

Points-to-ponder-I

In this forum we invite authors to submit thought provoking questions which have short answers and which bring out some important issues in the theory or practice of exploration geophysics. The questions should be submitted, preferably, along with their answers; however, that is not mandatory and the editorial board will make efforts to find correct answers. Selected questions will be published with their answers.

1. Predictive deconvolution for suppression of multiples does not work as effectively in time-offset domain as in tau- p domain. Why?
2. Presence of AVO and bright amplitude anomaly in a prospect constitute **sufficient** condition for presence of hydrocarbons. True or False? Comment.
3. Presence of AVO anomaly a **necessary** condition for presence of hydrocarbons. True or False? Comment.
4. In a deep water sub-marine fan system, thick sands with gaseous hydrocarbons were expected based on amplitude study of seismic data. Wire-line electro logs in an exploratory well showed a thick 60 meters sand pack within which two intervals about 5-8 meter thick exhibited high gamma, relatively lower resistivity (5 ohms-meter compared to 20 ohms-meter for the rest of the pack which was interpreted to be gas charged sands on the basis of logs), and clear separation between neutron porosity and density logs. As per conventional interpretation of the logs, it was apprehended that these intervals would be shale. On the other hand, pressure studies indicated hydrodynamic continuity across these intervals. Subsequent coring and sedimentological analysis showed that the formation in these intervals were not shale, but silty sands with certain minerals which were responsible for the anomalous “shale-effect”. What could be a possible mineral composition of these sands which would explain the above features of the logs?
5. What is the difference between Fermat’s principle and Snell’s law?

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