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## **New Life from Old Data--Processing and Interpretation of Older Diplogs with Modern Techniques, and an Example of Glacial Environment Interpretation**

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Dipmeter logs of various types have been collected since the late 1950s for subsurface structural and stratigraphic definition. Early diplogs correlated microresistivity curves to define bedding dips. These microresistivity logs were collected by electrodes on 3-, 4-, or 6- calipers extending away from the logging tool axis and contacting the borehole wall. Logs have evolved to more detailed borehole wall imaging by microresistivity and acoustic log techniques, which may be used to define bedding, fractures and other structural and stratigraphic features.

Computer software for processing and interpreting these modern borehole image logs may, however, also be used to display images of older diplogs. Geological interpretation may then be done on these redisplayed data to define bedding, and possibly other features present in the borehole. These bedding determinations may vary widely from computer dip calculations done originally after the logs were run, and will be more accurate determinations of bedding features than machine calculations.

An example is shown from an Ordovician interval near the Central Arabian Arch drilled and originally dipmeter logged in 1989. This log was reprocessed and bedding dips interpreted on the pseudoimage log then produced. The bedding dip groups in the Ordovician Sarah Formation are a few feet to ~20 feet thick, and are omnidirectional when looked at in gross form. These distinct bedding groups are similar to bedding dip groups from the Ordovician glacial section in Libya (Le Heron, et. al., 2004).

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