

## ABSTRAK

Eksplorasi sumber aquifer tertekan menggunakan metode geolistrik resistivitas konfigurasi Schlumberger di Desa Kalibagor, Kecamatan Kalibagor, Kabupaten Banyumas telah dilakukan. Akuisisi dilakukan di tiga titik lintasan, yaitu lintasan *Sch1*, *Sch2*, dan *Sch3* dengan masing-masing panjang lintasan 200 m. Hasil interpretasi menunjukkan terdapat lima jenis batuan pada daerah penelitian, di antaranya lapisan tanah, lanau pasiran (kering), lempung pasiran, lempung, dan batu pasir. Pengolahan data resistivitas 1D konfigurasi Schlumberger diperoleh lima lapisan batuan pada lintasan *Sch1*, diantaranya lapisan tanah penutup pada kedalaman 0 - 2,19 m dengan resistivitas 101,02  $\Omega$ m, lanau pasiran (kering) pada kedalaman 2,19 - 9,68 m dengan resistivitas 40,68  $\Omega$ m, pasir berbutir halus pada kedalaman 9,68 - 14,23 m dengan resistivitas 1,22  $\Omega$ m, lempung pada kedalaman 14,23 - 39,01 m dengan resistivitas 19,35  $\Omega$ m, dan pasir berbutir halus pada kedalaman >39,01 m dengan resistivitas 0,99  $\Omega$ m. Lintasan *Sch2* diperoleh tiga lapisan batuan, di antaranya tanah permukaan lanauan pada kedalaman 0 - 4,27 m dengan resistivitas 51,92  $\Omega$ m, lanau pasiran (kering) pada kedalaman 4,27 - 13,15 m dengan resistivitas 33,83  $\Omega$ m, dan pasir berbutir sedang pada kedalaman >13,15 m dengan resistivitas 7,05  $\Omega$ m. Lintasan *Sch3* diperoleh empat lapisan batuan diantaranya lanau pasiran (kering) pada kedalaman 0 - 3,69 m dengan resistivitas 31,78  $\Omega$ m, lempung pasiran pada kedalaman 3,69 - 9,20 m dengan resistivitas 25,37  $\Omega$ m, pasir berbutir sedang pada kedalaman 9,20 - 85,52 m dengan resistivitas 6,61  $\Omega$ m, pasir berbutir halus pada kedalaman >85,52 m dengan resistivitas 1,69  $\Omega$ m. *Confined Aquifer* atau aquifer tertekan berada pada lintasan *Sch1* tersusun atas lapisan pasir berbutir halus pada kedalaman >39,01 m dengan resistivitas 0,99  $\Omega$ m.

**Kata Kunci:** Geolistrik resistivitas, aquifer, Konfigurasi Schlumberger, Desa Kalibagor.

## ***ABSTRACT***

Exploration of Confined aquifer resource using Geoelectrical resistivity method Schlumberger configuration has done in Kalibagor Village, Kalibagor District, Banyumas Regency. Acquisition carried out in three line, namely *Sch1*, *Sch2*, and *Sch3* with each of line has a length of 200 m. The result of Interpretation shows that there five layers of rock in the research area. Those are soil, sandy silt (dry), sandy clay, clay and sandstone. Schlumberger configuration resistivity data processing has obtained five layers rock, *Sch1* line obtained of top soil which has a depth of 0 – 2.19 m with resistivity value of 101.02  $\Omega\text{m}$ , sandy silt (dry) has a depth of 2.19 – 9.68 m with resistivity value of 40.68  $\Omega\text{m}$ , smooth grained sand has a depth of 9.68 – 14.23 m with resistivity value of 1.22  $\Omega\text{m}$ , clay has a depth of 14.23-39.01 m with resistivity value of 19.35  $\Omega\text{m}$ , and smooth grained sand has a depth of >39.01 m with resistivity value of 0.99  $\Omega\text{m}$ . *Sch2* line has obtained three layers of rocks, they are top soil and silt which has a depth of 0 – 4.27 m with resistivity value of 51.92  $\Omega\text{m}$ , sandy silt (dry) has a depth of 4.27 – 13.15 m with resistivity value of 33.83  $\Omega\text{m}$ , and medium grained sand has a depth of >13.15 m with resistivity value of 7.05  $\Omega\text{m}$ . *Sch3* line has obtained four layers of rocks, they are sandy silt (dry) ) has a depth of 0 – 3.69 m with resistivity value of 31.78  $\Omega\text{m}$ , sandy clay has a depth of 3.69 – 9.20 m with resistivity value of 25.37  $\Omega\text{m}$ , medium grained sand has a depth of 9.20-85.52 m with resistivity value of 6.61  $\Omega\text{m}$ , and smooth grained sand has a depth of >85.52 m with resistivity value of 1.69  $\Omega\text{m}$ . Confined aquifer is found in *Sch1* line with the layer is smooth grained sand which has a depth of >39.01 m with resistivity value of 0.99  $\Omega\text{m}$ .

**Keywords:** Geoelectrical resistivity, aquifer, Schlumberger configuration, Kalibagor Village.