil interpretasi dari hasil pengolahan data geolistrik 1D, 2D, dan resistivity log, daerah penelitian memiliki litologi tanah penutup, batuan andesit, pasir lempungan, dan lempung pasiran. Berdasarkan hasil pemodelan 3D dan nilai resistivitas sebaran lapisan batuan yang diduga andesit tersebar dibeberapa titik, tapi dominan pada arah barat dan timur daerah penelitian. Hasil pemodelan 2D geolistrik dan korelasi dari data resistivity log diasumsikan bahwa lapisan batuan andesit terdapat pada kedalaman 2 – 23 m dengan kisaran nilai resistivitas antara 200 - 7188 m dan memiliki ketebalan 21 m. Luas daerah penelitian sebesar 146.584 m² dilakukan perhitungan cadangan menggunakan metode cadangan tereka (probable reserve) dengan tingkat keyakinan (20-30)% memiliki estimasi cadangan sekitar 373.163 m³.

Kata kunci : Geolistrik, resistivity log, andesit, wenner, Pole-dipole.