ABSTRAK

Akuifer di kawasan Daerah Aliran Sungai (DAS) pada umumnya merupakan daerah resapan air yang cukup baik, sehingga menjadi zona imbuhan (*recharge area*) yang potensial bagi air tanah di sekitarnya. Namun ketika musim kemarau terkadang sumur gali warga Dusun I Desa Srowot, Kecamatan Kalibagor, Kabupaten Banyumas mengalami kekurangan air. Metode geolistrik resistivitas konfigurasi Schlumberger diterapkan dalam penelitian ini untuk menduga struktur lapisan batuan bawah permukaan dan kedalaman lapisan akuifer di daerah penelitian. Pengambilan data dilakukan di tujuh titik lintasan dengan masing-masing panjang lintasan 200 m Hasil dari penelitian ini menunjukkan struktur lapisan batuan bawah permukaan daerah penelitian diduga terdiri dari lapisan tanah penutup, lapisan lempung pasiran, lapisan perselingan pasir, kerikil, dan kerakal cukup mampat, lapisan batupasir bersisipan napal, dan lapisan pasir. Litologi akuifer diduga terdapat pada lapisan batupasir bersisipan napal dengan nilai resistivitas 5,56-27,88 Ωm dan lapisan pasir dengan rentang nilai resistivitas 2,57-11,13 Ωm. Potensi akuifer di daerah penelitian diduga merupakan akuifer semi tertekan yang terletak di titik Sch-1 kedalaman ≥12,96 m, titik Sch-2 kedalaman ≥8,62 m, titik Sch-3 kedalaman ≥13,29 m, titik Sch-4 kedalaman ≥9,79 m, titik Sch-5 kedalaman ≥11,21 m, titik Sch-6 kedalaman ≥8,21 m, dan titik Sch-7 kedalaman ≥7,38 m.

Kata kunci: DAS Serayu, resistivitas, Schlumberger, akuifer, Desa Srowot

ABSTRACT

*Aquifers in watershed areas are generally good water catchment areas, so that they become potential recharge areas for the surrounding groundwater. But, during the dry season sometimes dug wells of Dusun I Srowot Village, Kalibagor Sub-district, Banyumas regency villagers are experiecing water shortages. The geoelectric resistivity method of the Schlumberger configuration was applied in this research to estimate the structure of subsurface rock layers and depth of the aquifers layer in the research area. Data retrieval was conducted at seven track points with a track length of 200 ms each. The results of this study showed the structure of the subsurface rock layers of the research area is thought to consist of top soil, sandy loam, alternation of sand, gravel, and pebble is quite compression, sandstones interbedded with marl and sand. Aquifer lithology is thought to be a layer of sandstones interbedded with marl with a resistivity value of 5.56-27.88 Ω*m* and a layer of sand with a resistivity value range of 2,57-11,13 Ω*m*. The aquifers potential in the research area is thought to be a leaky aquifer located at the sounding point Sch-1 depth of ≥12.96 m, at the point Sch-2 depth of ≥8.62 m, at the sounding point Sch-3 depth of ≥13.29 m, at the sounding point Sch-4 depth of ≥9.79 m, at the sounding point Sch-5 depth of ≥11.21 m, at the sounding point Sch-6 depth of ≥8.21 m, at the sounding point Sch-7 depth of ≥7.38 m.*

Keywords: *Watersheds of Serayu, resistivity, Schlumberger, aquifer, Srowot village*