

Pantheon HD3D Is An Eni First For Australia

Eni SpA is acquiring a 3D seismic survey in Northern Australia with parameters that are a first for the company and also a first of its configuration in Australia. The PGS Ramform Victory (Fig 1.) is acquiring 510 km² of 3D seismic with a configuration of 12 streamers, each 6000 m long and 50 m apart (Fig 2). Eni is acquiring the data on behalf of Joint Venture partners SIPC Australia and OPIC Australia.

The so named Pantheon HD3D (High Density 3D) was designed to improve subsurface imaging of the complex geology in the Swan Graben of the Vulcan Sub-basin, Timor Sea. Following extensive reprocessing of existing data, it has become obvious that three criteria related to future seismic acquisition needed to be addressed:

- Orient the acquisition perpendicular to the main fault trends
- Increase the streamer length for longer offset data, and
- Increase the density of data.

A combination of PGS and Eni Spa independent research confirmed that the existing multi-client 3D seismic data, acquired prior to the current Joint Venture's involvement in the area, could not accurately image the complex structural style of the Swan Graben because it was acquired parallel to the dominant fault orientation.

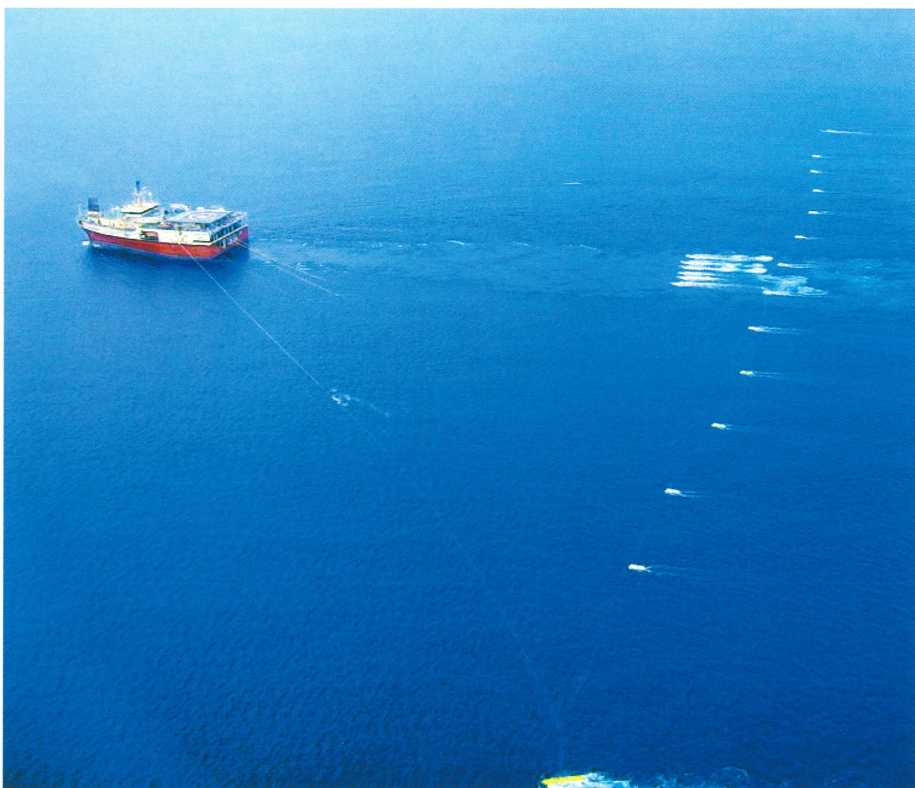


Figure 1. Ramform Victory on location for Eni Australia in the Timor Sea



The Ramform uses an innovative wide rear deck design that is typically twice the width of standard hull vessels (the silhouette on the left image is to scale for the most recent 'high capacity' seismic vessel in Australia). A patented Ramform hull design enables unique laminar flow behaviour through the water, providing a stable and long-range operational platform. Separate gun and streamer decks provide vast spaces for safe operations. The image shows only half of the 20 reel Ramform streamer deck. Most equipment handling is managed robotically, optimising efficiency and minimising risks.

In the area of interest within the Swan Graben, a large Jurassic/Cretaceous inverted structure, that experienced crestal collapse in the late Tertiary, also causes imaging problems at depth.

It was concluded that the survey design of long offset (6000m) and high density data in the preferred orientation in combination with wave-equation PSDM processing should address existing imaging problems.

Acquisition of the data should be completed by early December and a PSDM volume should be ready for interpretation in mid 2006. It is intended, if there is sufficient encouragement from the data, to drill in late 2006. ■

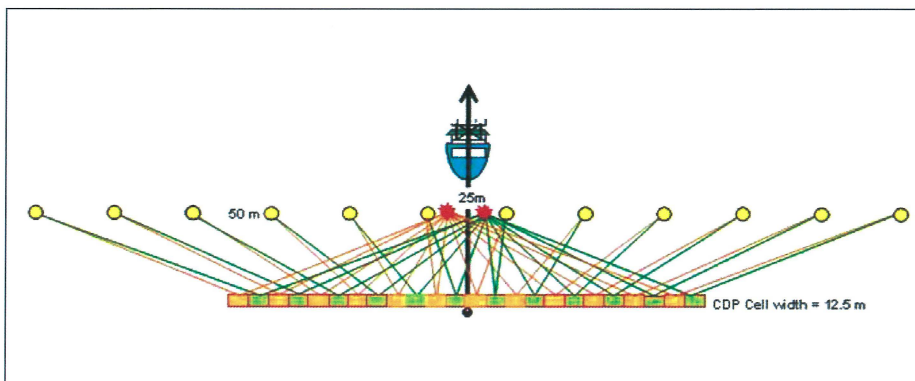


Figure 2. Streamer configuration for the Pantheon HD3D seismic survey