

SUMMARY OF PALYNOLOGICAL DATA OBTAINED FROM M.D.V. TYRENDARRA - 13

BORE, 1730 - 4504 FEET

Samples of cores taken from between 1730 and 4504 feet in Tyrendarra - 13 bore were submitted for palynological analyses by Shell Development (Australia) Pty. Ltd. All samples yielded reasonably well preserved plant microfossils which indicate representation of the following spore-pollen zones within the sequence.

Cupanieidites orthoteichus Zonule

Samples from cores 9 - 13 inclusive (1730 - 3388 feet) contain well preserved and diverse spore-pollen assemblages and rare microplankton. The microfloras are characterized by the presence of Cupanieidites orthoteichus, diverse Proteacidites including P. dilwynensis, P. pachypolus, and P. reticuloscabratus, together with fairly abundant Triorites harrisii and Dilwynites granulatus. The sediments are accordingly referred to the Cupanieidites orthoteichus Zonule of Harris (1965, 1970) which is regarded to be of Upper Paleocene age.

Uppermost Cretaceous - lowermost Tertiary

Core 18 (3614-34 feet) yielded a sparse assemblage containing spores, pollen, and microplankton. Species identified include Proteacidites amolosexinus, Deflandrea bakeri, and Epicephalopyxis indentata. Thus the sediments may be dated as uppermost Cretaceous (Senonian and later) or lowermost Tertiary (pre-Middle Paleocene) in age. The absence of other stratigraphically significant species precludes precise zonal attribution.

Tricolpites pachyexinus Zone

Microfloras obtained from cores 20 and 21 (3948-4141 feet) are composed of spores, pollen, and infrequent dinoflagellate cysts. The

association of Tricolpites pachyexinus, Camarozonosporites amplus, Ornamentifera sentosa, and Stereisporites viriosus indicates the presence of the Senonian Tricolpites pachyexinus Zone of Dettmann and Playford (1969). Further, the representation of Nelsoniella aceras in core 20 indicates that this horizon is within the Nelsoniella aceras Zone of Evans (1966), and thus from the upper part of the T. pachyexinus Zone. Core 21 yielded Deflandrea cretacea indicative of either the Deflandrea cretacea or Nelsoniella aceras Zones of Evans (1966).

?Lower Cretaceous

Residues obtained from cores 22 and 23 (4394 - 4504 feet) consist chiefly of wood fragments with rare, reasonably well preserved spores and pollen grains. The only stratigraphically significant species observed is Foraminisporis asymmetricus, which, if not recycled, indicates that the sediments are no younger than the Tricolpites pannosus Zone and no older than the Foraminisporis asymmetricus Unit of the Dictyotosporites speciosus Zone (see Dettmann and Playford 1969, Dettmann 1968).

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7th December, 1970.

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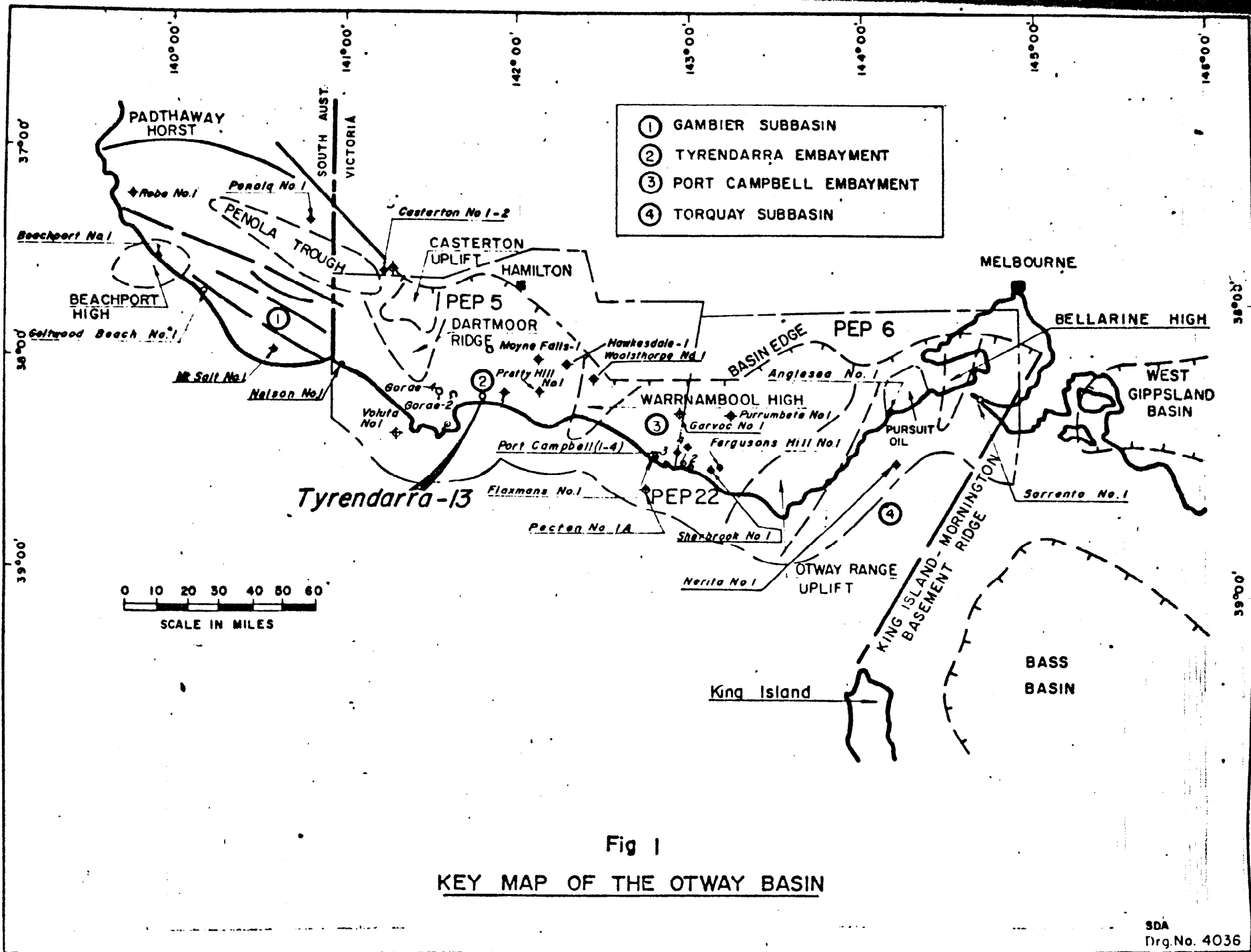


Fig 1
KEY MAP OF THE OTWAY BASIN