

**AAPG HEDBERG CONFERENCE**  
***“DEEPWATER FOLD AND THRUST BELTS”***  
**OCTOBER 4-9, 2009 – TIRRENIA, ITALY**

**Perspectives on passive margin fold and thrust belts**

Rod Graham<sup>1</sup>, Niall McCormack<sup>1</sup> and Andy Pepper<sup>2</sup>

<sup>1</sup>Hess Corporation, London, UK

<sup>2</sup>Hess Corporation, Houston, TX, USA

As exploration targets have become harder to find, the petroleum industry has increasingly looked to passive margin fold and thrust belts as a new frontier. The high quality of modern deep water 3-D seismic data potentially overcomes the imaging problems associated with onshore fold and thrust belts, bringing proper structural understanding within reach and helping unlock the large YTF which many believe to be hidden away in offshore fold and thrust belts. We are skeptical.

Despite this "imaging advantage" in deep water, exploration success in toe-fold systems is modest by comparison to that in the more proximal areas of the same deep water plays, a notable failure being the compressional system at the toe of the Niger Delta Fan. Likewise, a recent wildcat on a well-imaged compressional fold in deep water Kenya failed to open up a new province there. Why?

We document the issues and speculate on how exploration of the world's toe-fold zones exposes us to additional and different petroleum system risks, compared to their onshore counterparts. In spite of the kind of first rate structural geology we are likely to see at this meeting, it will not be plain sailing!