



REGIONAL GEOLOGY

The basic contents of the following summary were prepared by the geological staff of Magellan Petroleum Southern Pty. Ltd., on the basis of reports from previously subsidized geophysical operations (see page 11). Minor revisions and additions were made by the author of this report.

The Gippsland basin has proved to be the site of Australia's first large oil field discoveries. It is roughly triangular in shape (with the apex pointing south), considering the known basin boundaries. The north side is bordered by basement type rocks onshore in the hills of Victoria. The southwest side is formed by the basement ridge running from Wilson's Promontory southeast to Flinders Island and northeast Tasmania. The eastern limits are unknown; however, southeastward the basin may merge with a sedimentary trough running along the east coast of Tasmania. The basin is filled with Jurassic through Tertiary sedimentary rocks which thicken to 20,000 feet in the central part of the basin.

Paleozoic sediments along with intrusive and extrusive igneous rocks probably underlie all of the Gippsland basin. The lower Paleozoic rocks, ranging from Cambrian through Lower Devonian, are not prospective for petroleum because of their intensely folded and metamorphosed nature. However, Upper Devonian, Carboniferous and Permian rocks have possible source and reservoir potential.

Overlying the Paleozoic formations is a thick sequence of Mesozoic strata thought to be largely of terrestrial origin and consisting of sandstone, mudstone, shale and coal. The Upper Cretaceous-Paleocene (?) is represented by a deltaic (?) unit that apparently is predominantly continental in origin but which contains beds with interstitial salt water.