

Karakteristik Fasies Geokimia dan Kualitas Air Tanah pada Akuifer Tidak Tertekan di Tangerang dan Sekitarnya, Cekungan Air Tanah Jakarta = Geochemical Facies and Groundwater Quality Characteristics in Unconfined Aquifer of Tangerang Region and Its Surroundings, Jakarta Groundwater Basin

Rana Fathinah Arifah, author

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Abstrak

Cekungan Air Tanah Jakarta merupakan CAT lintas provinsi yang meliputi Provinsi DKI Jakarta, Jawa Barat, dan Banten. Seiring dengan peningkatan populasi dan pembangunan, cekungan air tanah akan semakin rawan terhadap suatu isu permasalahan apabila tidak dilakukan konservasi. Tangerang merupakan daerah yang sebagian wilayahnya termasuk ke dalam CAT Jakarta yang memiliki jumlah kepadatan penduduk dan industri yang tinggi, sehingga berdampak kepada peningkatan pengambilan air tanah dan kualitas air tanah. Penelitian ini dilakukan untuk mengetahui fasies geokimia dan kualitas air tanah pada akuifer dangkal di Tangerang dan sekitarnya menggunakan metode indeks pencemaran dengan mengacu kepada Peraturan Menteri Kesehatan Republik Indonesia Nomor 492/MENKES/PER.IV/2010 tentang persyaratan kualitas air minum. Analisis dilakukan terhadap 30 titik sumur bor hingga kedalaman 40 meter. Berdasarkan analisis data bor didapatkan litologi penyusun daerah penelitian terdiri atas batulempung, batulanau, batupasir, dan tuf. Analisis geokimia air tanah menunjukkan terdapat fasies CaMgHCO_3 30%, CaMgSO_4 13%, NaCl 30%, dan NaHCO_3 27%. Evaluasi kualitas air tanah menghasilkan nilai sekitar 2.5 – 6.3. Dari data tersebut dapat disimpulkan fasies air tanah yang dominan merupakan fasies kalsium magnesium hidroksida dan natrium klorida serta air tanah pada akuifer dangkal memiliki tingkat pencemaran ringan – sedang. Oleh karena itu perlu dilakukan pengelolaan dan konservasi air tanah untuk mengurangi tingkat pencemaran air.

.....Jakarta Groundwater Basin is a cross-provincial groundwater basin covering DKI Jakarta, West Java, and Banten Provinces. Along with the increase in population and development, groundwater basins will be more vulnerable to a problem if conservation is not carried out. This research was conducted in Tangerang, which part of its territory is included in Jakarta Groundwater Basin. Tangerang has a high population density and industry, which has an impact on increasing groundwater abstraction and groundwater quality. This research aims to determine the geochemical facies and groundwater quality in shallow aquifers in Tangerang and its surroundings. The method used in this research is using the pollution index method for drinking water quality based on the Regulation of the Minister of Health of the Republic of Indonesia Number 492. The analysis was carried out on 30 drilled well points to a depth of 40 meters. Based on the analysis of drill data, it was found that the lithology that composes the research area consists of claystone, siltstone, sandstone, and tuff. Geochemical analysis of groundwater shows that there are 30% CaMgHCO_3 ; 13% CaMgSO_4 ; 30% NaCl ; 27% NaHCO_3 hydrogeochemical facies. Evaluation of groundwater quality yields a value of about 2.5 – 6.3. From these data, it can be concluded that the dominant groundwater facies is the calcium magnesium hydroxide and sodium chloride facies, groundwater quality in shallow aquifers has mild to moderate pollution levels. Therefore, it is necessary to manage and conserve groundwater to reduce the level of water pollution.