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# APPENDIX 2

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## FORAMINIFERAL BIOSTRATIGRAPHY,

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## COBIA-1,

## GIPPSLAND BASIN

BY

D.J. Taylor

10th October, 1972

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### FORAMINIFERAL BIOSTRATIGRAPHY, COBIA-1 - GIPPSLAND BASIN

by David Taylor

October 10, 1972

Thirteen side wall cores were submitted for examination from a short interval between 7821 and 7710 feet. No fauna was found in the side wall core at 7821 feet. As yet no rotary cuttings have been examined from the well.

#### **BIOSTRATIGRAPHY**

The biostratigraphic zonation is that proposed by Taylor (1966) for the off-shore Gippsland Basin. Certain refinements to the scheme are in accordance with the New Zealand planktonic foraminiferal zonation as outlined by Jenkins (1971).

The earliest fauna found is that in a "greensand" at 7817 feet, where <u>Globigerina</u> <u>angioporoides</u> is present without associated planktonic species. Such a fauna can be no younger than Zone J and is probably no older. Immediately above, at 7810 feet, <u>G. angioporoides</u> is associated with <u>G. euapertura</u> indicating the upper part of Zone J which is the equivalent of Jenkins (1971) <u>G. angioporoides</u> Zone. The highest appearance of G. angioporoides at 7790feet marks the top of Zone J.

At 7780 feet the association of <u>G</u>. <u>euapertura</u> and <u>Globorotalia</u> <u>opima</u> is diagnostic of Zone I and this association persists to 7720 feet.

<u>Globigerina woodi woodi</u> makes its initial appearance at 7710 feet where it is associated with <u>Globoquandrina praedehiscens</u> and <u>Globorotalia continuosa</u>. This fauna represents the base of Zone H and the <u>G</u>. woodi woodi Zone of Jenkins (1971).

The samples examined are all from the Oligocene, if current opinions by Jenkins (1970; non 1971) are valid.

#### ENVIRONMENT

The faunas in sidewall cores from 7810 to 7710 feet are dominated by planktonic foraminifera. The percentage of planktonics in the foraminiferal fauna ranges from 95% to 98%. Obviously the sediment was a globigerinid ooze and probably deep water. The benthonic fauna includes such forms as <u>Melonis</u> <u>pompiliodes</u>, <u>Osangularia bengalensis</u>, <u>Discemmina compressa</u> and <u>Avelophragmium</u> spp. (Bandy, 1960). These species are deep water indicators and support the contention for a deep water origin of the sediment.

BANDY,O.L. 1960 - 21st. Intern. Geol. Congress, 22; 7 - 19.
JENKINS, D.G. 1970 - Rev. Espan. Micropaleont.,
JENKINS, D.G. 1971 - N.Z. Geol. Surv. Paleont. Bull. 42.
TAYLOR, D.J. 1966 - Appendix in Comm. Aust. Petrol. Search Subsidy Acts Publ. 76.

Key to two foraminifera distribution sheets

T = sidewall cores at: - 7710'; 7720'; 7730; 7740; 7750'; 7760'; 7770'; 7780'; 7790'; 7800';7810';7817'; 7821' (No foraminiferal fauna).

No rotary cutting or conventional cores were submitted for examination.

. = 1-20 specimens 1 = over 20 specimens Cobia-1

Sheet 1 of 2 sheets

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	<u>7700</u> <u>7720</u>	<u>7760</u> <u>7760</u> <u>7760</u>	<u>7800</u> <u>7820</u> <u>7840</u>	
PLWKTONICS I Globigerina apertum 2 Globigerina woodi 3 Globigerina bulloides 4 Globortatia opima continuosa 5 Globoguadrina praedeniscens 6 Globigerina euapertuma 7 Globorotatia opima opima 8 Globigerina trilocularis 9 Globoguadrina advena	               		■ ■ <b>●</b>	
10 Globigerina angi ponoides 11 Globigerina angi ponoides 11 Globorotalia sp. (indeterminate) 12 Cibicides thiana 13 Cibicides thiana 14 Gyroidinoides zelandica 15 Melonis pompiliodes 16 Osangularia bengalensis 17 Cibicides Karreriformis 18 Cibicides pseudoungerianus	•			
CALC. BENTHONIKS-II 19. Chilostonelle ovoidea 20. Sphaeroidina bulloides 21. Clobocassidulina minuta 22. Pullenia sp. CALC. BENTHONICS - I 23. Bulimina sp. 24. Bolivina sp. 25. Euuvigerina maynei	•	• • 1	•	
25. Euvvigerina maynei	7720 H	• 	J 78/7	

C08/1-1

Sheet 2 of 2 sheets

n Legra Sp. AREMACEUR BERTRANS - Source as Databased biscamina conpressa 23 Sacamina se 31 Alaphophragmoides cf. Inisa. Aneurocous Bertrawas - Connex as Valvina gravubsa 32 Sigerella Sp. GLANCONTE ANG. QUARTZ PARTZ 720 710 710 710 717 717 717 717 71		<sup>27</sup> / <sub>7</sub> +	+ <sup>7240</sup> - <sup>2</sup>	7 <u>60</u> <b>7</b> 780	7800 <u>7820</u>	7840	
Themacous Dermanusa s. Kuvulina granulsa s. Eggerella sp. GLAUCONITE ANG. QUARTZ PRATE	Caic. Benthonics - II z. Nodosaria sp. 27. Lagena sp. 23. Lenticulina sp.	• •	•	• •	<u>, , , , , , , , , , , , , , , , , , , </u>		
Themacous Dermanusa s. Kuvulina granulsa s. Eggerella sp. GLAUCONITE ANG. QUARTZ PRATE	ARENACEOUS BENTHAVICS - SUME 29. Bathysiphon sp. B. 30. Alveophragmium cf. H. incisa 31. Discammina compressa 21. Caccomina sp.		• •	1	•		
GLAUCONITE ANG. QUARTZ PYRITE 7740 7780 7780 7807	33 Haplophragmoides cf. paupera 33. Haplophragmoides cf. incisa. Ancuncerus Benthowcs - Comm	τ <b>γ</b>		•	• 17	1 1123 2	}
NIG. QUARTZ. PYRITE 7720 78/7	35. Vulvulina granulosa 36. Eggerella sp.	-	•	•			
	GLAUCONITE ANG. QUARTZ. PYRITE	•	•	• •	•		
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		77.20 H	 Τ	7]90	J. 78/7		