

The volcanic horizon that forms the oceanic basement farther to the south passes landwards into a reflector that seems to onlap onto the relief of the ridge discussed above.

The basinwide Neocomian unconformity recognised in Western Australia is not so well developed in the Bight area. The major unconformity visible at the landward ends of the sections lies above crystalline basement, and the sedimentary sequence probably ranges from Jurassic to Cenozoic. Below the slope and continental rise a basal unconformity is not usually traceable and the deepest continuous reflections may arise from the Upper Cretaceous. The Cretaceous to Tertiary sequence is affected by rotational synsedimentary faults in the area of the Ceduna Plateau - these give rise to a belt of long, linear, convex-to-the-land faults that follow the continental margin for several hundred kilometres. In the downthrown (seaward) blocks anticlinal features are common (e.g. N 407, sp 2450, Encl. 17) and growth is often observed (e.g. N 407-2, sp 1700, Encl. 18). The faults affect the areas of thickest sediment accumulation and are absent from areas of shallow basement. Below the slope, they penetrate the features interpreted as possible slumps or toe thrusts (see p. 10) of Lower Cretaceous rocks and farther to the seaward pass into a belt of slope base thrust faults. The Lower Tertiary section, which overlies a well defined regional unconformity in the deeper water areas, truncates this belt of thrusts and is undisturbed.

Upper Cretaceous sediments reach considerable thicknesses below the Ceduna Plateau. They were deposited under fluvio-marine conditions and, on the shelf, may be seen to comprise megafacet cycles representing separate phases of deltaic growth. It is thought that more distal fluvio-marine environments occur in the deeper water area. The collapse of the continental margin that preceded this depositional phase is most likely to have taken place in Neocomian or Albian-Cenomanian times. If the former is the case, the Neocomian-Albian section below the plateau will most probably be of the same facies as the Upper Cretaceous (i.e. fluvio-marine) and the acoustic basement ridge (p. 10) may represent a toe-thrust belt. If, on the other hand, the collapse took place in Albian-Cenomanian times then it is most likely that the Lower Cretaceous is, like the Jurassic and lowermost Cretaceous, of lacustrine facies (as on the shelf) and that the acoustic basement ridge represents a gravity-induced slumped mass.

Tertiary turbiditic sediments of the continental rise onlap against relief to both the north and south. Subsequent tilting and faulting have created a slight slope and led to some erosion. Tertiary sediments on the shelf and continental slope comprise relict calcareous sands and oozes respectively (Conolly and v.d. Borch, 1967). Buried channels and canyons together with other signs of current controlled deposition can be seen in the Eocene to Quaternary succession (v.d. Borch, 1967).