Zeus and Zeebries:

Enhanced exploration potential from new high-quality 3D data acquired by Fugro in the Northern Carnarvon Basin – Australia’s most prolific hydrocarbon-producing basin.

These survey areas are within Australia’s premier hydrocarbon province, adjacent to producing fields and existing infrastructure. The surveys aim to clearly define play levels in the area, including the Triassic Mungaroa fault blocks to the south at the Goodwyn gas field and the Jurassic-Triassic horsts and wrench-controlled troughs to the east.

The data is owned by Fugro and marketed by CGG.
The Zezes and Zeebries 3D surveys were conducted to aid interpretation and provide predictive rock and fluid distribution information in the subsurface reservoir models. Time and depth migration is being conducted for the Zeus 3D survey.

Geological Overview

The offshore depositional framework of the Northern Carnarvon Basin consists of a thick succession of late Palaeozoic to Cenozoic sediments. The main reservoir units are deemed to be Triassic to Lower Cretaceous fluvial and deltaic sandstones, and intra-formational claystones. The north-eastern trend of the Zeebries survey was conducted on a north-south line from the north-west of Zeebries, where underexplored areas exist within close proximity to producing fields.

The studies further indicate that accumulations in adjacent areas to the west of the project area were sourced from Jurassic (Maryland and White Cliffs) sandstones. This has led to the development of a more complete understanding of the local distribution of potential reservoir sands, at target levels, primarily within the middle to late Jurassic sand units of the Angel, and Legendre Formations, and the late Triassic to early Jurassic sand units of the North Rankin and Brigadier Formations. Preliminary interpretation suggests that potential reservoir sands, occurring in the Legendre Formation, can be mapped more effectively by extended well information throughout the survey.

With the added benefit of full bandwidth simultaneous inversion volumes, the distribution of potential reservoir sands can be mapped more effectively by extending well information throughout the survey. The importance of these potential reservoir sands cannot be overestimated, as they can provide the basis for further exploration in this area.

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Zebra and Zeebries: Significant Exploration Insights

High-quality 3D data could provide new exploration opportunities in this highly prospective part of the Northern Carnarvon Basin, where underexplored areas exist within close proximity to producing fields.