

The Latrobe Valley Coal Measures consist of delta sandstones and coal measures and attain a thickness of 5,000 feet. Offshore this unit consists of approximately 75% clean well sorted friable sand which constitutes the major reservoir to date for Gippsland oil and gas. Onshore the sandstones contain fresh water becoming more brackish or marine eastward. Porosities of 26-30% and permeabilities of up to 5 darcies are reported from the Marlin Field.

After a late Eocene uplift and erosional period, subsidence occurred allowing the sea generally to cover the entire basin. Oligocene Lakes Entrance was deposited and ranges in thickness from 200 to 500 feet. In localised areas such as riverbeds etc. and possible submarine canyon type erosion features formed during the early part of the marine invasion, the Lakes Entrance sediments reach a thickness in excess of 2,500 feet. The unit is predominantly a calcareous and glauconitic mudstone and provides the cap rock for the Latrobe Valley reservoir rocks.

Another hiatus followed Lakes Entrance deposition and some channels were cut into these sediments which were in turn filled with Miocene Gippsland Formation marls. The Gippsland Formation is similar in lithology to the Lakes Entrance and attains a maximum thickness of approximately 6,000 feet. Results from the Sailfish No. 1 well show that during early Gippsland Formation localised areas were subject to volcanic action resulting in cushions of pyroclastics being formed.