

Hydrocarbon Potential & Occurrences

There are four proven gas fields in Mozambique:

- Pande, Temane, Buzi, Inhassoro

Hydrocarbon shows in wells:

- 22 wells with gas shows, asphalt and traces of dead oil.

Surface Shows

- Gas seepage (Inhaminga, Cundue Creek, Ponta Uifundo) Oil seep (Lake Nhangela, Angoche, Pemba, Ponta Uifundo)

Rovuma Basin

Frontier Area: Huge Structures and Oil Potential [see map](#)

The Rovuma Basin is about 400 km long by 160 km (250 by 100 miles) Centred on the Rovuma Delta near the border between Mozambique and Tanzania. The basin is both onshore and offshore. Nearly 73 000 sq. km (29 200 sq. miles) of the Rovuma Basin lies within Mozambique.

Offshore Basin

The highly prospective offshore area of the Rovuma Basin includes outstanding features like:

- The Ibo High horst trend in the south, with mapped structural closure of 1 200 km² (450 sq miles). It has associated multiple reservoir objectives within the Karoo Supergroup, Jurassic and Cretaceous. Water depth ranges from 550 to 770 m. The Tertiary Rovuma Delta further north

Several structural and stratigraphic leads have been identified.

Onshore Basin

Several play types have been conceptualized for the onshore part of the basin. Improved seismic data would be required for further identification of the onshore prospectivity.

Hydrocarbon seeps

A number of oil and gas seeps have been identified in both the Mozambican and Tanzanian part of the basin, proving active petroleum systems.

During 2000 field work was undertaken in the onshore part of the Rovuma basin.

Several oil & gas seeps were sampled and analyzed, showing that the oils are of natural origin, having two distinct oil types, and being interpreted to have Jurassic age or older.

Source rock & reservoir

Potential source rocks are considered to be present throughout the basin, in the syn-rift and early drift section. Good quality reservoir rocks with high porosity have been identified.

Exploration wells

Mocimboa-1: the only well drilled in the Mozambican part of the basin, drilled onshore by Esso in 1986. it had strong gas shows, and possibly condensate in Albian sands.

Mnazi Bay-1: drilled in Tanzania just north of the Mozambican border in 1982. Tested gas at rates up to 14 mmcf/d, from Oligocene sand of the Rovuma Delta Complex.

Seismic coverage

3200 km of 2D seismic was acquired offshore in 1998. During the 1980's 2100 km seismic onshore, 300 km seismic offshore, gravity data, and 15 000 km aeromagnetic data was acquired.

Mozambique Basin

Buzi Discovery

The Buzi Field is located about 27 kms to the southwest of Beira. The gas discovery was made by Gulf Oil in 1962 in Lower Grudja G-9 sand in Buzi-1 Well. The reservoir is confined in complex fault-block structure within the Chissenga Graben.

The gas reserves are estimate to be about 0.4 BCM tested by only one well (Buzi-1).

Gas potential

The gas potential is not evaluated yet and gas extension area not outlined as well due to lackage of data. Few existing seismic is very sparse, but enough to show a potential of gas at G-9 and probably G-10 horizon.

G-6 and G-10 sands had gas show while drilling with maximum of 600 units. Petrophysical analysis from drilled wells shows good porosity of about 30%, and 4m Net to Pay in Buzi -1 well. Although the gas has been discovered, additional seismic acquisition is required for detailed study that would test a potential in south of Marora-1 Well.