

Diagnostic resistivity sounding curves of karstic aquifers in the
Chuping limestone

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The DC resistivity method has been used extensively in recent years to identify and locate karstic aquifers in Perlis. It is generally believed that this method has not been successful in finding such aquifers in the state. One reason for the failure is that the thickness of the karstic zone and its resistivity contrast with adjacent layers are not large enough to be detected by this method. The second reason is that the depth

of investigation was probably insignificant to detect any water-bearing fractured or cavity zone in the limestone at depth.

While the above statement may be true for the Setul limestone and other formations in Perlis, it is not quite true for the Chuping limestone. Resistivity sounding data from the Chuping limestone area are four-layer curves. The minima of these curves are related to water-bearing fractured limestone. It is interesting to note that all these sounding curves are very similar in shape, and in some cases, in the magnitudes of apparent resistivity. The lithologic logs at or near these soundings show more or less similar subsurface conditions. Interpretation of the available resistivity and borehole data indicates that the fractured zone in the Chuping limestone runs along the north-south direction.
