

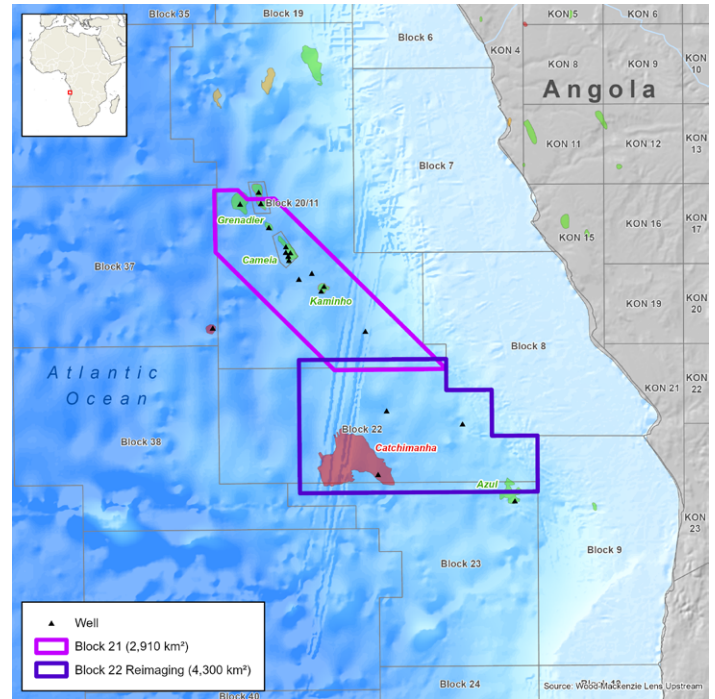
Kwanza Basin 3D broadband surveys

Viridien, in association with Agência Nacional de Petróleo, Gás e Biocombustíveis (ANPG), acquired broadband data in the highly prospective pre-salt zone covered by Blocks 21 and 22.

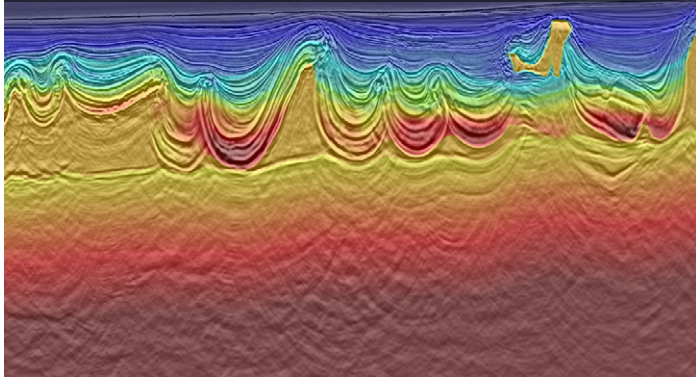
Exploring for opportunities in deepwater Outer Kwanza Basin - Blocks 21 and 22

Both surveys are pre-stack depth-imaged and cover approximately 2,915 km² and 4,300 km² respectively.

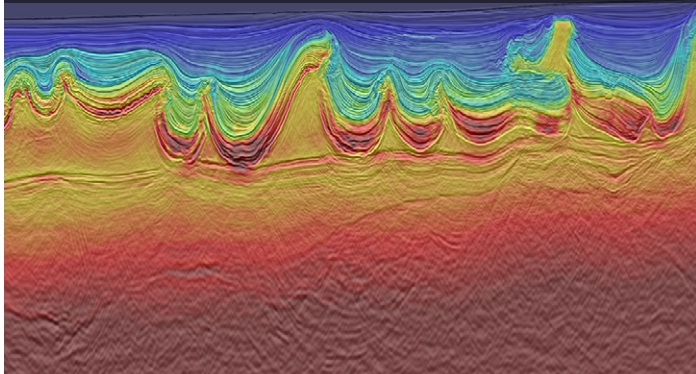
Reimaging of the Block 22 survey commenced in Q3 2025, using field tapes from Viridien's 2013 acquisition in partnership with ANPG. The project focuses on improving broadband signal character and amplitude consistency, building a high-resolution velocity model to accurately capture salt geometry and subsalt features, and deliver a final volume suitable for prospectivity interpretation around salt and within the pre-salt section. Key workflows include advanced demultiple (including post-migration interbed multiple attenuation), 3D joint source- and receiver-deghosting, and an integrated velocity model-building strategy combining multi-layer tomography with time-lag full-waveform inversion (TLFWI).



2013 model & RTM



Fast-track model & RTM



Highlights

- Total data coverage of 7,215 km²
- Covers the Cameia discovery with billion-barrel potential
- Block 21 subset data reimaged in 2021 and Block 22 reimaging underway

Viridien's latest Block 22 reimaging project delivers unprecedented clarity, revealing previously unseen pre-salt targets.



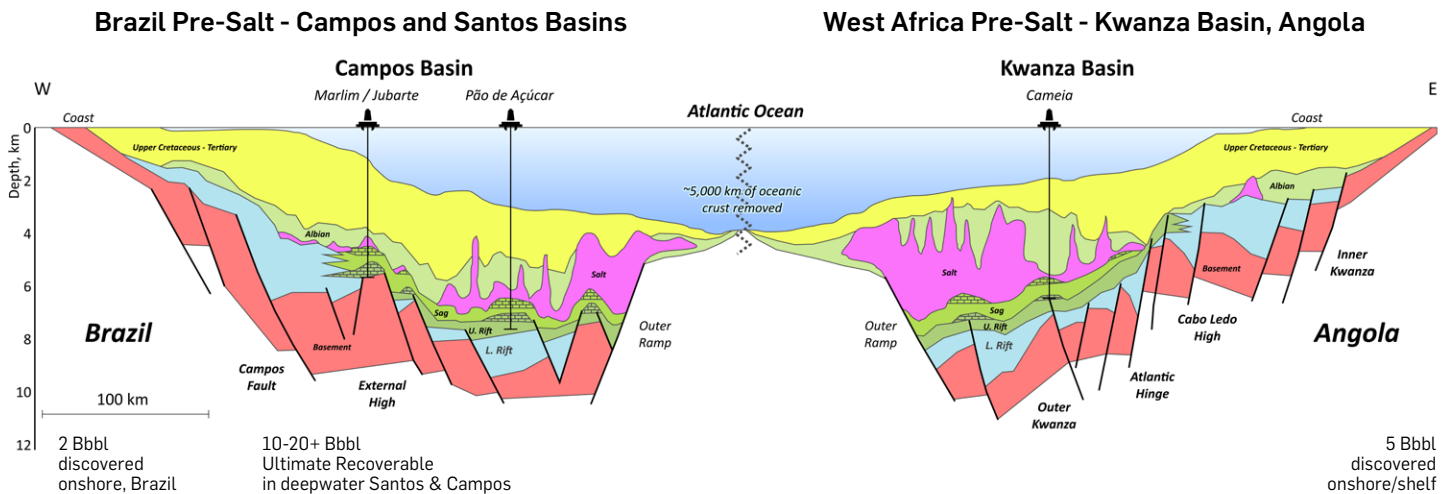
ANGOLA

Geological setting

The Kwanza Basin forms part of the salt-influenced passive margin offshore Angola. Early Cretaceous rifting in the Kwanza Basin is associated with the opening of the South Atlantic Ocean. A thick layer of Aptian salt was deposited shortly after this initial rifting event. The salt in the Kwanza Basin was deposited in two sub-basins – the inner and outer Kwanza Basin. Viridien's Block 21 and Block 22 surveys are located in the Outer Kwanza Basin.

The Miocene uplift also led to a supply of massive clastic sedimentation, further enhancing hydrocarbon maturity and resulting in the formation of turbiditic and channel traps in the Outer Kwanza Basin.

The primary exploration and development focus is on the pre-salt plays in Blocks 21 and 22 in the Outer Kwanza Basin. The pre-salt source rocks were deposited during the Barremian to Early Aptian. They are type I oil-prone source rocks with TOC content of up to 5%. Proven reservoirs are within carbonate mounds (Cameia field – Block 21) and syn-rift sands (Bicuar-1 well – Block 21). The secondary plays are post-salt consisting of Pinda reservoirs. The Pinda carbonates appear as rafts and provide numerous untested leads and prospect analogues to producing fields of the Sendji carbonate play in the Lower Congo Basin.



Geological section highlighting the geological similarities between the conjugate Angolan and Brazilian margins (image courtesy of Cobalt International Energy).

Acquisition parameters

- Survey size: 7,215 km² (combined)
- Data type: PSDM
- Streamer length: 8,100 m
- Record length: 9 seconds

Deliverables

- PSDM Kirchhoff & RTM (Blocks 21 & 22)
- PSDM CBM (Block 21)
- Stacking and migration velocities
- Velocity model
- Four angle stacks (Near, Mid, Far, Ultra-Far)
- Acquisition and imaging reports

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