

Along the belt the Tertiary is underlain by what may be Palaeozoic sediments of a thickness of more than 5,000 feet. Their distribution is seen on the map Main Features, Mesozoic Basin (Fig. 1). This section could be of great importance inasmuch as it is gently folded and not metamorphosed (seismic velocity only slightly higher than that of the Mesozoic).

Tertiary and Mesozoic Highs: (Fig. 6)

(From Portland to Port Campbell)

Four broad, nondescript structures are mapped in the Frome-Broken Hill offshore concession between Portland and Port Campbell. These features are illustrated by contours Base of Tertiary and accompanying seismic cross sections.

The three western structures have little seismic control and the recording is very poor. In two of them the structural uplift is gentle within the Tertiary but steeper and more erratic within the Mesozoic. In the third, there is no apparent expression of uplift in the Tertiary; the unconformable contact between Tertiary and Mesozoic shows a topographic high.

The easternmost of the four Frome structures was detected in the onshore seismic mapping as a north-plunging nose. On the basis of this, Flaxmans No. 1 was drilled onshore in 1961. It found the Upper Mesozoic to contain salty water (12,000 ppm) and a DST gave a showing of wet gas. The electric log of the Tertiary indicated fresh water and no trace of oil. Nevertheless, several gas kicks were recorded on the mud logger. In about the middle portion of the Otway a substantial show of gas with condensate was obtained from a production test. The lack of volume and drop of pressure were attributed to inadequate permeability. Fracture porosity was suggested.

In 1963, the structure offshore was mapped by a detailed seismic survey. It is an uplift with maximum relief of about 800 feet. It covers an area of some 15 x 8 miles, elongated northward but with an irregular outline. Two culminations are present, the largest one extending through