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Zambezi Delta 3D survey

This ultramodern 3D PSDM broadband dataset in the outer Zambezi Delta Basin provides a unique opportunity to target potential and proven reservoirs with outstanding imaging of the whole geological section including the Beira High Basement. The complementary **JumpStart**[™] integrated geoscience package helps de-risk the area by incorporating geological data, such as thermal maturity, depositional environment and facies.

Highlights

- Over 15,000 km² of 3D broadband multi-client seismic data
- Processed through an advanced PreSDM workflow, including FWI velocity model building and GWE bandwidth extension
- Delivers high-resolution images of the Outer Zambezi Delta turbidite fans and channels
- Reveals previously unseen detail of faulting and layering in the basement core of the Beira High
- Final pre-stack depth-migrated data available now





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Geological context

The Zambezi Basin is an example of a passive continental margin, formed along the eastern African margin during the Karoo rifting. The stratigraphy of the basin is represented by a succession of continental to shallow to deep marine Mesozoic-to-Cenozoic sediments.

The Beira High is a prominent NE-SW elongated geological feature that has acted as a natural barrier, controlling the Mesozoic sediment distribution along the Zambezi Delta Depression (ZDD). The primary source rock anticipated to be present along the ZDD is the Early Cretaceous Domo Shale Formation, which is known to be the source of the onshore Zambezi Basin fields.

The Cenozoic interval is represented by a thick silici-clastic sequence of sediments, deposited in a pro-delta system and formed by multiple stacked, meandering channels. Sands deposited in this system can provide very good reservoir properties.

A number of good-quality reservoirs can also be found along the ZDD, represented by the Cretaceous Upper Maputo and Lower Domo formations, with reported average porosities of up to 20%, increasing to 28% in the Upper Domo sands. Porosity values of up to 30% have also been found in the Paleocene basin floor fan deposits of the Grudja Formation as well as the Eocene–Oligocene–Lower Miocene, Cheringoma Formation.



Acquisition parameters

- Survey size: 15,400 km²
- Streamer length: 8,550 m
- Number of streamers: 14
- Record length: 11 seconds

Local contact

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Deliverables

- Final Kirchhoff PreSDM
- Angle stacks
- · Acquisition and processing report
- Geological interpretations and regional geological studies



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