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GROUNDWATER QUALITY IN KHARTOUM STATE, SUDAN

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ABSTRACT

Chemical analyses have been carried out for several groundwater samples collected from 28 producing wells in the area east of the Nile and the Blue Nile rivers, Khartoum State, Sudan. Three hydrogeochemical facies are delineated: sodium-chloride-sulfate (Na-Cl-SO₄), calcium-magnesium-bicarbonate (Ca-Mg-HCO₃), and sodium-calcium-magnesium-bicarbonate (Na-Ca-Mg-HCO₃). This study indicated that the groundwater quality in the study area, which lies within the Nubian Aquifer, is fit for human and agricultural purposes except at a few localities which contain high chlorides, sodium and sulfates, as well as high values of electrical conductivity above the permissible limits of the World Health Organization standards. The groundwater is also fit for irrigation purposes except at the same localities due to high salinity and a high concentration of sodium ions.

Reference: Ahmed, A., W. Sulaiman, M. Osman, E. Saeed, and Y. Mohamed.; Groundwater Quality in Khartoum State, Sudan, Journal of Environmental Hydrology, Vol. 8, Paper 12, August 2000.

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