Poster 4

The application of quantitative interpretation technology to offshore Sarawak and Sabah, Malaysia

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Quantitative Interpretation (QI) of seismic data is a vital activity to improve the characterization of reservoirs and to predict their hydrocarbon potential in all stages of exploration, appraisal and development. It should be an integrated activity done by a team of Geophysicists, Petrophysicists, Geologists, and increasingly, Reservoir Engineers. QI technologies are multi-disciplinary in nature and difficult to master.

The business impact of applying today's QI technology is very significant. Over the past few years, computer workstations have added tremendous interpretative abilities and there has been a revolutionary change in Quantitative Interpretation of seismic data: Sophisticated seismic modelling and seismic inversion have augmented and to a large extent replaced the traditional attribute analysis (Amplitude/AVO). A correspondingly sharp increase in QI activities around the world has resulted from the significant improvement of QI technology.

Rock properties, AVO modelling and Seismic-well match are the important foundations to start an Amplitude evaluation project. In addition to the traditional AVO attributes crossplotting, we have the technology to examine the impedances. Moreover, probabilistic inversion enables us to verify the proposed reservoir model or even determine a distribution of models that all fit the seismic data.

Some of the most effective QI techniques we have currently applied to offshore Sarawak and Sabah are shown in this paper. All the tools we used for these QI projects shown in this paper weren't available 10 years ago. With rapidly changing technologies, geoscientists have an increasing need to acquire expert geophysical knowledge. Workstation skills are essential to utilizing today's technology; technical knowledge is equally important to plan and execute QI projects properly and to achieve an unbiased pay prediction.

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