



Aeromagnetic work (1) in PEP38, west of Magellan's permits, gave early indications of a deep trough extending east of Lake Wellington and containing about 15,000 feet of sediments. This survey was integrated with a later aeromagnetic survey (2) covering all of the Bass Strait but stopping west of Magellan's permits. This survey showed the basement shallowing southward but deepening eastward at the easternmost control.

Magellan's January 1968 aeromagnetic survey (3) of its permits indicated variable thicknesses of sediments, up to about 20,000 feet locally. Several structural anomalies were interpreted in PEP63B and T/1P, which required further evaluation by seismic methods.

The first marine seismic programme (4) in the Gippsland Basin located most of the presently known structural features which subsequently resulted in the prolific Esso-BHP offshore oil and gas fields (Barracouta, Marlin, Kingfish and Halibut). Later surveys (5,6 and 7) gradually refined the structural configuration of the western Gippsland basin and clarified the geology of more complex features such as the "Miocene Channels".

Earliest interpretations indicated little if any Oligocene-Eocene deposits east of PEP38. As more information was obtained, it became clear that this was incorrect, and the bald-headed basement highs (where Latrobe and Lakes Entrance deposits appeared to be missing) were small localized features. With the presence of the Latrobe and Lakes Entrance established, PEP63B and T/1P became favourable area for similar traps to those found in PEP38.