

## **New Best Practice Adopted for Drilling Heavy Permeable Sands - The Umutu-7 Case**

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The Northern Depobelt of the Western Niger delta is characterised by a thick sequence of Benin Formation loose sands, the shallower part of which constitutes a major drilling challenge. Excessive mud losses accompanied with caving-in of loose formation before the 13-3/8" Casing setting depth eventually led to a catalogue of nightmares ranging from stove pipe subsidence, cracks around the cellar slab, tilting of the rig and the subsequent parting of the 13-3/8" casing, preventing further well re-entry.

Using a re-engineered and enhanced drilling fluids system that could stabilise the loose formation by stress-caging and strengthening the well bore, it was possible to drill through this top hole section without any incidents.

This paper therefore attempts to review the umutu-07 well and share best practices as a basis for developing practical lessons learnt to enable future and successful drilling operations in the area with a clear synopsis of the overall implications for marginal field development.