

ABSTRAK

Desa Karanggambas sering mengalami kekeringan air setiap musim kemarau seperti air sumur surut, sawah kekeringan sehingga aktivitas warga dalam kegiatan sehari-hari sedikit terganggu. Desa ini juga merupakan salah satu daerah yang padat penduduk, namun penggunaan air tidak diiringi dengan pengelolaan sumber air baru. Penelitian ini bertujuan mengidentifikasi lapisan akuifer di Desa Karanggambas, Kecamatan Padamara, Kabupaten Purbalingga menggunakan metode geolistrik resistivitas konfigurasi *Schlumberger*. Terdapat 4 titik sounding masing-masing dengan variasi bentangan 150 dan 200 meter. Pengolahan data dan interpretasi menggunakan *software Progress 3.0*. Hasil pengolahan data menunjukkan bahwa struktur batuan bawah permukaan terdiri dari 5 lapisan yang berupa tanah penutup (*top soil*), pasir dan kerikil, pasir, dan batu andesit. Masing-masing batuan memiliki nilai resistivitas berbeda-beda. Tanah penutup memiliki nilai resistivitas sebesar 463,91-1427,98 ohm meter, campuran pasir dan kerikil sebesar 20,42-78,65 ohm meter, pasir sebesar 147,66-668,41 ohm meter, dan batu andesit sebesar 1.238,54-4.290,99 ohm meter. Berdasarkan hasil pemodelan penampang setiap titik *sounding*, hasil menunjukkan bahwa pada setiap titik *sounding* ditemukan potensi adanya akuifer. Titik 1 dan 4 memiliki jenis akuifer tertekan; sedangkan, titik 2 dan 3 berjenis akuifer bebas. Titik 1 merupakan lapisan akuifer dalam karena titik itu berada di antara lapisan batu andesit dengan ketebalan 2,81-54,83 meter.

Kata kunci: akuifer, geolistrik resistivitas, Karanggambas, *Schlumberger*.

ABSTRACT

Karanggambas Village often experiences water drought every dry season such as low tide water, drought paddy fields so that the residents' activities in daily activities are slightly disrupted. This village is also one of the densely populated areas, but the use of water is not accompanied by the management of new water sources. Therefore, research is needed in this village to look for potential new groundwater sources. This research aims to identify the aquifer layer in Desa Karanggambas, Kecamatan Padamara, Kabupaten Purbalingga using the Schlumberger configuration resistivity geoelectric method. There are 4 sounding points each with a range of 150 and 200 meters. Data processing and interpretation use a Progress 3.0 software. The result of data processing shows that the subsurface rock structure consists of 5 layers which are in the form of top soil, sand and gravel, sand, and andesite stone. Each rock has different resistivity values. Top soil has a resistivity value of 463.91-1427.98 ohm meter, mixture of sand and gravel of 20.42-78.65 ohm meter, sand of 147.66-668.41 ohm meter, and andesite stone of 1238.54-4.290, 99 ohm meter. Based on the result of the surface modeling at each sounding point, each point has a potential to be found an aquifer. Point 1 and 4 have a type of confined aquifer; whereas, point 2 and 3 are unconfined aquifers. Point 1 is a deep aquifer layer because it is located between layers of andesite stone with a thickness of 2.81-54.83 meter.

Keywords: *aquifer, resistivity geoelectric, Karanggambas, Schlumberger.*