



Onshore Lower Congo Basin

Introduction

Regional and Petroleum Geology

The Lower Congo Basin is one of the classic passive margin basins on the West African margin that developed as a result of the rifting of Gondwanaland during the Mesozoic.

This rift-to-drift margin formed as a product of the separation of South America and Africa and the formation of the South Atlantic. Traditionally four megasequences are recognised in the tectono-stratigraphy corresponding to pre-rift, rift, transitional and drift phases of development, with a defining Aptian salt horizon formed at the end of the transitional phase.

Pre-Late Jurassic age continental clastics were deposited unconformably on Precambrian basement, which was later faulted during rifting. Rift related sediments were deposited over these, topped by thick Aptian salt. Post-salt Cretaceous 'rafts', predominantly composed of carbonate, have slid down dip, opening elongated troughs filled with Cenozoic sediments, though these are reduced in magnitude to the east. There is extensive growth faulting within the Post-salt Cretaceous and Cenozoic (predominantly clastic) intervals.

Working petroleum systems have been identified throughout the basin, in both pre-salt and post-salt sediments. Prolific working reservoir intervals occur in the Albian, Late Cretaceous and Cenozoic.

Exploration history

Surface hydrocarbon indications in the form of oil seeps and asphalt deposits have been known for at least 200 years. The first systematic exploration of the basin began in the early 1900s with a major drilling campaign by Sinclair from 1915 onwards. During this period, 8 wells were drilled in the southern part of the onshore basin with one discovery. The Ngondo discovery did not achieve hydrocarbon flow to the surface.

With the advent of reflection seismic a second exploration drilling phase took place from the 1950s to the 1980s until interest became increasingly focused on exploring the offshore part of the Lower Congo Basin. This campaign resulted in the discovery of 13 producing fields within the Onshore Lower Congo Basin. There are 9 oilfields which are still in production today under the operatorship of Somoil.

