

- (d) Widespread effective claystone cap-rocks overlie the erosion surface and in-fill the channels in the Latrobe Group.
- (e) Structural traps were formed by the processes of wrench-fault tectonics during the mid-Miocene, prior to the maturation and migration of hydrocarbons.
- (f) Maturation and migration took place as the Latrobe-Lakes Entrance sequence was buried by the Gippsland Limestone and younger rocks.

The major gas fields are concentrated in the northwestern sector, where the traps are structurally controlled and erosion at the top of the Latrobe Group is minimal. This gas is derived from the coal measures in the upper part (Eocene) of the Latrobe Group.

In addition, small pools of both oil and gas are found within the Latrobe Group complex, primarily in the northeastern sector, in anticlinal structures where the seal is an interbedded shale.

8. PETROLEUM PROSPECTS IN T13P

8.1 SOURCE ROCKS

The thickness of sediment above the basement in T13P begins to approach that of the Central Basin only in the eastern part of the permit on the continental margin. The exploration potential of the permit area depends greatly on the presence of adequate source rock sequences on this margin. Seismic data and the configuration of the present day shelf suggest that down-faulting and thickening of the section is present (Figure 2). An increase in marine influence in the Latrobe Group is possible in the eastern part of T13P, since this area was probably more accessible to the open sea than the partly enclosed central basin to the north; this would enhance source rock potential.