

**AAPG International Conference
Barcelona, Spain
September 21-24, 2003**

Bernard C. Duval¹, Jérôme-Marie Roux² (1) Institut Français du Pétrole, Rueil-Malmaison Cedex, France (2) TOTALFINAELF, PARIS LA DEFENSE Cedex, France

Examples of Decision-making in Frontier Exploration: the Interplay of Risks Analysis, Play Drivers' Recognition and Accepted Challenges

Whereas exploration decision-making in mature plays is well backed by reasonably constrained geosciences, it becomes more difficult in higher risk areas, particularly when programs are likely to be hampered by operational hurdles and high costs.

There is no obvious methodology in dealing with the issue and upstream managements most often respond case by case to the related challenges. However, some rules are proposed to help orientate strategies.

Firstly, the "high-risk, high-reward" dream should be duly qualified. Because the economics most often work well with high reserve figures and low probabilities of success (POS), one must carefully identify possible "killers" and always remain above a reasonable POS cut-off. This figure varies with companies and tends to become significantly higher than in the past, due mainly to progress in seismic imaging.

Secondly, even giant discoveries depend on a small number of key drivers which should be identified as early as possible in the game. Failing to do this would disperse efforts and make one vulnerable to big disappointments.

Thirdly, whereas the current trend of deep and ultra-deep water exploration involves reliance on poorly calibrated DHI's and sets of sophisticated attributes, cautious appropriate risking must be applied.

Finally, the universal admission that seismic has become "the" master tool should not omit the possibility of a return to the rocks and field models as being a worthy option of prime importance.

These points are illustrated by case histories from the Colombian and Bolivian foothills, the Caspian Sea and the Gulf of Guinea.