Overcoming Challenges in Pore Pressure Prediction and Wellbore Stability in Ultra Deepwater Exploration Well Campaign in Brunei

Amitava Ghosh[1], M Faiz Rasli[2], M. Razali Paimin[2], M. Mizuar Omar[2], and Herry Maulana[3]

[1]Baker Hughes, Malaysia,
[2]PETRONAS Carigali Brunei Ltd.
[3]Murphy Oil

ABSTRACT

This article presents some of the methodologies employed during well planning and construction. It also discusses the work refinement throughout each drilling campaign, which resulted in improvement of the geological and geomechanical models as new data and information became available. The intent of this presentation is to document and share experiences and lessons learned in Brunei deepwater wells within the industry. This would enable the execution workflow and well design to be continuously improved for a safe and cost-efficient delivery of the wells. The novelty of this method helped the geoscientist and well designer during the planning stages of the wells to achieve better estimates of the optimal drilling mud weight. This enabled successful drilling of three exploratory wells and one appraisal well so far without any pore pressure and wellbore stability issues.