

Promising results from Capel and Faust Basins seismic survey

New data point to hydrocarbon potential

Fred Kroh

Geoscience Australia has recently completed a seismic survey in the Capel and Faust Basins as an initial appraisal of their hydrocarbon potential. The Capel and Faust Basins are two remote deepwater basins 800 kilometres due east of Brisbane that were identified in consultation with the petroleum industry as worthy of reconnaissance.

This survey represents the final stage of seismic data acquisition as part of the Australian Government's New Petroleum Program (Big New Oil initiative, 2003 to 2007) to provide pre-competitive data to support acreage release and open up offshore frontier areas for exploration.

The survey was conducted between 19 November 2006 and 7 January 2007, collecting high-quality, industry-standard seismic data, as well as magnetic, gravity, and long-offset refraction and reflection data. The vessel used an 8-kilometre solid seismic streamer, and collected 12 seconds of data with a 12.5 metre group interval and 37.5 metre shotpoint interval, producing a 106-fold common mid-point (CMP).

“The shape and size of these structures look favourable for hydrocarbons.”

Favourable weather conditions during the survey resulted in the collection of 5920 kilometres of two-dimensional (2D) seismic data, with a line spacing of approximately 30 kilometres, which was approximately 50 per cent more 2D seismic data than originally proposed (figure 1).

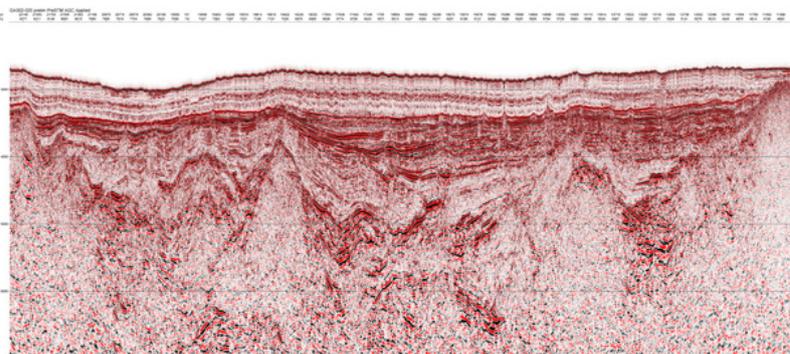


Figure 1. A section of the new seismic data collected in the Capel and Faust surveys highlighting the thick sedimentary section (up to eight kilometres thick) and large prospective structures.

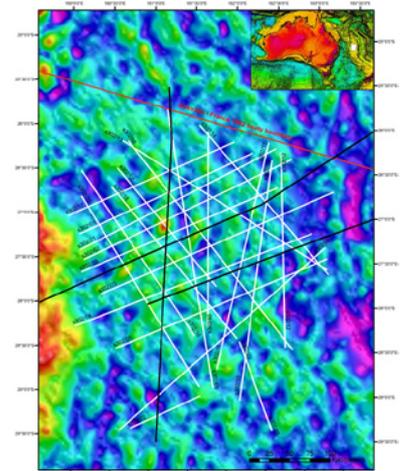
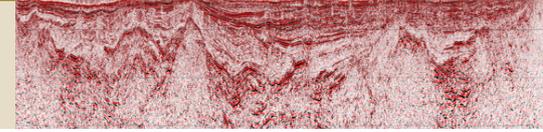


Figure 2. The map shows the position of the seismic lines collected, overlaid on satellite gravity data. Lines marked in white are from the new survey; those in black are from previous Australian Geological Survey Organisation surveys in 1996 and 1998 as part of the Law of the Sea program to establish Australia's extended continental shelf.

Geoscience Australia is processing and analysing the new data; at this preliminary stage, several basin structures have been seen for the first time (figure 2). The shape and size of these structures look favourable for hydrocarbons. After processing, the data will be available to industry at the cost of transfer from Geoscience Australia.

Processed datasets and data will be on display at the 19th International Geophysical Conference and Exhibition, to be held in Perth in November 2007.

For more information

phone Fred Kroh on
+61 2 6249 9183

email fred.kroh@ga.gov.au