

PALYNOLOGICAL INTERPRETATIONS FOR
SUNFISH-1, GIPPSLAND BASIN, AUSTRALIA

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SUMMARY

5517 feet	Post-Latrobe	Probably Oligocene
5580 feet	Lower <i>M. diversus</i>	Early Eocene
5790 - 6140 feet	<i>L. balmei</i>	Paleocene
6510 - 7150 feet	<i>T. longus</i>	Paleocene
7371 - 7430 feet	<i>T. lilliei</i>	Late Cretaceous
7795 - 7895 feet	Indeterminate	Cretaceous
8000 - 8152 feet	<i>C. paradoxa?</i>	Early Cretaceous

8000

DISCUSSION

1. The highest sample from Sunfish-1 at 5517 feet is post-Latrobe, probably Oligocene, but the lack of diagnostic spore-pollen preclude a definitive zone assignment. Sample contains mainly a marine assemblage dominated by dinoflagellates.
2. A Lower *Malvacipollis diversus* assemblage with spore-pollen and dinoflagellates was recovered from 5580 feet; assignment to the *M. diversus* zone is made with very high confidence.
3. Zone diagnostic spore-pollen were identified in assemblages from the *Lygistepollenites balmei*, *Tricolpites longus* and *Tricolpites lilliei* zones, consequently, high confidence ratings are given to these zone assignments (5790 to 7430 feet).
4. Samples from 7795 to 7895 feet yielded inconclusive palynological data; the assemblages are placed provisionally and with low confidence into the *Nothofagidites senectus* zone. The interval, however, could be older.
5. Early Cretaceous palynomorphs occur from 8000 to 8152 feet, and the epoch-level determination can be accepted with confidence. The *Coptospora paradoxa* zone assignment, however, is much less certain and should be regarded as tenuous. Of possible significance is the presence of rare acritarchs in the Early Cretaceous section. The occurrence of these palynomorphs suggests marginal marine deposition.
6. Recycled Early Cretaceous forms are present in the *L. balmei* and *T. longus* zones and also in the interval between the *T. lilliei* zone and the Early Cretaceous. This latter interval also has rare Permian pollen.
7. Dinoflagellates are common in the post Latrobe and Lower *M. diversus* samples and rare in some *L. balmei* and the highest *T. longus* sample.

BASIN GIPPSLAND DATE APRIL 1974

WELL NAME SUNFISH-1 ELEVATION _____

AGE	PALYNOLOGIC ZONES	HIGHEST DATA					LOWEST DATA				
		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>										
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>	5580	0				5580	0			
I EOCENE	<u>L. balmei</u>	5790	1				6140	1			
	<u>T. longus</u>	6510	1				7150	1			
LATE CRETACEOUS	<u>T. lilliei</u>	7371	1				7430	1			
	<u>N. senectus</u>	7795	2				7895	2			
	<u>C. trip./T.pach.</u>										
	<u>C. distocarin.</u>										
	<u>T. pannosus</u>										
EARLY CRETACEOUS	<u>C. paradoxa</u>	8000	2				8152	2			
	<u>C. striatus</u>										
	<u>U. C. hughesii</u>										
	<u>L. C. hughesii</u>										
	<u>C. stylosus</u>										
Pre-Cretaceous											

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.