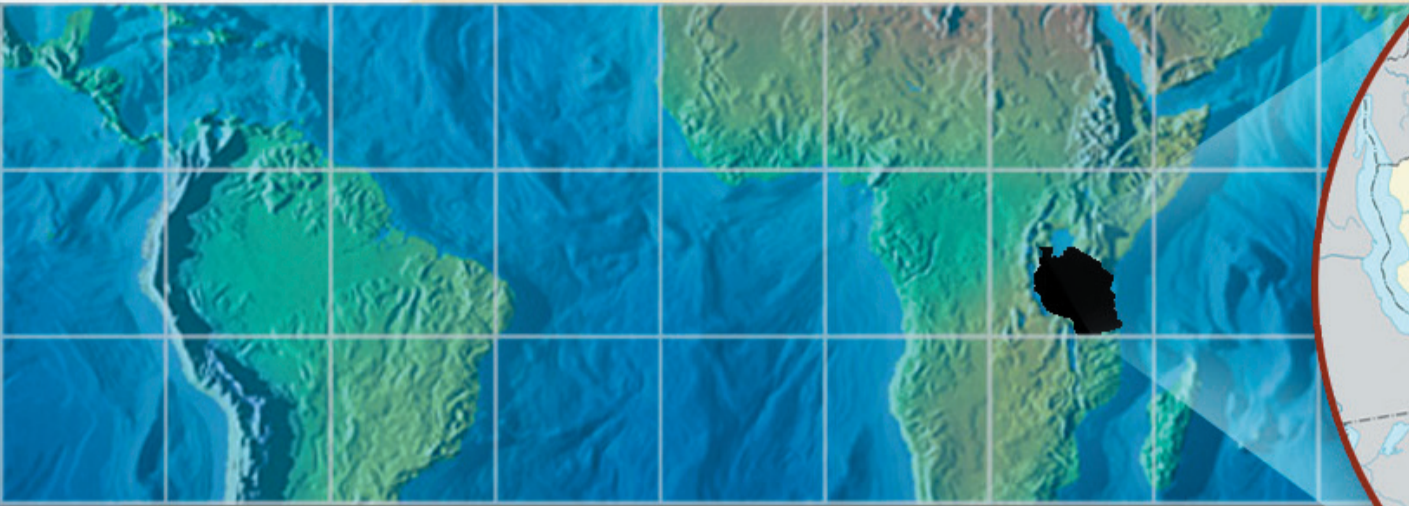




**INTERNATIONAL**

# Tanga Block – Tanzania Petroleum Geological Report



Our review of the Tanga Block necessitated a study of both the onshore surface geology and a review of the subsurface geology provided by the following wells: Pemba-5, Makarawe-1, Kiangwa-1, Ras Machuisi-1, Zanzibar-1 and Kimbiji East-1.

Northern Tanzania has been tectonically active throughout the Mesozoic and Tertiary, and remains so at the present time. This is demonstrated by the timing of structure development observed on the Pemba Channel seismic.

The first major hydrocarbon discovery was made in 1974 by AGIP - the Songo Songo gas field. More recent exploration interest in East Africa received a significant level of promotion during the 2003 East African Petroleum Conference. Following this conference, JEBCO Seismic contracted with Tanzania Petroleum Development Corporation (TPDC) to promote the 8,000 sq km Tanga Block. Subsequently, Global Exploration Services Ltd, in association with JEBCO Seismic, agreed to undertake a detailed geological, basin modeling and hydrocarbon prospectivity review of the region, the results of which, together with new data, are presented in JEBCO's 2004 Tanga Block Report.

A much broader based report, published in 2003 by JEBCO Seismic and GESL (Milsom & Cameron, 2003) reviewed the prospectivity potential of East Africa down to and including the Durban Basin of South Africa.

Typing of oils to source rock horizons has been undertaken here for the first time by GeoMark Inc of Houston, the most important of which is the Pemba Island oil seep at Tundaua that has been typed to a Lower Cretaceous carbonate source. The Report also identifies the importance that must be placed on the younger fault systems, as illustrated on the radar imagery, as these may have an important bearing on the prospectivity of the region.

Radar imagery here has revealed the surface geology cut by a series of strike slip faults of Tertiary to Recent age, the most interesting of which is the pattern on Pemba Island. The Tertiary surface geology here has been displaced by a WNW-ESE trending strike-slip fault pattern. The same pattern can be seen on the shoreline of the mainland, although here they are soon camouflaged by the fabric of the Mesozoic rocks that crop out close to shore.

Offshore lineament patterns, visible on bathymetry profiles, suggest a very young Northwest-Southeast trend similar to that in the Tertiary outcrop of Pemba Island. The youngest lineaments

appear to disrupt the older Northeast-Southwest extension fabric. Close to shore they intersect the strike of outcrop and limit the exposure of some units whilst onshore, the topography shows that the older pattern seen close to the shoreline extends onshore. The distribution of geologic units plus the blocky nature of the topography and bathymetry are indications of an extensive history of faulting. In association with Global Exploration Services, UK.

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