

# Zonasi Kualitas Airtanah Wilayah Utara Cekungan Airtanah Jakarta untuk Keperluan Higiene Sanitasi = Groundwater Quality Zoning in The Northern Region of Jakarta Groundwater Basin for Hygiene Sanitation Needs

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## Abstrak

Zonasi kualitas airtanah pada wilayah utara Cekungan Airtanah Jakarta dilakukan untuk mengetahui zona kualitas airtanah yang layak bagi keperluan higiene sanitasi berupa kebersihan perorang, meliputi keperluan mandi, sikat gigi, keperluan cuci bahan pangan, peralatan makan, pakaian, dan kakus, serta dapat digunakan sebagai air baku untuk air minum. Penilaian kelayakan kualitas airtanah ini berfokus pada parameter fisika dan kimia airtanah di akuifer tidak tertekan menggunakan metode STORET dengan nilai kadar maksimum yang digunakan berdasarkan standar baku mutu menurut Peraturan Menteri Kesehatan No. 32 Tahun 2017. Penelitian ini juga memetakan muka airtanah berdasarkan pengukuran muka airtanah, serta menganalisis jenis air, persebaran ion utama, kontrol kandungan airtanah, dan fasies airtanah yang kemudian mengintegrasikan kaitan antara tiap aspek analisis yang telah dilakukan. Berdasarkan pengukuran muka airtanah, diketahui pada wilayah utara Cekungan Airtanah Jakarta memiliki kontur muka airtanah yang berkisar antara <0 – 21 mdpl. Sedangkan zona kualitas airtanah berdasarkan hasil penilaian dengan metode STORET didapat empat status mutu air diantaranya “Memenuhi Standar”, “Cemar Ringan”, “Cemar Sedang”, dan “Cemar Berat” di mana diketahui pada status mutu air yang menunjukkan status cemar umumnya didominasi oleh unsur Mangan (Mn), Besi (Fe), Nitrat (NO<sub>3</sub>), TDS, Nitrit (NO<sub>2</sub>), dan Kesadahan yang melebihi kadar maksimum menurut Peraturan Menteri Kesehatan No. 32 Tahun 2017. Wilayah dengan status mutu air “Memenuhi Standar” dan “Cemar Ringan” yaitu wilayah selatan dan barat pada wilayah penelitian memiliki kualitas airtanah dengan kategori baik sekali hingga baik, sehingga wilayah ini menjadi wilayah yang direkomendasikan sebagai wilayah aman konsumsi untuk keperluan higiene sanitasi bagi masyarakat.

.....The zoning of groundwater quality in the northern area of the Jakarta Groundwater Basin is carried out to determine the appropriate groundwater quality zone for sanitation hygiene needs in the form of personal hygiene, including bathing, toothbrushing, washing food, eating utensils, clothes, and latrines, and can be used as water, raw water for drinking. This groundwater quality feasibility assessment focuses on the physical and chemical parameters of groundwater in unconfined aquifers using the STORET method with the maximum grade value used based on quality standards according to the Regulation of the Minister of Health no. 32 of 2017. This study also maps the groundwater level based on groundwater level measurements, and analyzes water types, distribution of main ions, control of groundwater content, and groundwater facies which then integrates the relationship between each aspect of the analysis that has been carried out. Based on groundwater level measurements, it is known that the northern area of the Jakarta Groundwater Basin has a groundwater level contour that ranges from <0 – 21 masl with an area that covers the northern area of the Jakarta Groundwater Basin. While the groundwater quality zone based on the results of the assessment using the STORET method obtained four water quality statuses including "Meeting Standards", "Light Polluted", "Medium Polluted", and "Heavy Polluted" where it is known that the water

quality status indicates the polluted status is generally dominated by the elements Manganese (Mn), Iron (Fe), Nitrate (NO<sub>3</sub>), TDS, Nitrite (NO<sub>2</sub>), and Hardness which exceeds the maximum level according to the Regulation of the Minister of Health No. 32 of 2017. Areas with water quality status "Meet Standards" and "Lightly Polluted" namely the southern and western regions of the research area have groundwater quality in the very good to good category, so this area is recommended as a safe area for consumption for hygiene sanitation purposes for the community.