

CONTINENTAL MARGIN:

The margin between continental block and ocean basin developed probably just prior to the tectonic breakdown of the Tertiary basin. It is seen that no sediments cover the bevelled, north-dipping Mesozoic in the deep water, indicating late submergence. The Tertiary sediments piled up and building outward along the margin show that the feature existed at least early in the Tertiary. (Text Fig. 24).

The continental margin has no tectonic relation with the Otway basin, for its course is regional and unaltered by either sediments or basement rocks.

As a matter of interest, results of the seismic refraction profiles across the narrow continental margin southwest of Kangaroo Island by the cruise Verna 16 in 1960 indicate a normal crustal transition to a true ocean basin.

The slope of the margin averages about  $3^{\circ}$ , although there are places (K-1, OS-1) where for a distance of two miles it is about  $20^{\circ}$ . The Water Depth map shows the gradients and the areas of deepest water (about 6,500'). (Fig. 20).

Two canyons are seen on line OS-14. One is filled and the other, of about 3 miles width, is open for 1,250' below the sea floor, which is at 2,000'. The canyon is underlain by at least 750' of apparently very unconsolidated sediments.

On line K-1 there are two features 500 feet high and half a mile broad with central portions of low energy material and flanked by strong reflections. Similar features but with greater width (6 miles and 2.5 miles) are found on SS-25 (Fig. 19) and OS-12. These may be piles of volcanic debris flanked by basalt. This explanation is preferred to that of sediments dumped by landslides or turbidity currents. Strong reflections possibly representing basalt are seen in other OS lines far down the slope approaching the pinchout of the Tertiary.