

THE 1988 PESA LECTURES

PESA AUSTRALIAN LECTURER

STRUCTURAL CONTROLS ON HYDROCARBON PROSPECTIVITY IN EXTENSIONAL BASINS

Michael Etheridge, Bureau of Mineral Resources, Canberra



In the ten years since McKenzie's classical paper on the subsidence and thermal consequences of extension or stretching of the continental lithosphere, extension tectonics has been increasingly recognised as a fundamental orogenic stage in the formation of continents and their sedimentary basins. Particularly important was the recognition that 'rifting' results from essentially horizontal motions

previously relevant to hydrocarbon exploration.

This lecture will review each of these new concepts, with particular emphasis on their consequences for hydrocarbon exploration. The concepts will be illustrated, where possible, with examples from Australian extensional basins. Specific examples will be given from the Bass and Gippsland Basins, the Canning