SOUTH AFRICA

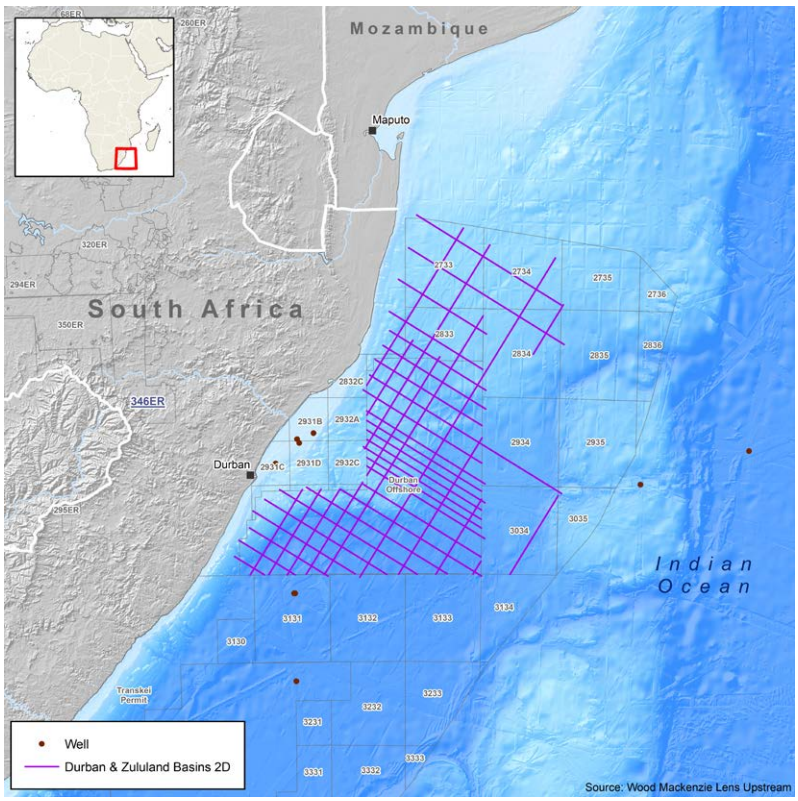
Durban & Zululand basins 2D survey

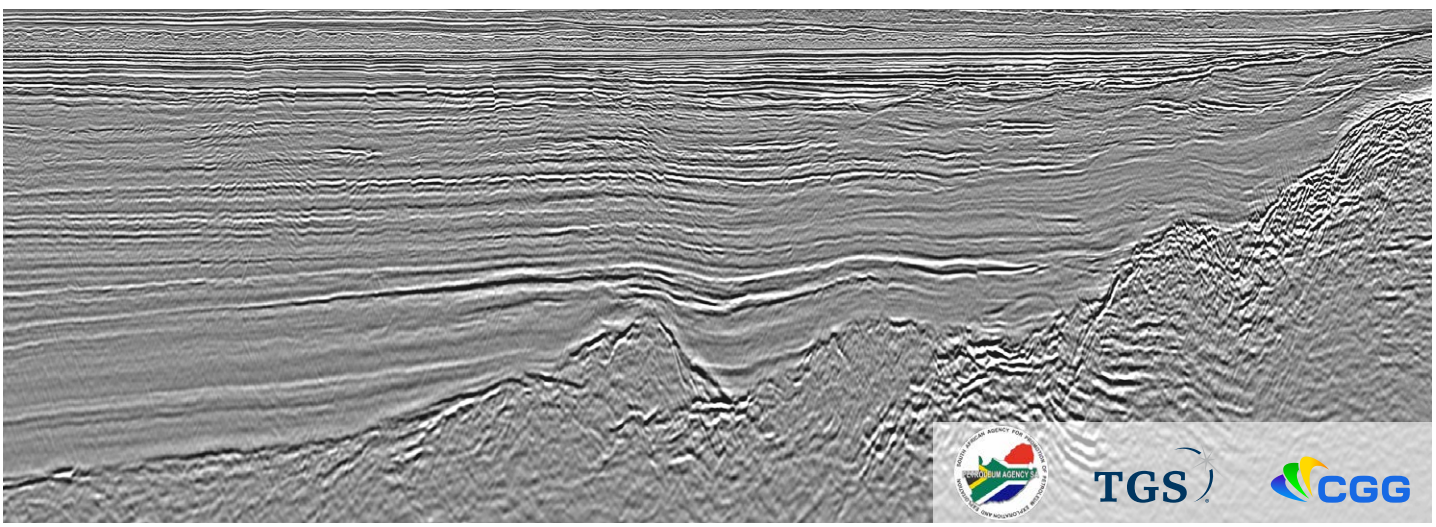
CGG, in collaboration with the Petroleum Agency South Africa (PASA) and TGS, has acquired a multi-client 2D seismic survey to investigate the offshore oil and gas potential of the Durban and Zululand basins, off the east coast of South Africa.

These basins remain largely unexplored; the slope and deepwater regions have not yet been tested. They offer potential analogues to the Rovuma Basin located offshore Mozambique to the north and the conjugate of North and East Falkland basins.

Highlights

- Total data coverage of 7,000 km 2D
- 500 – 2,500 m water depth
- Covers both held and open acreage





Seismic section from the Durban & Zululand basins 2D survey.

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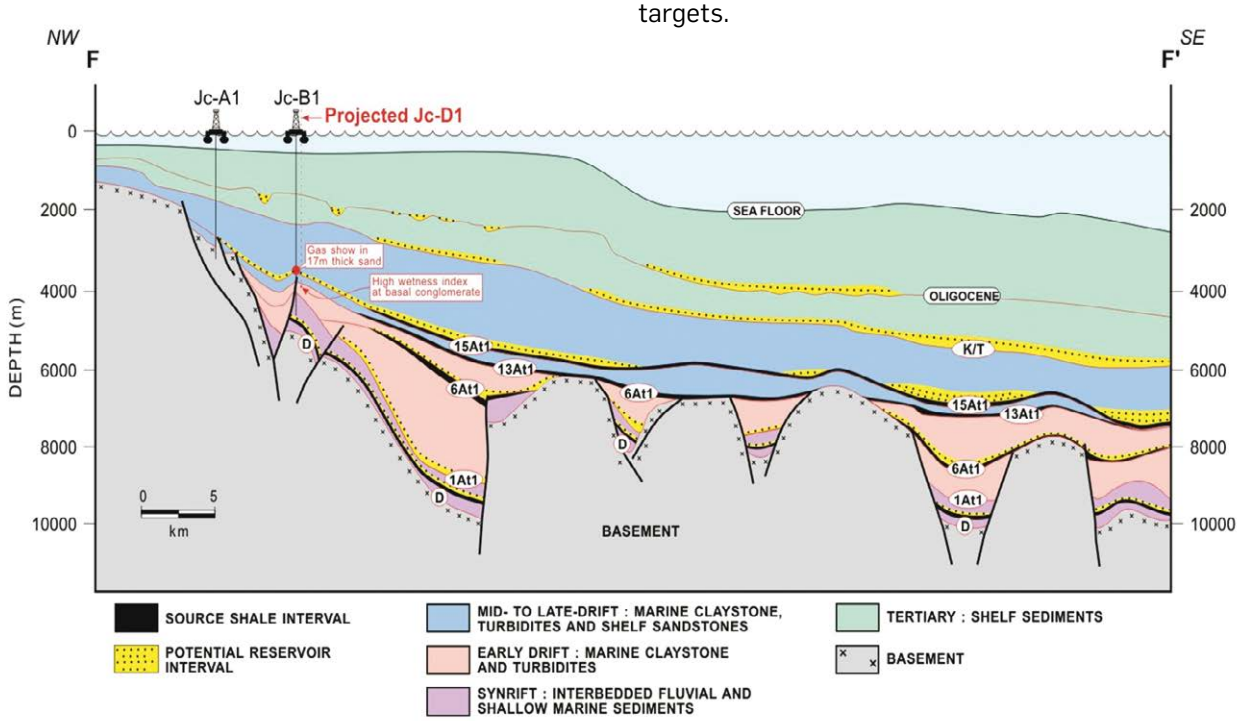
Geological setting

The Durban and Zululand basins cover an area in excess of 100,000 km²; they were formed during the initial breakup of Gondwana, and are comprised of north-south trending horst and graben structures. The basins are largely unexplored. The four existing wells were not optimally positioned and are located on the shelf within the sediment bypass zone. Despite this, traces of oil and bitumen staining have been witnessed in one of these wells.

The presence of oil-prone Lower Cretaceous rocks deposited during the worldwide Aptian anoxic event at the onset of thermal subsidence has been proven basinward. Sand-rich, upper slope channel facies and basin floor fans associated with the Tugela Delta (Lower Cretaceous-Late Tertiary) have excellent reservoir potential. This sand can be linked to both structural and stratigraphic trapping mechanisms giving numerous prospective exploration targets.



Geological cross section of the Durban Basin (courtesy of Petroleum Agency of South Africa).

Acquisition parameters

- Survey size: 7,000 km
- Data type: PSTM
- Streamer length: 10,050 m
- Record length: 10 seconds
- Survey acquired: 2013-14

Deliverables

- Final PSTM (Pre-Stack Time Migration)
- Stacking and migration velocities
- Four angle stacks (Near, Mid, Far, Ultra-Far)
- Acquisition and processing reports

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