

The subsurface aquifer system has varied properties based on the hydraulic properties of the rock formations. Permeability variations are a function of rock composition (lithology, cementation) as it relates to primary porosity and degree of fracturing (as it relates to secondary porosity). This variation in hydraulic permeability results in lateral and vertical heterogeneity in the behavior of the aquifer system on various scales. The shallow system is comprised of unconsolidated material and weathered bedrock. Below this layer is the bedrock aquifer system. The hydraulic properties of the aquifer largely depend on the degree and frequency of fracturing. Overall the degree and volume of water-bearing fracture zones decrease with depth as the lithostatic pressure increases, closing conduits to water flow.