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The Mandawa Basin of Coastal Tanzania and its Reservoir Potential

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SUMMARY

The Mandawa Basin of Coastal Tanzania is located onshore, adjacent (about 80 km offshore) to giant offshore gas discoveries in Lower Cretaceous to Miocene formations. The Mandawa Basin Project is a research and educational project organised between the Universities of Oslo and Dar Es Salaam, the Tanzania Petroleum Development Corporation (TPDC) and Statoil (Tanzania).

Introduction

The Mandawa Basin of Coastal Tanzania is located onshore, adjacent (about 80 km offshore) to giant offshore gas discoveries in Lower Cretaceous to Miocene formations. The Mandawa Basin Project is a research and educational project organised between the Universities of Oslo and Dar Es Salaam, the Tanzania Petroleum Development Corporation (TPDC) and Statoil (Tanzania).

Method and Theory

The Mandawa Basin sedimentary succession spans Triassic to Neogene formations dominated by shallow marine shelf to coastal deposits of evaporitic, siliciclastic and carbonate facies. In this project the sedimentological and stratigraphical developments are the main objectives, along with the structural evolution of the basin. Here some of the sediment-petrographical, stratigraphical and reservoir geology results will be presented.

Conclusions

The sandstones of the Mandawa Basin span fluviatile, tidal and shallow marine formations as well as possible turbiditic beds. Various trends in the porosity evaluation have been discovered, generally with a late diagenetic calcite cementation phase in most formations. In times and regions with confined clastic input, carbonates were deposited, often with oolitic composition that has great reservoir potential. In the studied onshore sections, however, they have developed a large degree of sparite cementation.