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A VO: TODAY AND TOMORROW

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ABSTRACT

The use of amplitude variations with offset (AVO) as a direct indicator of hydrocarbons is well into its third decade of application. The experience hasn't always been pleasant. Initially, there was much in the way of "black box-ism" surrounding the technique, and it was frequently oversold by zealous operators, at exorbitant rates in inverse proportion to exploration value. These dark days were followed by an extended period of enlightenment in which the geophysicist began

to understand better the AVO concept, its limitations, and its surprising potential.

It now appears that the proper application of the technique can reap significant benefits for both exploration and reservoir exploitation. Long offset data, azimuthal variations, and specialized processing techniques have led to more reliable hydrocarbon predictions and, in certain instances, to accurate forecasts of "fizz water" -- noncommercial reservoirs with low gas saturation.

With illustrations from the Australasia region, the principles of modern AVO application are reviewed with a special interest in the future of this persistent technique.

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