THE FORAMINIFERAL SEQUENCE
in
BASKER # 1,
GIPPSLAND BASIN.

for: SHELL DEVELOPMENT (AUSTRALIA) PTY. LTD.

August 11, 1983.

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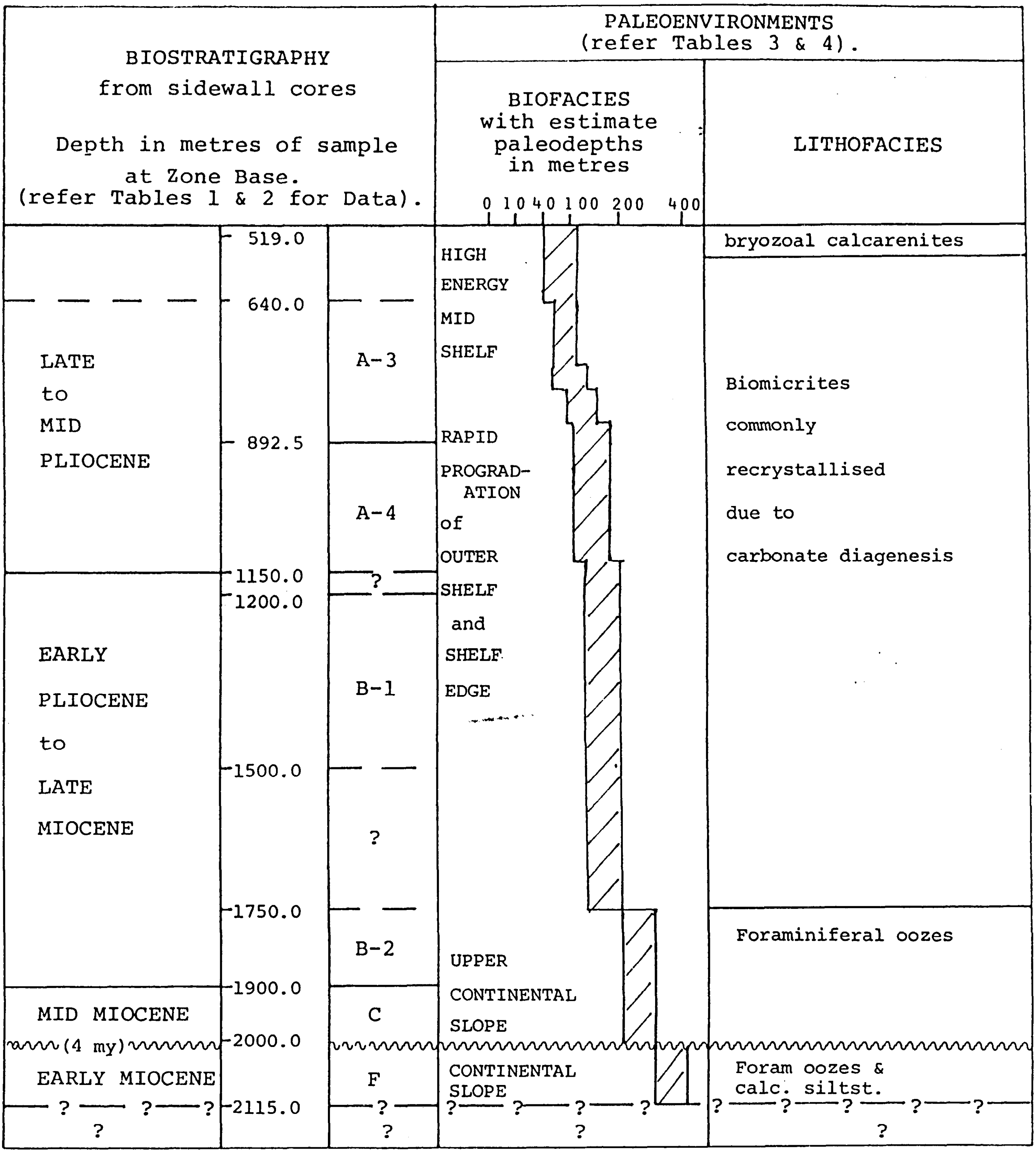

FIGURE 1: INTERPRETED FORAMINIFERAL SEQUENCE for BASKER # 1.

∿∿(4 my)∿∿ = hiatus with time span in parentheses.

—?—?—?— = no data below deepest sample examined at 2115m.

To scale of 1cm = 100m.

David Taylor August 10, 1983.

INTRODUCTION.

Fifty three sidewall cores were submitted from BASKER # 1 between 519 and 2115 metres. All contained foraminifera, but no pre-Miocene faunas were found as the deepest sample (at 2115m) contained a Zone F assemblage which represents the uppermost part of the Early Miocene.

The following Figures and Tables constitute this report:-

FIGURE 1 : *INTERPRETED FORAMINIFERAL SEQUENCE* based on Tables 2 to 4.

FIGURE 2 : *LATE NEOGENE PROGRADED and CANYON FILL SEQUENCES* using Hapuku #1, Basker #1, Flounder #5, Volador #1 and Hammerhead #1 as examples.

TABLE 1 : *BIOSTRATIGRAPHIC DATA SUMMARY* with reliability of zonal picks.

TABLE 2 : *PLANKTONIC FORAMINIFERAL DISTRIBUTION.*

TABLE 3 : *SELECTED BENTHONIC FORAMINIFERAL DISTRIBUTION.*

TABLE 4 : *PALEOENVIRONMENTAL ANALYSIS* based on Tables 2 & 3.

EARLY MIOCENE - ZONE F - 2115 to 2025m and EARLY/MID MIOCENE HIATUS at 2020m (E-Logs).

A deep water continental slope deposit which contains well developed Zone F assemblages.

A hiatus was apparent as 2025m contained *Globigerinoides bisphericus, Globorotalia miozea miozea, G. praescitula* and *G. zealandica,* whilst the sample at 2000m had a distinctly different planktonic assemblage with *G. miotumida, G. scitula* and *Globigerina nepenthes,* indicating a Zone C designation. Therefore the Early to Mid Miocene transition Zones E-2, E-1, D-2 and D-1 were absent. The time span of this hiatus was of the order of 4 million years. A similar Mid Miocene hiatus was recorded in other wells drilled along the eastern part of the Gippsland Basin Deep (refer Figure 2 - this report). In Hapuku #1 and Flounder #5, Zone C was directly above Zone D-2, with Zone D-1 absent, so that the extent of the hiatus was not as great as in Basker # 1.

MID MIOCENE to PLIOCENE - ZONES C, B-2, B-1, A-4 & A-3 - 2000 to 657m.

This sequence appears to have been a continuous one with all zones present, despite lack of biostratigraphic precision at some levels (e.g. Zone B-2/ B-1 boundary) due to poor preservation, resulting from carbonate diagenesis.

The sequence of biostratigraphic events are very close to those recorded by Kennett (1973) in the Tasman Sea. *Globorotalia margaritae* was more numerically frequent and more morphologically typical, than in other Gippsland sequences; this species was much rarer and less typical in Hapuku #1 and Flounder #5. This occurrence pattern suggests that Kennett's (l.c.) warm sub-tropical Pliocene faunas did reach Eastern Gippsland but these warm waters cooled rapidly in the western direction.

Biostratigraphically diagnostic species were absent at the top of the sequence from 640 to 519m, reflecting a combination of water temperature decline and a more sheltered, shallow shelfal location. Probably the Plio/Pleistocene boundary was within this interval, but Zone A-2 could not be identified.

LATE NEOGENE PROGRADATION - refer also to FIGURE 2.

Zones C & B-2 sediments (2000 to 1750m) were rich in planktonic foraminifera and the benthonic assemblages indicated the uppermost part of the continental slope as the depositional environment.

Above 1750m, rapid progradation was evident with decrease in paleo-water depth. A feature of the benthonic foraminiferal assemblages was the sporadic presence of detrital specimens, misplaced from their inner shelf habitat, out onto a prograding shelf edge. Another phenomena recognised in some assemblages was the dominance of the lens shaped *Cassidulina leavigata* and spherical *Lagena* spp. Also there tended to be a dominance of one size range; for example, very small globigerinids recorded on Table 2 as *G'ina* & *G'alia* indet (<.2mm). This size and shape sorting is evidence of winnowing by high energy bottom currents. The pyritic infilling of many foraminiferal tests is indicative of rapid burial, associated with the high energy transport and progradation.

The *Virgulina* and *Euuvigerina bassensis* Biofacies within the Pliocene Zone A-3 interval in both Basker #1 and Hapuku #1, contains a high percentage of Buliminacea, reflecting low oxygenation. Most of these buliminids, as listed on Table 3, occur within the Pliocene Jemmys Point Formation near Lakes Entrance (Nicholls, 1968). However, they are not as frequent at Lakes Entrance or other Gippsland Pliocene localities (e.g. Flounder #5) as they are are in Basker and Hapuku (refer Figure 2).

The misplaced shallow water species in Basker #1 (refer Table 3) and in Flounder #5 (refer Figure 2) are infrequent, compared with their occurrences in shallow water deposits in the Lakes Entrance area (Nicholls, 1968). Above 640m in Basker #1, a few of these shallow water species occur without evidence of misplacement. They are associated with rich accumulations of bryozoal debris of fresher appearance than the worn skeletal material lower in the section. A decline in planktonic specific diversity, and thus biostratigraphic control, at 640m has been discussed. These observations may be evidence of the termination of progradation and establishment of a mid shelfal platform situation, in the Late Pliocene, with the water depth slightly shallower than at present, due to the Late Pliocene regression. A similar situation occurred at Flounder #5 (refer Figure 2).

Neither the misplaced shallow water species or the bryozoal-rich mid shelf facies of Basker #1 and Flounder #5 were present in the Pliocene of Hapuku #1. However, Hapuku #1 has a well developed *Virgulina* and *Euuvigerina bassensis* Biofacies in common with Basker #1, although it commences slightly later in Hapuku. This distribution pattern of biofacies in the three sequences (refer Figure 2) shows that Hapuku #1 was in a deeper water location and Flounder #5 in a slightly shallower one relative to Basker #1 during the late Neogene shelfal progradation phase.

The relative thicknesses of the late Neogene Zones in the three sections reflect a seaward progression of the shelf edge:-

i) the oldest Zone in the prograding sequence (Zone C) is thickest in Flounder #5;

ii) Zones B-1 and B-2 are thickest in Basker #1;

iii) substantial accumulation took place in the mid Pliocene Zone A-4 in Hapuku as the shelf edge prograded out to this deeper water situation.

The Volador #1 and Hammerhead #1 sequences are also plotted on Figure 2, but these sections contain a totally different set of depositional environmental characteristics, compared with Basker #1, Hapuku #1 and Flounder #5. Canyon fill carbonates accumulated in both Volador and Hammerhead, rather than the prograded sequences of the other three wells. Also Zone D-1 was represented in Volador and Hammerhead, but was absent in the other three wells, suggesting that D-1 sediment may have been removed from some localities to provide canyon fill in others.

The shelf edge regime during the Late Neogene of the Gippsland Basin appears to have been as complex then as it is now with sediment removal in one place, canyon filling in a second and progradation in a third. This confused attempts at arranging Figure 2 as a geographic section.

REFERENCES.

KENNETT, J.P., 1973 - Middle and Late Cenozoic Planktonic Foraminiferal Biostratigraphy of the Southwest Pacific - DSDP Leg 21. *Burns, R.E., Andrews, J.E., et al, Initial Reports Deep Sea Drilling Project, 21;* 575-639.

NICHOLLS, D.R., 1968 - Studies in Victorian Foraminifera from Above the *Orbulina universa* datum, *unpublished Thesis, University of Melbourne.*

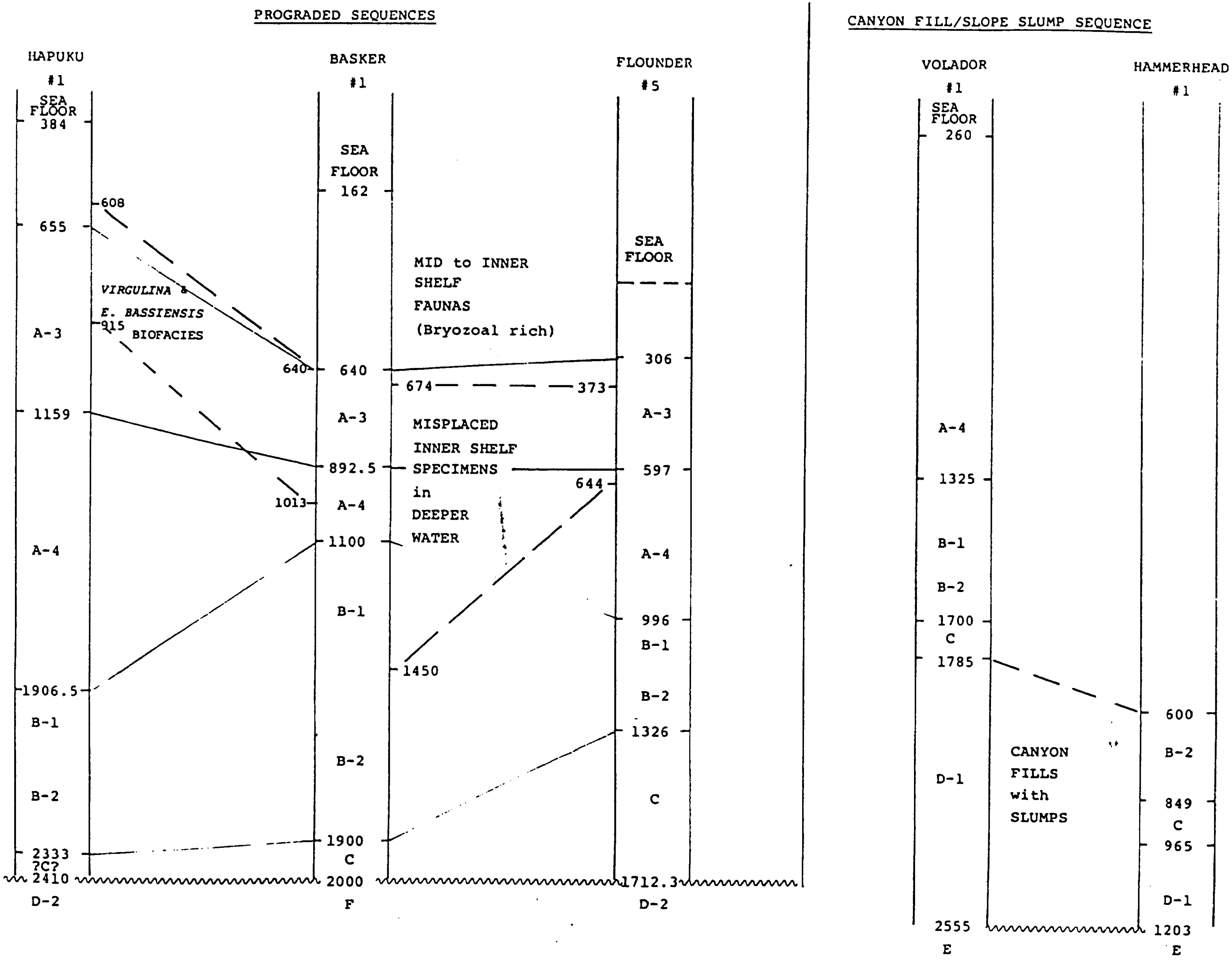

FIGURE 2: LATE NEOGENE PROGRADED and CANYON FILL SEQUENCES - EASTERN SHELF EDGE of GIPPSLAND BASIN.

MICROPALEONTOLOGICAL DATA SHEET

BASIN: GIPPSLAND ELEVATION: KB: 25.3m GL: -162m

WELL NAME: BASKER # 1 TOTAL DEPTH:

AGE		FORAM. ZONULES	HIGHEST DATA					LOWEST DATA				
			Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time	Preferred Depth	Rtg	Alternate Depth	Rtg	Two Way Time
PLEIS-TOCENE		A_1										
		A_2										
PLIO-CENE		A_3	657	1				892.5	0			
		A_4	912	1	929	0		1150	1	1013	0	
		B_1	1250	2	1450	0		1500	1			
MIOCENE	LATE	B_2	1800	0				1900	0			
		C	1950	0				2000	0			
	MIDDLE	D_1										
		D_2										
		E_1										
		E_2										
	EARLY	F	2025	1	2050	0		2115	0			
		G										
		H_1										
OLIGOCENE	LATE	H_2										
		I_1										
		I_2										
	EARLY	J_1										
		J_2										
EOC-ENE		K										
		Pre-K										

COMMENTS: Deepest sidewall core submitted was at 2115.

CONFIDENCE RATING

0	SWC or Core	- Complete assemblage (very high confidence).
1	SWC or Core	- Almost complete assemblage (high confidence).
2	SWC or Core	- Close to zonule change but able to interpret (low confidence).
3	Cuttings	- Complete assemblage (low confidence).
4	Cuttings	- Incomplete assemblage, next to uninterpretable or SWC with depth suspicion (very low confidence).

NOTE If an entry is given a 3 or 4 confidence rating, an alternative depth with a better confidence rating should be entered, if possible. If a sample cannot be assigned to one particular zone, then no entry should be made, unless a range of zones is given where the highest possible limit will appear in one zone and the lowest possible limit in another.

DATA RECORDED BY: David Taylor DATE: 10/8/1983.

DATA REVISED BY: DATE:

																																									PLANKTONIC FORAMINIFERAL BIOSTRATIGRAPHY		
SIDEWALL CORES Depth in metres	G'oides bisphericus	G'oides trilobus	G'ina woodi connecta	G'ina woodi woodi	G'ina bulloides	G'alia zealandica (S.S.)	G'alia bella	G'alia continuosa	G'alia siakensis/mayeri	G'quad advena	G'quad dehiscens (S.S.)	Cat. dissimilis	Ss. disjuncta	G'alia miozea miozea	G'alia praescitula	G'alia continuosa	G'alia peripheronda	Orb. bilobata	Orb. universa	G'ina nepenthes	G'ina falconensis	G'alia miotumida	G'alia miozea conoidea	G'alia scitula	G'alia panda	Ss. seminulina	G'alia acostaensis	G'ina & G'alia indet (<.2mm)	G'alia humerosa	G'alia menardii	G'alia conomiozea	G'quad altispira	G'ina decoraperta	G'alia puncticulata	G'alia crassaformis	G'alia margaritae	G'alia inflata	G'oides sacculifera	G'oides conglobatus	G'ella aequilateralis	ZONE	Depth at Base	AGE
519.0					x														x		x												x				x				?		?
538.0					•																•							D					•				x						
555.0					x																x								x				x				x			•			
570.0					x														•																		x						
590.0					x														•																		x						
605.0					x														x		x								•				x				x						
627.5					x														•									D					x				x			•			
640.0					x														•									D					x				x			•		640.0	
657.0					x														x		x								x				x		•		x				A-3		LATE to MID PLIOCENE
674.0					x														x		x								x				x		•		x						
691.0					x						x								x		x							D	•				x		x		•						
708.0					x														•		x												x		x		•						
727.0					x						•										x							D	•				x		x		x			•			
748.0		•			x																			•					•				•				•		•				
758.0					•														•										•								•		•				
776.0		•			x														x		x						x		x				x		x		x		•				
790.0					x														•														x		•		•		•				
810.0					•																											•	•					•					
827.0					x																			•				D	•				x				•						
844.0					x														x		x												x	•	•		•						
861.0					x																x								•		?		x	•	•		•						
878.0					x														•		x			•					•		•		x	x	•		x						
892.5					x														•		x			•					•		•		x	x	•		x					892.5	
912.0					x																x							D	•		•		x	•	•						A-4		
929.0					x														x	•	x			•							•		x	•	•	•							
945.0		•			x														x	•	x			•					•		•		x	•	•	*							
963.0					x														x	•	x		•					D	•				x		•								
980.0					x														x	•	x		•				•		•		•		D	•		•							
993.0					x														x				•						•		•		x		•								
1013.0		x			x						•								x		x		•	•			•		•		•		x	x	•								
1150.0																			•					•				D						•								1150.0	
1200.0																												D													?	1200.0	EARLY PLIOCENE to LATE MIOCENE
1250.0					x														•								•	D					x								B-1		
1300.0				x	x														x		x			•			•	D	•														
1350.0				•															•								x	D	•														
1400.0				•	•														•									D															
1450.0				•	x														•		x	•	•	•			•	D	•	•	•												
1500.0		x																	x			x	x	x			x		•	•	?	•										1500.0	
1550.0				•	x														x		•		•				•	D													?		
1600.0					x														x	x	x							D															
1650.0																												D															
1700.0		•			•														x		•							D															
1750.0		•			•														x		•							D														1750.0	
1800.0		x		x	x														x		x	x	x	x			x														B-2		
1850.0		•		x	x															x	x	•	x				x																
1900.0				x	x					x						x			x	x	x	x	x	x			•															1900.0	
1950.0		x		x	x			x					•			•		•	x	x	x	x	x	•																	C		MID MIOCENE
2000.0				x	x					x								•	x	x		x	x	x	x	•																2000.0	
∿∿∿∿																																									∿∿∿∿		∿∿∿∿
2025.0		x	x	x	x	x	x	x	x	x	x	•																													F		EARLY MIOCENE
2050.0	•	•	x	x	x	x		x	x	•		x		x	x		•																										
2070.0	x	x	x	x	x	x	x	x	x	•		x		x	x																												
2090.0	x	x	x	x	x				x			•		x	x	x																											
2115.0	x	x	x	x	x	x	x	x	x	x	x	•	•																													2115.0	

KEY: • = <20 specimens
x = >20 specimens
D = Dominant >60% specimens
? = determination queried
* = 10 typical specimens
∿∿∿∿∿∿∿ = definite hiatus

TABLE 2: MIOCENE/PLIOCENE PLANKTONIC FORAMINIFERAL DISTRIBUTION - BASKER # 1.

David Taylor 9/8/1983.

SIDEWALL CORE Depth in metres	CONTINENTAL SLOPE																			ZONE
	Oridorsalis tenera	*Reophax* spp.	*Rhabdammina abyssorum*	*Discammina compressa*	*Martinotiella communis*	*Ammobaculites calcareus*	*Bathysiphon* spp.	*Stilostomella antillea*	*Bulimina marginata*	*Ammodiscus incertus*	*Brachisiphon corbiformis*	*Karreriella bradyi*	*Siphouvigerina proboscidae*	*Gyroidinoides zealandica*	*Nonionella* spp.	*Pleurostomella tenera*	"*Cyclammina*" spp.	*Ammoglobigerina* sp.	*Pyrgo depressa*	
519.0																				
538.0																				
555.0																				
570.0																				
590.0																				?
605.0																				
627.5																				
640.0																				
657.0																				
674.0																				
691.0																				
708.0																				
727.0																				
748.0																				
758.0																				
776.0																				
790.0															•					A-3
810.0																				
827.0																				
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861.0																				
878.0																				
892.5																				
912.0																				
929.0																				
945.0																				
963.0																				
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993.0																				
1013.0																				
1150.0	indet																			?
1200.0																				
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1800.0				•																
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1950.0			•	•															•	C
2000.0			•						•		•		•			•	•	•		
∿∿∿∿																				
2025.0	•	•										•		•	•					
2050.0	•			•			•				•	•	•							
2070.0	•			•			•		•	•										F
2090.0						•	•	•												
2115.0	•	•	•	•	•															

SIDEWALL CORE Depth in metres	SHELF EDGE ↔ MID SHELF																									
	Oridorsalis umbonatus	*Cassidulina leavigata*	*Discorbina berthelotti*	*Cibicides mediocris* & *temperatus*	*Trifarina bradyi*	*Cibicides psuedoungerianus*	*Rectoglandulina comatula*	*Cibicides subhaidingeri*	*Siphouvigerina canariensis*	*Lagena* spp. (spherical)	*Bolivina pseudobeyrichi*	*Gyroidina soldani*	*Marginulina obesa*	*Euuvigerina bassensis* & *pygmea*	*Anomalina procolligera*	*Loxostonum* sp. nov. Barker	*Baggina philipinensis*	*Bulimina submarginata*	*Virgulina* spp. (plexus)	*Rosalina australis*	*Bulimina* cf. *pupoides*	*Buliminella elegantissima*	*Bolivina alata*	*Bolivinita quadrilatera*	*Anomalina bassensis*	*Cassidulinoides* sp.
519.0		x		x			x	x		•							•	•	•		•		•	•		
538.0				x				•		x							•									
555.0		x		x						x	x		•					x			•		x	•	•	
570.0		•		•			•												•				•			
590.0		x																•	•		•	•			•	
605.0		D					x	•		x				x				x	x				x	•	•	
627.5		x					x	•										•	x		•		x		x	
640.0		D		•						x	x	x						x	x				x	•	x	•
657.0		x					x			x	x								x				x		x	x
674.0		x	•				•				x			x					x				x		•	•
691.0		x					x			x		•		•					x		x		•		•	
708.0		•								•				•				•	•		•				•	
727.0		x	•				x			x	x	•		x				x	x			•	x	•		
748.0		D			•		•			x	x	•						x								
758.0		•								•																
776.0		•	•								•			•					•		D			•		
790.0		D	•							•											•		•			
810.0																										
827.0		D	•			x	•			x	•										•	•				
844.0	•	•				x	•												•		•	•				
861.0		x								x	•	•								•						
878.0			x	x				x	•	x	•			x		•			x							
892.5			x						•	x	•			x		•			x							
912.0				•		x				x	•			D				•								
929.0				•						•				x			•	•								
945.0		•								•			•	x		•										
963.0						x	x			x				D		•										
980.0		x	•				•			x				D												
993.0	•					x	x			x		•		D	•											
1013.0		x							x	x	x	•	x	•	x											
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2025.0																										
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2070.0																										
2090.0																										
2115.0																										

SIDEWALL CORE Depth in metres	MID-INNER SHELF								
	Notorotalia clathrata	*Elphidium crispum*	*Karreria cygnorum*	*Cibicides victoriensis*	*Discoanomalina mitchelli*	*Cibicides refulgens* & *lobatulus*	*Discorotalia* & *Cribrotalia*	*Heronalina lingulata*	*Quinqueloculina agglutiana*
519.0			x	•					
538.0									
555.0		•	x						
570.0		•							
590.0									
605.0	•	•	•						
627.5									
640.0	•								
657.0									
674.0			ξ						
691.0									
708.0									
727.0							ξ		
748.0									
758.0									
776.0									
790.0									
810.0									
827.0									
844.0									
861.0		ξ	ξ						
878.0						ξ			
892.5						ξ			
912.0						ξ			
929.0						ξ			
945.0									
963.0			ξ						
980.0			ξ			ξ			
993.0			ξ						ξ
1013.0				ξ	ξ			ξ	ξ
1150.0									
1200.0									
1250.0							ξ		
1300.0									
1350.0			ξ	ξ		ξ			
1400.0									
1450.0					ξ				
1500.0									
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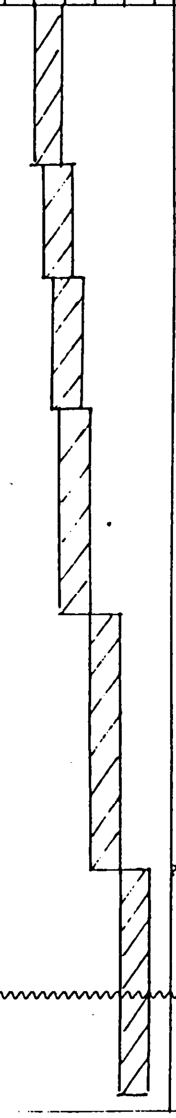
2025.0									
2050.0									
2070.0									
2090.0									
2115.0									

KEY: • = <20 specimens
x = >20 specimens
D = Dominant >60% specimens
ξ = environmentally misplaced specimens
∿∿∿∿ = definite hiatus
indet = specifically indeterminate due to diagenesis.

TABLE 3: DISTRIBUTION OF SELECTED BENTHONIC FORAMINIFERA IN BASKER # 1.

David Taylor, 9/8/1983.

SIDEWALL CORES Depth in metres	GROSS FORAMINIFERAL ASSEMBLAGE CHARACTERS					RESIDUE GRAIN LITHOLOGY (>.075mm)											¶PALEO-ENVIRONMENTAL ASSESSMENT (refer also Table 3)					E-LOG CHARACTER CHANGE	PLANKTONIC FORAMINIFERAL BIOSTRATIGRAPHY		
						MINOR COMPONENTS (excl. forams)										MAJOR COMPONENTS									
	Total foram count	% planktonic forams	ASSEMBLAGE FEATURE	ENERGY REGIME	OXYGENATION	pyrite	limonitic clay	c-m ang qtz	ovoid clay pellets	glauconite	sponge spicules	echinoid spines	ostracods	worn bryozoal fragments	fresh bryozoal fragments	∩: bryozoa f: foramin. Ψ: recrystall micrite m: micrite, marls calcareous siltst. P: pyrite oo: c-m ang subrd qtz	INNER SHELF (<40m)	MID SHELF (<100m)	OUTER SHELF <200m)	SHELF EDGE (<250m)	UPPER SLOPE (400-250m)		ZONE	Depth at Base	AGE
519.0→	1000	50					A					A	r			∩∩ ff ΨΨΨΨΨΨ							?		?
538.0→	500	60										A				∩∩ ΨΨΨΨΨΨΨΨΨ									
555.0→	250	30					A					A		A	A	ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
570.0→	200	70										A				ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
590.0→	100	60					A					A				ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
605.0→	1500	60	S	HIGH								r	r	A	A	ffffffffff ΨΨΨ									
627.5→	200	50					A					r		A		ffffffffffffff									
640.0→	500	60	S	HIGH			A	r				r	r	A		ffffffff ΨΨΨΨΨ								640.0	
657.0→	1000	60					A						r	C		ffffffffff ΨΨΨ							A-3		LATE to MID PLIOCENE
674.0→	500	60					A							A		ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
691.0→	1000	60			POOR		A									ffffffffff ΨΨΨ									
708.0→	50	50														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
727.0→	3000	70	ξ	PROG			A					r	r			ffffffffff ΨΨΨ									
748.0→	250	40	S	HIGH			r									ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
758.0→	20	90														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
776.0→	1000	70			POOR		A									ffffffffff ΨΨΨ									
790.0→	250	40	S	HIGH												ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
810.0→	20	90														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
827.0→	500	50					C					r				ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
844.0→	250	70	S	HIGH			A						r			ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
861.0→	?	?														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
878.0→	1000	70	ξ							A						fffffffffff ΨΨ									
892.5→	1000	70	ξ				A					A				ffffffffffffff								892.5	
912.0→	500	80	ξ		POOR							r				ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ							A-4		
929.0→	500	75	ξ				A					r				ffffffffffffff									
945.0→	500	80										r				ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
963.0→	?	?	ξ	PROG	POOR	r				ξ						ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
980.0→	500	60	ξ	PROG	POOR						A	A				ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
993.0→	500	40	ξ	PROG	POOR											ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1013.0→	1000	70	ξ	PROG			A	A			A	r		r		ffffffff ΨΨΨΨΨ									
1150.0→	?	?				A	A									ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ								1150.0	
1200.0→	?	?	S	HIGH		A	A									ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ							?	1200.0	
1250.0→	?	?	ξ	PROG												ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ							B-1		EARLY PLIOCENE to LATE MIOCENE
1300.0→	?	?						C								ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1350.0→	?	?	ξ	PROG							A					ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1400.0→	?	?					A	A								ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1450.0→	500	90	ξ	PROG			A	r								ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1500.0→	500	90					A									ff mmmmmmmmmmmm								1500.0	
1550.0→	?	?														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ							?		
1600.0→	?	?										r	r			ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1650.0→	?	?														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1700.0→	?	?														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ									
1750.0→	?	?														ΨΨΨΨΨΨΨΨΨΨΨΨΨΨ						1730		1750.0	
1800.0→	1000	95				A						r				fff mmmmmmmmmmm							B-2		
1850.0→	500	90			POOR								r			PPP ΨΨΨΨΨΨΨΨΨΨ									
1900.0→	1000	95					A									ffffffffff mmm								1900.0	
1950.0→	2000	98					C									ffffffffff mmm							C		MID MIOCENE
2000.0→	2000	95					A		A	A		r				ffffffffffffff									
∿∿∿∿	∿∿∿∿	∿∿∿∿	∿∿∿∿	∿∿∿∿	∿∿∿∿	∿∿∿∿										∿∿∿∿						2020	∿∿∿∿	2000.0	∿∿∿∿
2025.0→	2000	95				A			A	A		r	r			ffffffffff mmm							F		EARLY MIOCENE
2050.0→	1000	98														ffffffffff mmm									
2070.0→	1000	98														ffffffffffffff									
2090.0→	500	95				A	A	A								ffffffffff mmm									
2115.0→	750	90				A					A					ooo mmmmmmmmmmm								2115.0	

KEY: ξ = environmentally misplaced specimens from shallower situation indicating
PROG = PROGRADATION
S = size and/or shape sorting of foraminifera indicating
HIGH = HIGH ENERGY CURRENTS
A = 1-5% grains
C = >20 grains
r = <20 grains
¶ Paleowater depth estimates in parentheses.

TABLE 4: PALEOENVIRONMENTAL ANALYSIS - BASKER # 1.
(refer also to Benthonic Foraminiferal Distribution on Table 3).

David Taylor, August 10, 1983.