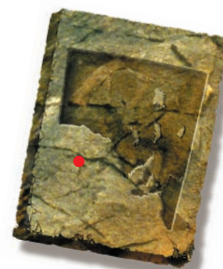


Oil search in the Great Australian Bight



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Introduction

The largest commercial seismic exploration program in SA waters was successfully completed in May 2001, ahead of schedule and under budget. The program was carried out by Woodside Energy Ltd and its joint venture partners, Anadarko Australia Co. and Pan-Canadian Petroleum, which had previously formed a partnership in the search for oil in the Great Australian Bight.

The joint venture bid for, and was awarded, exploration permits EPP28–30 in July 2000. Woodside is the operator with 40% interest in the three permits and will manage all the offshore operations, including seismic surveys and drilling programs. Anadarko and PanCanadian each have a 30% interest in the permits.

Taking almost five months to complete, the Flinders Deepwater survey was one of the most intense acquisition programs that Woodside has embarked on in its 35-year exploration history. Seismic acquisition started in December 2000 and finished in May 2001. Woodside contracted the services of WesternGeco using the seismic vessel *Geco Angler* to acquire almost 16 000 line kilometres of 2D seismic data; encouraging signs have been recovered from the data reviewed so far.

The prime objective was to acquire good quality data, but do this in a way that was reflective of the company policy — *'that all activities will be planned and performed so that adverse effects on the environment are either avoided or kept to an acceptable level while meeting all statutory requirements.'*

Woodside, as the operator, spent a significant amount of time and energy in ensuring that the contractors, WesternGeco and Fugro, were fully briefed with respect to the company's expectations on health, safety and environmental practices. The company conducted induction briefings for all crew members working on the *Geco Angler* in Perth and

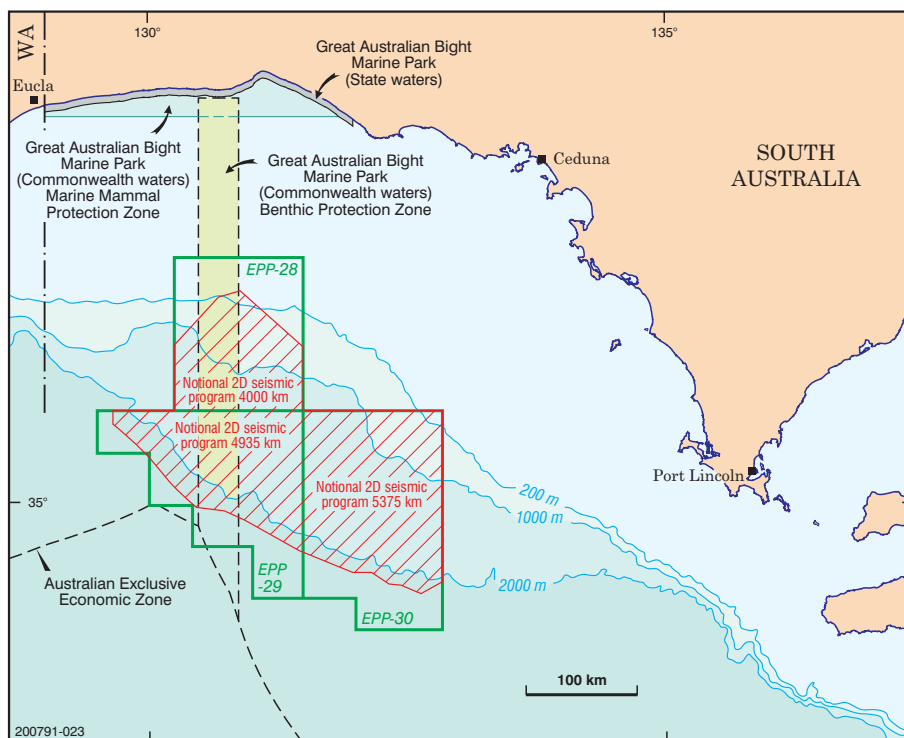


Fig. 1 Location of exploration permits EPP28–30.

Adelaide before each of the crew changes.

Excellent feedback was received from the induction briefings. The crew were keen to be involved in the Flinders Deepwater survey because of the emphasis the company placed on working in a safe and healthy way. The company also explained the environmental significance of the operational area and the crew responded accordingly.

The success of the program was reflected in the total acquisition being completed without any lost time injuries or reportable environmental incidents, which is a significant achievement for a seismic program as long as this one. One minor occupational health incident was recorded from a knee injury sustained by one of the crew members. PIRSA, as regulator, was informed of a few incidents where ISOPAR-M fluid had leaked from the seismic streamer due to shark bites, but these were not classed as significant incidents.

Environmental approvals

Woodside was treading new ground with respect to the environmental regulation for the acquisition program as this was the first Woodside-operated exploration program to be assessed under the new Commonwealth Environment Protection and Biodiversity Conservation Act. The seismic program was referred to Environment Australia for a determination by the Federal Minister for Environment and Heritage, Senator Robert Hill, as to whether or not the activity would have significant impacts on a matter of national environmental significance.

Woodside chose to refer the seismic program because the permits, although quite some distance away, are ~300 km from the Head of the Bight, a key calving and breeding ground for Southern Right Whales. Coupled with that, two of the permits cross the Benthic Protection Zone of the Great Australian Bight

Marine Park, which is a representative strip of the seafloor.

The Minister determined that the seismic activity would not have significant impacts on a matter of national environmental significance and therefore did not need formal assessment under the new Act. He determined that the seismic program was not a 'controlled action' under the Act, but did enforce several strict conditions:

- The survey was to be completed before 31 May 2001 to avoid the start of the Southern Right Whale migration period.
- The survey had to have specific whale interaction guidelines and procedures in place, which govern things such as soft starts. This is where the air guns on the seismic vessel are ramped up to send out warning signals to whales. The guidelines included whale watch and stop-work procedures which meant that, if whales were seen within 2 km of the vessel, the air guns were shut down and not started again until the whales had moved outside of the 2 km exclusion zone.
- A dedicated whale monitoring program using independent observers, which will comprise part of a study and report of whales in the area.

This is the first time Woodside has participated in an independent whale monitoring program on board a seismic vessel and one of very few times in Australia that operators have used independent observers for whale monitoring.

The Great Australian Bight whale monitoring program was developed by Jeremy Colman, Woodside's Environmental Adviser, and Chris Burton from Western Whale Research. The program required the operator to place suitably qualified whale researchers on board the vessel for a total of 15 weeks during the survey. The observers spent periods during daylight hours trying to visually detect whales around the vessel.

Jeremy Colman said the seismic survey provided an ideal platform for conducting baseline research which had not been done before in waters of the Bight. The final report, which he expects to submit within several months, will contain an analysis of all the sightings of whales and other animals made during the program. Once this is done, the partners will have fulfilled all the

environmental obligations placed on the seismic program, as per the Minister's conditions.

Sightings during the 15 weeks of observations were limited to pods of common and bottlenose dolphins, and long-finned pilot whales, plus a single sighting of a Southern Right Whale towards the end of the survey. Two New Zealand fur seals were also sighted, and detailed records were kept of all the seabirds observed, which consisted mainly of albatross and petrel species.

Stakeholder involvement

Consultation with the various stakeholders was critical to the success of the program due to the perceived impact of seismic operations on Southern Right and other whales, and on the unique plant and animal life in the Benthic Protection Zone.

Woodside, on behalf of the partners, briefed Federal, State and local governments and authorities, politicians, advisers, fishing organisations and community groups in Canberra, Adelaide, Port Lincoln and Ceduna about the exploration program. This was to ensure that stakeholders were aware of the seismic program and also provided the exploration team with the opportunity to understand any concerns the stakeholders might have had about the program.

Woodside produced various information sheets, advertised weekly in two of the local papers throughout the program, and advertised a toll-free 1800 number which was staffed 24 hours a day to answer any questions the public may have had.

An environmental resource atlas was produced to provide a regional perspective for stakeholders on the marine and coastal environmental resources within the exploration area. The atlas was distributed to all interested stakeholders as part of the joint venture's involvement program.

WesternGeco was also very supportive of the consultation efforts and agreed to host several tours of the *Geco Angler* for some of the key stakeholders. The SA Minister for Minerals and



The partners and seismic vessel Geco Angler on one of its crew changes in Port Lincoln in January 2001. Left to right: Bob Pickering (PanCanadian Petroleum Ltd), Neville Henry (Anadarko Petroleum Corp.), Stan Munn (PanCanadian Petroleum Ltd) and Mark Shuster (Woodside Energy Ltd) (photo courtesy Port Lincoln Times). (Photo 47907)

Energy, and Minister Assisting the Deputy Premier, Wayne Matthew, toured the vessel in January during one of the crew changes in Port Lincoln.

Exploration program follow up

Woodside, PanCanadian and Anadarko are now interpreting the data to identify if there are any prospects in the three permit areas. Once evaluation of all the 2D data is complete, the partners will decide which prospect(s) will be drilled as part of their third-year work program commitments for the permits.

Preliminary planning for the drilling program has started with the partners examining the logistics requirements, including procurement of a suitable drilling rig, helicopters, and port services, as well as ensuring that the environmental approval process is initiated. The expectation at this stage is that the drilling will start some time in the latter half of 2002.

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