



Hydrogeological and Geological Characteristics of the Karst Aquifer, Farafra Oasis, Western Desert, Egypt.

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Farafra Oasis is located in the heart of the western desert of Egypt, as an arid area it is characterized by the lack of rain fall in the whole year. So, groundwater is the main source of water for people in this remote area. Springs are the easiest and cheapest water supply for drinking and irrigation. In the last decade the water level in these springs showed a recognized lowering and some springs was completely depleted. Then the hydrogeological characters of these springs (which all located within the Cretaceous Chalk of the floor of the oasis) have been studied and compared with the previous data, to know the reasons of this lowering in water level. At the same time the geology (stratigraphy, structure, depositional environment and petrography) of the Khoman Chalk, which represent the aquifer rock, studied to establish the geological effects on the aquifer properties. In this work the author found a relation between the Karst aquifer and the lower Nubian Aquifer System, the geological characters of the Karst Aquifer reinforced this relation. The Karst Aquifer is generally controlled by the main fracture direction in the area. This work showed the effect of newly drilled deep wells on the Karst Aquifer, which should be taken in consideration in the future to protect this aquifer from depletion.