

ABSTRACT

The Eastern Bass Strait Marine Seismic Survey was conducted in the Bass and Gippsland Basins of Victoria and Tasmania. The data from this survey have been integrated with previous survey data in both basins and an interpretation is presented of all of the Bass Basin and the portion of the Gippsland Basin that qualified for subsidy.

The Gippsland Basin began in the late Mesozoic era with continental deposits being laid down on a peneplaned, sharply folded, lower Cretaceous surface. The basin is controlled on the south by an E-W trending down-to-the-north fault system and on the north by a combination of faulting and folding. Local structural movement occurred from upper Cretaceous through uppermost Eocene, accompanied by deltaic deposition and local erosion. At the close of the Eocene major local structure movement occurred. Beginning with the Oligocene, marine conditions persisted over most of the basin into Pliocene time when the seas withdrew to their present position.

Faulting, local structural movement, and local erosion have resulted in eleven structural prospects and four structural leads being outlined in the Gippsland area of this report.

The Bass Basin is of Tertiary age and originated as an embayment of the South Australia-Otway sea. An en-echelon system of faulting on the northeast and southwest flanks of the basin developed prior to the Cenozoic era and has had subsequent movement through the close of the Oligocene. Overall basin movement throughout most of the Tertiary has been characterised by general subsidence. However, local areas remained relatively stable and are expressed today as structural highs. Deposition underwent a transition from continental deltaic to marine deposits as the seas transgressed to the east. Each discrete lower and mid-Tertiary interval wedges out towards the north, south, and east flanks of the basin forming good potential stratigraphic traps.

Two untested anticlinal prospects and extensive structurally isolated stratigraphic wedge outs have been delineated in the Bass Basin.