

PRELIMINARY HYDROGEOLOGICAL STRUCTURE OF THE AÇU AQUIFER - POTIGUAR BASIN, NE OF THE BRAZIL

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The hydrogeological potentiality of the Açu aquifer is little known. Thus, this work have as objective contribute to progress of the knowledge of this aquifer, characterizing the hydrogeological structure in the west region of the Apodi city - RN - NE of Brazil. The analysis of hydrogeological profiles and piezometric surface map of the studied area permit characterize the aquifer like unconfined type. The piezometric surface map exhibit high hydraulic gradients in the south portion of the area and low gradients in the north portion, showing yet main underground water flow directions to superficial drainage and to north in the north portion of the studied area. In the north portion were identified two groundwater divisors. The analysis of the standard of fracture of the Potiguar Basin suggest the possibility that divisors are associated at horsts of the basin basement and the region between such divisors at grabens. Those grabens should receive proximal coarse material from divisors, conditioning that regions show low hydraulic gradients and a possible best hydrogeological context for exploration. The electrical conductivity map confirm this hypothesis, showing low values (30 - 250 $\mu\text{S}/\text{cm}$) in the graben area, suggesting that this waters are being constantly renovated.