

The structural style of the Bass Basin is in the form of major and minor tilted blocks generated by extensional normal faults. The block tilting controls sedimentation geometry, with depocentre trends following major structural lows. Episodes of recurrent movement on large, normal faults produced rapid thickness changes in various sedimentary units, particularly across faults.

Facies analysis and sand percentages in the EVCM indicate that the Bass Basin largely was more fluvial around the shallow margins, and more lacustrine towards deeper, central depocentres. This simple type of basin fill geometry creates few facies-controlled barriers to the migration of hydrocarbons from the basin, but intraformational seals appear to have confined the migration of hydrocarbons within the zone from which they were generated.

However, trapping of hydrocarbons has occurred at Pelican Field, and the involvement of faults in the trapping mechanism is demonstrated by the sealing of three distinct gas/condensate pools from each other, and the isolation of an overpressured zone beneath the field. The overpressure zone may also indicate additional potential for sealing of deeper hydrocarbon reservoirs.

The lower part of the EVCM is considered to have generated hydrocarbons from Paleocene time through until the Present, so the timing of fault movement is extremely important in the formation of a hydrocarbon trap. The percentage of sand present in the section intersected by the fault is the other important element in trapping. At Pelican Field, the faults seal 50% of the reservoir sands at a sand percentage of 40%. The dependence