



PE990494

PALYNOLOGY OF
MACKEREL - 2
GIPPSLAND BASIN

A.D. Partridge

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INTRODUCTION

Samples from Mackerel - 2 were received for palynological analysis during March, 1972, and preliminary reports were issued during March. Unfortunately the greater part of the core and SWC material available from the Latrobe Group in Mackerel - 2 is of unfavourable lithology for palynological study, hence the number of barren samples and lack of age dating in the interval between 7574 feet and 8040 feet. The samples examined, and the results for Mackerel - 2 are summarised in the following:-

SUMMARY

Sample	Depth (in feet)	Zone	Age
SWC 64	7574 *	<u>P. tuberculatus</u>	Oligocene
SWC 63	7578	Sample barren	
Core 1	7607	" "	
Core 2	7692	" "	
Core 3	7693½	" "	
Core 5	7722	" "	
"	7732 ft. 5 in.	" "	
"	7732 ft. 9 in.	" "	
Core 6	7752	Indeterminant	Early Eocene-Paleocene
Core 7	7784-85	Sample barren	
"	7793	" "	
SWC 17	8040 *	<u>L. balmei</u>	Paleocene
SWC 16	8065	" "	"
SWC 11	8194 *	" "	"
SWC 35	8218	" "	"
SWC 5	8360 *	" "	"
SWC 4	8386 *	" "	"
SWC 33	8425 *	" "	"
SWC 31	8463 *	" "	"

* Dinoflagellates present.

COMMENTS

The SWC at 7574 feet contains pollen, spores and dinoflagellates of the P. tuberculatus Zone, which is in agreement with the II age determined from the foraminiferal data.

INTERPRETATIVE

The SWC's below 8040 feet in the Latrobe Group contain good L. balmei Zone assemblages, and the majority of samples as indicated contain dinoflagellates.

With the exception of the shale band at 7752 feet from the top of Core 6 all samples processed from the first 460 feet of the Latrobe Group are barren or contain only obvious spore-pollen and dinoflagellate contaminants from the drilling mud. The most suitable lithologies from Core 5 and 6 were processed twice without improving the original results. The sample from 7752 feet in Core 6 contains very poorly preserved dinoflagellates, but no spores or pollen, although the lack of the latter may be more of a preservational rather than an environmental factor. The dinoflagellates appear to belong predominantly to one species but are unidentifiable to either genus or species, with the exception of a poorly preserved specimen of Cyclonophelium retintextum. This species has a known range of L. balmei Zone into lower M. diversus Zone and therefore suggests a Paleocene to early Eocene age for this sample.

INTERPRETATIVE

SIN GIPPSLAND DATE 12th APRIL 1972

WELL NAME MACKEREL -2 ELEVATION _____

AGE	PALYNOLOGIC ZONES	HIGHEST DATE				LOWEST DATE					
		Preferred Depth	Rtg	Alternate Depth	Rtg	2 way time	Preferred Depth	Rtg.	Alternate Depth	Rtg.	2 way time
OLIGO-MIOC.	<u>T. bellus</u>										
	<u>P. tuberculatus</u>	7574	0				7574	0			
Eocene	<u>U. N. asperus</u>										
	<u>L. N. asperus</u>										
	<u>P. asperopolus</u>										
	<u>U. M. diversus</u>										
	<u>L. M. diversus</u>										
PALEO-CENE	<u>L. balmei</u>	8040	0				8463	2	8425	0	
	<u>T. longus</u>										
LATE CRETACEOUS	<u>T. lilliei</u>										
	<u>N. senectus</u>										
	<u>C. trip./T.pach.</u>										
	<u>C. distocarin.</u>										
	<u>T. pannosus</u>										
EARLY CRETACEOUS	<u>C. paradoxa</u>										
	<u>C. striatus</u>										
	<u>U. C. hughesii</u>										
	<u>L. C. hughesii</u>										
	<u>C. stylosus</u>										
Pre-Cretaceous											

INSTANTLY OBSOLETE

COMMENTS: _____

- RATINGS: 0; SWC or CORE, EXCELLENT CONFIDENCE, assemblage with zone species of spores, pollen and microplankton.
- 1; SWC or CORE, GOOD CONFIDENCE, assemblage with zone species of spores and pollen or microplankton.
- 2; SWC or CORE, POOR CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.
- 3; CUTTINGS, FAIR CONFIDENCE, assemblage with zone species of either spores and pollen or microplankton, or both.
- 4; CUTTINGS, NO CONFIDENCE, assemblage with non-diagnostic spores, pollen and/or microplankton.

NOTE: If a sample cannot be assigned to one particular zone, then no entry should be made. Also, if an entry is given a 3 or 4 confidence rating, an alternate depth with a better confidence rating should be entered, if possible.

DATE RECORDED BY: A. D. Partridge DATE 12th April 1972