

## ANALISIS KUALITAS AIR BERDASARKAN BENTUKLAHAN DAN PENGGUNAAN LAHAN DI KAPANEWON PRAMBANAN SLEMAN

Oleh Tiffana Fakhriyati Nabila

21/483000/GE/09764

### INTISARI

Kapanewon Prambanan Sleman merupakan wilayah dengan bentuklahan dan penggunaan lahan yang beragam. Analisis mengenai kualitas airtanah berdasarkan bentuklahan dan penggunaan lahan di Kapanewon Prambanan menjadi penting karena airtanah merupakan sumber utama kebutuhan air bersih masyarakat. Penelitian ini bertujuan untuk menganalisis kualitas fisik dan kimia airtanah berdasarkan bentuklahan dan penggunaan lahan, menentukan tipe kimia airtanah di berbagai bentuklahan dan penggunaan lahan, dan mengevaluasi kelayakan kualitas airtanah di Kapanewon Prambanan Sleman. Pengambilan sampel dilakukan dengan metode *purposive sampling*. Parameter yang dianalisis yaitu warna, rasa, bau, suhu, DHL, pH, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup>, Cl<sup>-</sup>, SO<sub>4</sub><sup>2-</sup>, HCO<sub>3</sub><sup>-</sup>, CO<sub>3</sub><sup>-</sup>. Hasil penelitian menunjukkan bahwa kualitas airtanah di Kapanewon Prambanan dipengaruhi oleh penggunaan lahan dan arah aliran airtanah. Tipe kimia airtanah berdasarkan hasil analisis diagram Stiff dan diagram Piper adalah tipe kalsium bikarbonat (CaHCO<sub>3</sub>). Kualitas airtanah di Kapanewon Prambanan memenuhi baku mutu Kelas I sesuai PP No. 22 Tahun 2021 berdasarkan parameter suhu, pH, Cl, dan SO<sub>4</sub> serta berpotensi layak digunakan sebagai sumber air baku air minum.

**Kata kunci:** kualitas airtanah, bentuklahan, penggunaan lahan, Kapanewon Prambanan

## WATER QUALITY ANALYSIS BASED ON LANDFORM AND LAND USE IN PRAMBANAN SLEMAN DISTRICT

By Tiffana Fakhriyati Nabila

21/483000/GE/09764

### ABSTRACT

*Prambanan Sleman District is a region characterized by diverse landforms and land uses. Analysis of groundwater quality based on landforms and land use in Prambanan is crucial as groundwater serves as the primary source of clean water for the community. This research aims to analyze the physical and chemical quality of groundwater based on landforms and land use, determine groundwater chemical types across various landforms and land uses, and evaluate the suitability of groundwater quality in Prambanan Sleman District. Sampling was conducted using the purposive sampling method. The analyzed parameters included color, taste, odor, temperature, Electrical Conductivity (EC), pH,  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{Cl}^-$ ,  $\text{SO}_4^{2-}$ ,  $\text{HCO}_3^-$ ,  $\text{CO}_3^-$ . The results indicate that groundwater quality in Prambanan Sleman District is influenced by land use and groundwater flow direction. Based on Stiff and Piper diagram analysis, the groundwater chemical type is calcium bicarbonate ( $\text{CaHCO}_3$ ). Groundwater quality in Prambanan Sleman meets the Class I quality standards according to Government Regulation No. 22 of 2021 based on temperature, pH,  $\text{Cl}^-$ , and  $\text{SO}_4^{2-}$  parameters, and is potentially suitable for use as a raw drinking water source.*

**Keywords:** groundwater quality, landform, land use, Prambanan District