

WS02\_02

## A Request for Quantitative Seismic Solutions for Drilling Hazards Assessment

G. Wood<sup>1\*</sup>

<sup>1</sup> BP Exploration Operating Co

### Summary

---

In this paper, we focus on the need to provide a quantitative approach to drilling hazard assessment and the benefits such an approach would have to reducing uncertainty and risk while potentially releasing marine real estate for drilling or developments that has previously been considered unuseable

## **Can we be more definitive in our seismic Interpretation? Probably! A request for Quantitative Seismic Solutions for Drilling Hazards Assessment**

The last decade has seen huge advances in seismic technology for reservoir characterisation, from acquisition techniques and technology, to enhanced processing and analysis algorithms. Although some of these tools and techniques are being adapted and utilised in the Site Investigation industry, such as Broadband sources, slanted streamers and 3D high-resolution acquisition systems, analysis of these data has not progressed to the same extent.

Drilling hazard assessment for the top-hole section of a well (defined as down to the first pressure containment shoe) has largely relied on amplitude analysis of reflection data to identify potential shallow gas hazards, with little or no attempt to quantify the interpretation. This has largely been driven by a lack of reliable well log data in the larger hole-sections, generally with LWD data acquired, often through the casing making the data noisy. However, simply avoiding amplitude anomalies believed to represent gas is now far from the only issue confronting a Geohazards specialist. Shallow water flow prediction, for example requires the accurate prediction of sand facies. Geohazards Specialists within an Operator, we are also being challenged to provide a more definitive assessment of geological risk.

In this paper, we focus on the need to provide a quantitative approach to drilling hazard assessment and the benefits such an approach would have to reducing uncertainty and risk while potentially releasing marine real estate for drilling or developments that has previously been considered unuseable.