The main water bearing formation in the Tenth of Ramadan City is the Pleistocene deposits.From the few pumping tests carried out on a number of wells in the area of study, the hydraulic conductivity of the aquifer was found to varies from 30 to 70 m/day and the average specific yield reaches to about 0.2 (The change in groundwater depth of the Pleistocene aquifer towards the south of the area under study is mainly attributed to faults and topography along Cairo–Ismailia Desert Road and south of the Tenth of Ramadan City area (Islam, 1996).The main known inflow resources of water to the aquifer are seepage from Ismailia Canal, the return flow after irrigation in the agricultural lands, the replenishment from the desert wadies and seepage from the main groundwater aquifer of the Nile Delta.The Pleistocene aquifer in the studied area exists under unconfined conditions allover the area and the groundwater is situated in porous material of clastic origin with thickness varies from 75m to 200m.The aquifer is underlain by low permeable sandy limestone of Miocene age and overlain by high permeable Holocene sediments (Abdel–Karim, et al. 1999).The main known outflows of groundwater from aquifer are of abstractions by pumping from the productive wells at the water well field which is located northwest of the Tenth of Ramadan City.The groundwater depth of the Pleistocene aquifer varies by time from about 70–110 m at 1968 (Khalil, 1968) to about 65–125 m at 1980 (Ministry of Irrigation, 1980) to about 37–85 m at 1993 (Islam, 1996) and about 85–70 m at 2004 (The present work).The relative decrease in groundwater depth by time indicates an increase in the recharge resources to the aquifer from wastewater disposal by time.It is composed of graded sand and gravel intercalated with thin clay and silt lenses and some sabkha deposits.4).

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