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**GEOPHYSICAL EVALUATION on the LATE MIOCENE ROCKS in OFFSHORE  
NILE DELTA, EGYPT**

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The offshore Nile Delta is the most active exploration and development province in Egypt. It is also one of the most promising areas for future Gas exploration and supply in the northern Africa. The offshore Nile Delta front is expressed by a northward bulge of the various isobaths. It extends for beyond the 200m isobath into the deep water area.

This study deals with the contribution of seismic interpretation and well logging analysis to achieve a comprehensive evaluation of Abu Madi Formation. The seismic reflection data are interpreted to establish the structural and stratigraphic features in the area. The complex trace analysis of the seismic data and interpretation of the seismic attribute are helpful in delineating the stratigraphic facies, major unconformities and old channels in Abu Madi and Kafr El Sheikh Formations. The comprehensive well log interpretation and correlation of the available logs give insight into the subsurface sequence.

The Nile Delta basin is a hydrocarbon-rich province that has hydrocarbon generated from clastics reservoir ranging from Oligocene/Early Miocene through Pleistocene. Main reservoir within the Miocene deltaic sequences of the North Delta Basin is the Abu Madi sandstone, covered by the regional seal of the Kafr El Sheikh shales. Proven source rocks include Jurassic Coals and Shales. The Abu Madi Formation (Late Messinian) is the sedimentary infilling of a fluvial pleovalley developing in the subsurface from South to North Delta. It is characterised by stacked fluvio-deltaic sandstones and shales onlapping landward and to the valley flanks against the basal erosional surface. These sandstone packages have been divided into three sequence stratigraphic framework.

The objective of this study is to predict the reservoir geometry, continuity and facies distribution in the offshore Nile Delta. In addition to unify the stratigraphic setting and nomenclature of reservoir levels in all gas fields within Abu Madi incised valley context.