

ABSTRAK

Desa Karangcegak, Kecamatan Kutasari, Kabupaten Purbalingga memiliki potensi batuan andesit yang tinggi. Batuan andesit telah ditambang secara tradisional oleh masyarakat sekitar namun pemanfaatannya masih belum optimal. Penelitian ini bertujuan untuk mengetahui sebaran batuan andesit berdasarkan data resistivitas konfigurasi *wenner-schlumberger*. Pengambilan data resistivitas dilakukan pada empat lintasan dengan panjang masing-masing 195 meter. Posisi geografis titik pengukuran lintasan 1 (GL-01) berada pada $07^{\circ}19'23,3''S$ $109^{\circ}17'19,6''T$, lintasan 2 (GL-02) berada pada $07^{\circ}19'23,9''S$ $109^{\circ}17'21,1''T$, lintasan 3 (GL-03) $07^{\circ}19'24,3''S$ $109^{\circ}17'21,8''T$, dan lintasan 4 (GL-04) pada $07^{\circ}19'25,1''S$ $109^{\circ}17'22,8''T$. Pengolahan data dilakukan perhitungan data lapangan menggunakan *Microsoft Excel*. Hasil olah data tersebut disimpan dalam bentuk format *Notepad* sebagai data masukan saat melakukan pemodelan data resistivitas. Pemodelan data resistivitas secara 2D dan 3D dilakukan menggunakan *RES2DINV 3.54* dan *VOXLER 4.0*. Struktur lapisan bawah permukaan pada keempat lintasan tersusun atas tiga lapisan batuan, yaitu lapisan breksi laharik dengan rentang nilai resistivitas $0 - 1.510$ ohm.meter, lapisan batuan andesit lapuk sebesar $1.511 - 4.000$ ohm.meter, dan lapisan batuan andesit *fresh* lebih dari 4.000 ohm.meter. Batuan andesit *fresh* ditemukan pada keempat lintasan pada kedalaman $0 - 36$ meter. Potensi ini dapat dilihat dari analisis penampang 2D setiap lintasan dan *pseudo* 3D. Berdasarkan penelitian ini arah sebaran batuan andesit sesuai dengan arah aliran lava gunungapi Slamet, yaitu dari barat daya ke tenggara.

Kata kunci: batuan andesit, konfigurasi *wenner-schlumberger*, resistivitas.

ABSTRACT

Karangcegak Village, Kutasari District, Purbalingga Regency has high andesite rocks potential. Andesite rocks have been traditionally mined by the surrounding community but their use is still not optimal. This study aims to determine the distribution of andesite rocks based on the Wenner-Schlumberger array. Resistivity data retrieval is carried out on four lines with a length of 195 meters. The geographical position of measurement point line 1 (GL-01) at 07°19'23.3"S 109°17'19.6"E, line 2 (GL-02) at 07°19'23.9"S 109°17'21'1"E, line 3 (GL-03) at 07°19'24.3"S 109°17'21.8"E, and line 4 (GL-04) at 07°19'25.1"S 109°17'22.8"E. Data processing is performed field data calculations using Microsoft Excel. The results of the data processing are stored in Notepad format as input data when doing resistivity data modeling. Resistivity data modeling in 2D and 3D was done using RES2DINV 3.54 and VOXLER 4.0. The subsurface structure of the four lines is composed of three layers of rock, namely the laharic breccias with a resistivity range of 0 – 1.510 ohm.meters. The weathered andesite rock layers of 1.511 – 4.000 ohm.meters, and fresh andesite rock layers of more than 4.000 ohm.meters. The fresh andesite rocks are found on all four lines at depth of 0 – 36 meters. This potential can be seen from the 2D cross-sectional analysis of each path and pseudo 3D resistivity. Based on this study the direction of andesite rock distribution is in line with the direction of the Slamet Volcanic lava flow, from southwest to southeast.

Keywords: *Andesite rock, wenner-schlumberger array, resistivity.*