

The Outer Limits of Australia's Petroleum Exploration Frontiers

Abstract of talk given at PESA Vic/Tas Branch luncheon on Wednesday, March 18, 1998 by **Philip Symonds** (Petroleum and Marine Division, Australian Geological Survey Organisation)

Countries with broad continental margins that extend beyond 200 nautical miles, and that have ratified the 1982 United Nations Convention on the Law of the Sea (UNCLOS), need to define the outer limit of their seabed and subsoil resource regime - the 'legal' continental shelf (LCS) - with respect to the international community. Application of the rules contained in UNCLOS for establishing this outer limit require information on the physiography, sediment thickness, and other geological characteristics of continental margins. Marine geoscience has an important role to play in all aspects of UNCLOS from the definition of the outer limits of a country's marine jurisdiction, to the provision of essential data and advice to guide and support exploration, exploitation and

sustainable management of its marine zones.

Over the last few years AGSO has been collecting new seismic and other geophysical data sets over the deep and remote parts of Australia's continental margins to define the outer limit of its resource regime. Significant new opportunities arise from the acquisition of these modern data sets varying from improvements in our knowledge of the nature and distribution of non-living resources and the marine environment, to the investigation of a range of globally significant geoscientific problems. It is already known that several areas of Australia's deep margin have medium to long-term petroleum potential, and that most parts of the margin with possible petroleum potential will lie within its marine jurisdiction. By the time the Law of the Sea data acquisition phase is complete, all the remote, prospective, deep-water areas will have new data sets over them. Following definition of the LCS, and completion of the last of the seabed boundary negotiations with

adjacent countries, Australia will have a secure regime within which to explore, exploit or conserve, and manage the natural resources of all parts of its continental margins. The data acquisition that accompanied this process will provide new insights into the geology and resource potential of extensive areas of sedimentary basins beneath Australia's deep margin, and place the nation in a strong position to capitalise on any future phases of global deep-water exploration.

(The talk briefly discussed what countries need to do to define the outer limit of their seabed and subsoil resource regime, and presented some of the petroleum resource implications of such work. Then aspects of some of Australia's future petroleum exploration frontiers such as the Lord Howe Rise and the Great Australian Bight were examined, as well as new styles of tectonism that will confront explorers as they push into the deep-water parts of continental margins).