

INTISARI

Kajian Keberadaan Air Tanah Payau Berdasarkan Data Geolistrik Resistivitas dan Polarisasi Terinduksi Di Desa Dukuh Dan Banyuripan, Kecamatan Bayat Kabupaten Klaten

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Keberadaan air tanah payau pada lokasi sumur – sumur gali di Kecamatan Bayat mengakibatkan warga kesulitan dalam memenuhi kebutuhan air bersih layak minum. Keberadaan dan sebaran air tanah payau penting diketahui untuk menghindari pembuatan sumur gali pada lokasi payau dan memberikan informasi kepada masyarakat mengenai penyebab dibalik fenomena anomali air payau di lokasi tersebut. Penelitian ini bertujuan untuk mengetahui kedalaman dari air tanah payau dan litologi batuan penyusun sehingga dapat menggambarkan kondisi bawah permukaan di Kecamatan Bayat. Pengukuran dilakukan dengan metode Geolistrik VES (*Vertical Electrical Sounding*) dan Polarisasi Terinduksi untuk mengetahui nilai resistivitas dan chargeabilitas batuan. Akuisisi data berasal 10 titik *Sounding* dengan panjang bentangan 100m menggunakan konfigurasi *Schlumberger*. Hasil pengukuran data diolah menggunakan *software IPI2Win* untuk mendapatkan profil 1D yang dikorelasikan sehingga menghasilkan penampang resistivitas dan chargeabilitas. Interpretasi data dihubungkan dengan data sekunder berupa data parameter fisik, geologi dan geokimia. Hasil dari penelitian didapatkan bahwa air payau mulai muncul pada kedalaman 1.08 m sesuai dengan muka air tanah. Litologi batuan penyusun berupa alluvium, pasir, batu pasir tuffan dan batu lanau tuffan.

Kata Kunci: Air Tanah Payau, Geolistrik VES, Polarisasi Terinduksi

ABSTRACT

A Study Of Brackish Groundwater Precence Based On Resistivity And Induced Polarization Geo-Electrical Data In Dukuh And Banyuripan, Villages, Bayat Sub-District, Klaten Regency

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The existence of brackish groundwater at the location of dug wells in Bayat Subdistrict has caused difficulties in providing clean drinking water. The existence and distribution of brackish groundwater subsurface is crucial to avoid the construction of dug wells in brackish locations and provide information to the community about the causes behind the anomalous phenomenon of brackish water in these locations. This research aims to determine the depth of brackish groundwater and the lithology of the constituent rocks in order to describe the subsurface conditions in Bayat Subdistrict. The measurements were conducted using VES (Vertical Electrical Sounding) and Induced Polarization Geo-electrical methods to determine the resistivity and the chargeability of the rocks. The data acquisition came from 10 sounding points with a stretch length of 100m using the Schlumberger configuration. The measurement results were processed using IPI2Win software to obtain 1D profiles that were correlated to produce resistivity and chargeability cross sections. The data interpretation was connected with secondary data in the form of physical, geological and geochemical parameter data. The results of the study found that brackish water began to appear at a depth of 1.08 m in accordance with the local groundwater level. Lithological constituent rocks are alluvium, sand, tuffan sandstone and tuffan siltstone.

Keywords: Brackish Water, Vertical electrical sounding geo-electric, induced polarization