

Characterizing an Artificial-Recharge Site in a Desert Environment Using Time-Domain Electromagnetics

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Abstract

Time-domain electromagnetics (TEM) were applied to characterize the subsurface in the vicinity of a proposed artificial hydraulic recharge site. Because of the investment involved, it is important to know the possible barrier effect of a major fault situated near the proposed recharge site. In this study, a series of TEM soundings were made to estimate the depth to water on both the north and south sides of the Pinto Mountain Fault. Results show strongly contrasting resistivity structures across the fault. These findings are consistent with expected water levels south of the Pinto Mountain Fault and suggest that the fault does, in fact, act as a barrier to flow in the vicinity of the proposed artificial recharge site.