2. FORAMINIFERAL RANGE CHARTS FOR ARABIAN SEA AND RED SEA SITES, LEG 23

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The total abundance data is a visual estimate of the numbers of planktonic foraminifera in a strew on a 60 hole, 28 ply slide, 149 micron (100 mesh) screen size. Standard sample size for shore-lab work is 2 cc. It is intended as an approximate indication of whether a particular sample (level) is rich or poor in planktonic foraminifera. The following numerical scheme has been adopted for expressing this abundance:

0:	Absent	
1:	$<10^1$	specimens
2:	$10^1 - 10^2$	specimens
3:	$10^2 - 10^3$	specimens
4:	$10^3 - 10^4$	specimens
5:	$>10^4$	specimens

The relative abundance of each taxon in a strew on a 60 hole, 28 ply slide, 0.149 micron (100 mesh) screen size, is shown by a number as well as the state of preservation by a letter. If preservation is good no letter notation is made. The following scheme has been adopted for expressing relative abundance and preservation:

Relative Abundance	No. Specimens	Preservation
0 = Absent		
1 = Rare	1-10	D = Dissolution
2 = Moderately Rare	11-25	M = Mechanical Erosion
3 = Common	26-50	
4 = Abundant	51-100	R = Reworked
5 = Very Abundant	>100	
* = Hundreds to Thousands of Specimens		

Age	Pleistocene																																										
Zone	N.22																																										
Site 219 / Core-Section, Interval (cm) / Species	1-1, 80-82	1-2, 5-7	1-3, 26-28	1-4, 6-8	2-1, 59-61	2-2, 8-10	2-3, 8-10	2-4, 8-10	2-5, 18-20	3-1, 30-32	3-2, 8-10	3-3, 8-10[a]	?A-2, 6-8	3-4, 8-10	4-1, 88-90	4-2, 8-10	4-3, 8-10	4-4, 8-10	4-5, 20-22	4-6, 8-10	5-1, 10-12	5-2, 8-10	5-3, 8-10	6-1, 8-10	6-2, 8-10	6-3, 8-10	6-4, 8-10	6-5, 20-22	6-6, 8-10	7-2, 8-10	7-3, 8-10	7-4, 8-10	7-5, 8-10	7-6, 8-10	8-2, 8-10	8-3, 8-10	8-4, 8-10	8-5, 8-10	8-6, 8-10	9-1, 8-10
Total Abundance	5	5	5	5	5	5	5	5	5	5	5		5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4	5	4	4	4	5	5	5	5	5	5	5
Candeina nitida		1	1	1		1	1	1	1				1	1		1	1		1		1	1		1	1		1		1			1	1	1		1		2	1	1
Cassigerinella chipolensis																																											
Chiloguembelina cubensis																																											
Globigerapsis index																																											
G. kugleri																																											
Globigerina digitata	1	1		1	1	2		1	1	1	1					1	1																										
G. dissimilis																																											
G. gortoni																																											
G. praebulloides praebulloides																																											
G. praesaepis																																											
G. senni																																											
G. topilensis																																											
G. yeguaensis																																											
Globigerinatella insueta																																											
Globigerinatheca barri																																											
G. lindensis																																											
Globigerinita africana																																											
G. globiformis																																											
G. glutinata	1		1												1																												
G. unicava primativa																																											
Globigerinoides bisphericus																																											
G. conglobatus	3	1	1	1	1	2	2	2	2	3	3		2	2	1	1	2	2	1	1		1	2		1		1	1	1	1	1	1		1	1	1						
G. diminutus																																											
G. mitra																																											
G. obliquus																																											

Age	Pliocene																																										
Zone	N.21																				N.19																						
Site 219 / Core-Section, Interval (cm) / Species	1-1, 80-82	1-2, 5-7	1-3, 26-28	1-4, 6-8	2-1, 59-61	2-2, 8-10	2-3, 8-10	2-4, 8-10	2-5, 18-20	3-1, 30-32	3-2, 8-10	3-3, 8-10[a]	?A-2, 6-8	3-4, 8-10	4-1, 88-90	4-2, 8-10	4-3, 8-10	4-4, 8-10	4-5, 20-22	4-6, 8-10	5-1, 10-12	5-2, 8-10	5-3, 8-10	6-1, 8-10	6-2, 8-10	6-3, 8-10	6-4, 8-10	6-5, 20-22	6-6, 8-10	7-2, 8-10	7-3, 8-10	7-4, 8-10	7-5, 8-10	7-6, 8-10	8-2, 8-10	8-3, 8-10	8-4, 8-10	8-5, 8-10	8-6, 8-10	9-1, 8-10
Total Abundance	5	5	5	5	5	5	5	5	5	5	5		5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4	5	4	4	4	5	5	5	5	5	5	5
Candeina nitida	1	1	1	1		1	1	1	1				1	1		1	1		1		1	1		1	1		1		1			1	1	1		1		2	1	1
Cassigerinella chipolensis																																											
Chiloguembelina cubensis																																											
Globigerapsis index																																											
G. kugleri																																											
Globigerina digitata	1	1		1	1	2		1	1	1	1					1	1																										
G. dissimilis																																											
G. gortoni																																											
G. praebulloides praebulloides																																											
G. praesaepis																																											
G. senni																																											
G. topilensis																																											
G. yeguaensis																																											
Globigerinatella insueta																																											
Globigerinatheca barri																																											
G. lindensis																																											
Globigerinita africana																																											
G. globiformis																																											
G. glutinata															1																												
G. unicava primativa																																											
Globigerinoides bisphericus																																											
G. conglobatus	3	1	1	1	1	2	2	2	2	3	3		2	2	1	1	2	2	1	1		1	2		1		1	1	1	1	1	1		1	1	1						
G. diminutus																																											
G. mitra																																											
G. obliquus																																											

G. obliquus extremus			1					1					1			3				1	2	3	4	1	2	4	5	4	5	5	5	4	4	5	2	3	4	4	5	5
G. ruber	3	1	4	5	5	5	5	3	5	5	3		3	2	4	5	4	5	5	5	5	5	5	5	3															
G. sacculifer	4	4	5	5	5	5	5	5	5	5	5		5	4	4	5	5	5	5	5	5	4	5	5	5	5	4	3	4	4	5	4	5	5	4	5	5	5	5	5
G. sacculifer cf. *fistulosus*															1	1	1	2	2	3	3	4	2	1																
G. subquadratus																																									
G. trilobus																																									
Globoquadrina altispira																																									
G. altispira altispira																				1		1	1	3	5	5	5	5	5	5	5	3	3	3	3	3	2	4	5	2
G. altispira globosa															1	1	1	1		1		1			1	1	1		1	1	1	2	1	1							
G. conglomerata	4	4	4	5	5	5	5	5		4	4		2			2	1	1	2	1																				
G. dehiscens																																									1
G. dutertrei	4	5	1	1	1	1																																			
G. hexagona	3	1	2	1	1	2	2	1	1	3	2		2	2	2	2	2	1	1																					
G. humerosa	4	4	5	5	5	5	5	5	5	5	5		5	5	5	5	5	5	5	4	5	5	5	5	5	5	4	3	2	2	4	3	3	4	3	4	5	4	3	5
G. humerosa acostaensis																											2	4	4		2	2	2							
G. sp. A.																				5	2																			
G. tripartita																																									
G. cf. *G. tripartita*																																									
G. venezuelana																				1	1				1	2			1	5	4	2	3	3	5	5	5	5	5	5
Globorotalia acostaensis																																									
G. aragonensis																																									
G. barisanensis																																									
G. broedermanni																																									
G. centralis																																									
G. pseudofoliata																				3	1	2	2	1	1	2	1	1	2											
G. cerroazulensis																																									
G. cerroazulensis cocoaensis																																									
G. cerroazulensis cunialensis																																									
G. crassaformis	2		1	2	2	2	1	1	1	3	2			1			2			1																				
G. cultrata	5	5	5	5	5	5	5	5	5	5	5		5	5			5		5																					
G. exilis																				5	5	5	4	2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
G. fijiensis																														1	3		1			1	1	1	1	1
G. flexuosa	1		1							1																														
G. cf. *G. fohsi* (small)																																									
G. hirsuta	2	1	1	1	1	1	2		1	2						1		1	1		2	1	1	1	1	1	1													
G. lehneri																																									
G. lenguaensis																																									

Age	Pleistocene															Pliocene									Upper Miocene						Upper Middle Miocene									
Zone																																								
Site 219 (Cont) / Core-Section, Interval (cm) / Species	1-1, 80-82	1-2, 5-7	1-3, 26-28	1-4, 6-8	2-1, 59-61	2-2, 8-10	2-3, 8-10	2-4, 8-10	2-5, 18-20	3-1, 30-32	3-2, 8-10	3-3, 8-10[a]	?A-2, 6-8	3-4, 8-10	4-1, 88-90	4-2, 8-10	4-3, 8-10	4-4, 8-10	4-5, 20-22	4-6, 8-10	5-1, 10-12	5-2, 8-10	5-3, 8-10	6-1, 8-10	6-2, 8-10	6-3, 8-10	6-4, 8-10	6-5, 20-22	6-6, 8-10	7-2, 8-10	7-3, 8-10	7-4, 8-10	7-5, 8-10	7-6, 8-10	8-2, 8-10	8-3, 8-10	8-4, 8-10	8-5, 8-10	8-6, 8-10	9-1, 8-10
G. margaritae																													2	1	1	1	1		1	1	1	1	1	
G. multicamerata				1																2	2	1	2	1		1	1	1		1	1	1	1	1	1	1	1	1	1	1
G. nana																																								
G. nicoli																																								
G. opima																																								
G. plesiotumida																														4	2	2	1	2	2	2	2	1	1	1
G. scitula	1	1	1	2	2	1	1			2	2			1																										
G. siakensis																																								
G. spinulosa																																								
G. tosaensis														1	1	1	2																							
G. truncatulinoides					1	1		1	1		1				1	1																								
G. tumida	1	1			1	1		1		1	1								1	1	1			2	5	3	3													
G. tumida flexuosa																											3	42												
G. tumida lata														55 4D	55 5D	25 2D		55 1D																						
G. ungulata		1																																						
Hantkenina primitiva																																								
H. primitiva alabamensis																																								
Hastigerina adamsi	1	1	1	1	1	1																																		
H. micra																																								
H. siphonifera	4	4	4	4	4	4	3	4	3	3	1		4	2	1	1	2	2	1		2	3	2	2	1	2	1	4	2	2	2	1	2	2	3	3	4	1	4	3
Morozovella velascoensis																																								
Orbulina universa	3	4	3	4	2	4	4	4	4	4	4		4	3	5	4	4	5	3	5	5	5	5	4	5	3	4	4	3	4	3	2	2	4	1	3	4	3	5	4
Pulleniatina obliquiloculata	1	1	3	2	2	1	1	2	3		2		3	4	4	2	1	1	1	1	1	1																		
P. primalis	3	2	1	2	2	3	3	3	4	3	2			2		2	3	3	1	2	3	2	3	2	2	3	1	3	2		1				1				1	
Sphaeroidinella dehiscens	1	1	1		1		1	1	1		1		1	1	1	1	1	2	2	3	2	2	2	2	1	1														
S. subdehiscens immatura																						1	2	2	1															
S. kochi																										1			1						1			1		
S. seminulina																										1	2	1	1	1		1	1	1	1	3	1	2	1	3
S. subdehiscens																					1			1	1	3	3	2	1	1	1	1								
Subbotina angiporoides																																								
Truncorotaloides bullbrooki																																								
T. rohri																																								

| Age | Upper Middle Miocene | | |

| Age | Upper Middle Miocene | | |

| | | |

Age	Lower Oligo-cene		Upper Eocene			Lower Upper Eocene					Upper Middle Eocene					Middle Eocene															Upper Paleocene	
Zone	P.19		P.17			P.15					P.14					P.12					P.11										P.ba	
Site 219 (Cont) / Core-Section, Interval (cm) / Species	16-2, 8-10	16-3, 8-10	16-4, 8-10	16-5, 18-20	16-6, 8-10	17-2, 8-10	17-3, 8-10	17-4, 8-10	17-5, 8-10	18-1, 8-10	18-2, 8-10	18-3, 8-10	18-4, 8-10	18-5, 8-10	18-6, 8-10	19-1, 8-10	19-2, 8-10	19-3, 8-10	19-4, 8-10	19-5, 8-10	19-6, 8-10	20-2, 8-10	20-3, 8-10	20-4, 8-10	20-5, 18-20	20-6, 9-11	21-2, 8-10	21-3, 8-10	21-4, 8-10	27-1, 69-71[c]	27-2, 8-10[c]	27-3, 8-10
Total Abundance	5	5	5	5	5	5	5	5	5	4	4	4	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4			1
Candeina nitida																																
Cassigerinella chipolensis	2																															
Chiloguembelina cubensis	2	1		1	5	4		2				1	1	4	1																	
Globigerapsis index																2	1	1	1		1		1		2			2	1	1		
G. kugleri													4	3	4	4	4	3	2	4												
Globigerina digitata																																
G. dissimilis																																
G. gortoni			5	4	4	5																										
G. praebulloides praebulloides			5	4	3			2						1	2																	
G. praesaepis	4	4																														
G. senni																4	4	4	5	3	2	1	2									
G. topilensis																													1			
G. yeguaensis			5	5	5	4	4	5	5	5	4	4		1																		
Globigerinatella insueta																																
Globigerinatheca barri																	2	3	3	3												
G. lindensis																3	2	2	2		1		1									
Globigerinita africana																3	2	4	3	4		2	1	2	1	1		1				
G. globiformis																1	1															
G. glutinata																																
G. unicava primativa			5	5	5	5	5	5	5	5	4	4	3	3	4	2	3				1							1				
Globigerinoides bisphericus																																
G. conglobatus																																
G. diminutus																																
G. mitra																																
G. obliquus																																

G. obliquus extremus							
G. ruber							
G. sacculifer							
G. sacculifer cf. *fistulosus*							
G. subquadratus							
G. trilobus							
Globoquadrina altispira							
G. altispira altispira							
G. altispira globosa							
G. conglomerata							
G. dehiscens							
G. dutertrei							
G. hexagona							
G. humerosa							
G. humerosa acostaensis							
G. sp. A.							
G. tripartita	2		1				
G. cf. *G. tripartita*	5 4 3	4 5 3					
G. venezuelana	1						
Globorotalia acostaensis							
G. aragonensis					2 3 4	4 4 2 2	
G. barisanensis							
G. broedermanni					1 3 4	4 3 5 5	
G. centralis			1 2 5	5 5 5 4 5	4 5 1 1 2	4 1 1	
G. pseudofoliata							
G. cerroazulensis				5 4 1 3 5	3 2		
G. cerroazulensis cocoaensis	5 4 4	5 4 3 1	2 4 1 1 4				
G. cerroazulensis cunialensis	3 1 1	1	1				
G. crassaformis							
G. cultrata							
G. exilis							
G. fijiensis							
G. flexuosa							
G. cf. *G. fohsi* (small)							
G. hirsuta							
G. lehneri			2 3 5		3 2 2 4	1 2	
G. lenguaensis							

Age	Lower Oligo-cene		Upper Eocene			Lower Upper Eocene					Upper Middle Eocene					Middle Eocene											Upper Paleocene	
Zone	P.19		P.17			P.15					P.14					P.12					P.11						P.ba	
Site 219 (Cont) Core-Section, Interval (cm) / Species	16-2, 8-10	16-3, 8-10	16-4, 8-10	16-5, 18-20	16-6, 8-10	17-2, 8-10	17-3, 8-10	17-4, 8-10	17-5, 8-10	18-1, 8-10	18-2, 8-10	18-3, 8-10	18-4, 8-10	18-5, 8-10	18-6, 8-10	19-1, 8-10	19-2, 8-10	19-3, 8-10	19-4, 8-10	19-5, 8-10	19-6, 8-10	20-2, 8-10	20-3, 8-10	20-4, 8-10	20-5, 18-20	20-6, 9-11	21-2, 8-10	21-3, 8-10	21-4, 8-10	27-1, 69-71[c]	27-2, 8-10[c]	27-3, 8-10
G. margaritae																																
G. multicamerata																																
G. nana	1																															
G. nicoli																2	3	2	3													
G. opima																																
G. plesiotumida																																
G. scitula																																
G. siakensis																																
G. spinulosa																4	4	2	3	5	5	4	2		3	2	3		2		
G. tosaensis																																
G. truncatulinoides																																
G. tumida																																
G. tumida flexuosa																																
G. tumida lata																																
G. ungulata																																
Hantkenina primitiva			3	3	2		1		1		1		1	1																		
H. primitiva alabamensis			3	2	1	2																										
Hastigerina adamsi																																
H. micra	5	5	5	5	5	5	5	5	3	5	5	5	5	5																		
H. siphonifera																																
Morozovella velascoensis																																
Orbulina universa																																
Pulleniatina obliquiloculata																																
P. primalis																																
Sphaeroidinella dehiscens																																
S. subdehiscens immatura																																
S. kochi																																
S. seminulina																																
S. subdehiscens																																
Subbotina angiporoides	4	4																														
Truncorotaloides bullbrooki													1	1	2	1	5	4	5	5	5	4	4	5	2	4	4	4	4			
T. rohri													2	4	5	5	4	3	2	5												

Age	Pleistocene										Upper Miocene										Upper Oligocene																				a	Mid Eo-cene
Zone	N.22										N.17-N.16										N.13																				b	
Site 220 / Core-Section, Interval (cm) / Species	1-1, 50-52	1-2, 8-10	1-3, 8-10	1-4, 8-10	1-5, 21-23	1-6, 8-10	2-1, 8-10	2-2, 8-10	2-3, 8-10	4-1, 134-136	4-2, 8-10	4-3, 8-10	4-4, 8-10	4-5, 8-10	5-2, 8-10	5-3, 8-10	5-4, 8-10	5-5, 8-10	6-1, 8-10	6-2, 8-10	6-3, 8-10	6-4, 8-10	6-5, 18-20	6-6, 8-10	7-1, 8-10	7-2, 8-10	7-3, 8-10	7-4, 8-10	7-5, 8-10	7-6, 8-10	8-2, 28-30	8-3, 8-10	8-4, 8-10	8-5, 8-10	9-2, 8-10[c]	9-3, 18-20	9-4, 8-10	10-2, 8-10[c]	11-1, 77-79	12-1, 120-122
Total Abundance	5	5	5	5	5	5	5	4	5	2	0	1	0	1	3	4	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	2	2	3	2	2	4
Cassigerinella chipolensis																			2		1	1		1	1	1	3	1												
Catapsydrax stainforthi																			1	2	3	5	5	3	3	3	3	4												
Globigerina bulloides	1	1		1	1												1																							
G. nepenthes															1	1	1	1																						
C. ciperoensis angulisuturalis																			1	1	1						1					1							
G. ciperoensis angustiumbilicata																			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5					
G. ciperoensis ciperoensis																			4		1	5	3																
G. tripartita																			3	2	3	2	1	1	3	3	2	2	2	1	3	5	5	5					1	
G. cf. *dissimilis*																					2					1			1	1	4	1	2	3		2	3			
G. yeguaensis																																							1	2
Globigerinoides conglobatus	5	4	4	2	2		1	2	1																															
G. obliquus			1												1	3	5	3																						
G. ruber	1		1	1	1	1	1	3	5			1																												
G. sacculifer	4	4	5	2	3	1		3	5	1		1			4	5	4	2																						
Globoquadrina altispira															1	1	2																							
G. conglomerata	5	5	5	5	5			1																																
G. dutertrei	5	5	5	5	4	4	3	4																																
G. hexagona	1	1	1		1	1		2							1																									
G. humerosa									5	1						1																								
G. venezuelana															3	5	5		5	5	4	5	5	4	2	3	2	5	5	4	3									
G. binaiensis																			4	5	5				5	4	2	2	5	5	3									
G. unicava																			2	4	2		2	2	1	1	1	4			1									
G. cf. *rohri*																			2	3	3	2	2	2	4	2	3	2	3	3	3	5	5	5						
Globorotalia acostaensis																3	4																							
G. crassaformis	1		1	1	1	1	1	3	1																															
G. cultrata	5	5	5	5	5	5	5	5	5						1	1	5	1																						
G. scitula	1									1																														
G. tosaensis			1	1				1	1																															
G. truncatulinoides			1	1	1	1			1																															

Age	Pleistocene										Upper Miocene										Upper Oligocene																		a	Mid Eo-cene
Zone	N.22										N.17-N.16										N.13																		b	
Site 220 / Core-Section, Interval (cm) / Species	1-1, 50-52	1-2, 8-10	1-3, 8-10	1-4, 8-10	1-5, 21-23	1-6, 8-10	2-1, 8-10	2-2, 8-10	2-3, 8-10	4-1, 134-136	4-2, 8-10	4-3, 8-10	4-4, 8-10	4-5, 8-10	5-2, 8-10	5-3, 8-10	5-4, 8-10	5-5, 8-10	6-1, 8-10	6-2, 8-10	6-3, 8-10	6-4, 8-10	6-5, 18-20	6-6, 8-10	7-1, 8-10	7-2, 8-10	7-3, 8-10	7-4, 8-10	7-5, 8-10	7-6, 8-10	8-2, 28-30	8-3, 8-10	8-4, 8-10	8-5, 8-10	9-2, 8-10c	9-3, 18-20	9-4, 8-10	10-2, 8-10c	11-1, 77-79	12-1, 120-122
G. tumida	5	5	4	2	5	5	5	5	1																															
G. opima nana																			2	2	2	1			1	1	1	1	2	1	1	1					1			
G. siakensis																			5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	3						
G. aragonensis																																								3
G. bullbrooki																																								3
G. spinulosa																																								
G. velascoensis																																								
"Globorotalia" broedermanni																																								3
Globorotaloides sp.																			5	5	5	5	5		5	5	5	5	5	5	5	5	3	4						
Globigerapsis kugleri																																								3
Guembelina cubensis																	4	2																						
Hastigerina siphonifera	5	1	5	2	4	4	2	3	1						1		4	1																						
Morozovella lehneri																																								1
Orbulina universa	4		4	3	3	2		1	1						1	2	3																							
Pseudohastigerina micra																																								
Pulleniatina obliquiloculata	4	5	5	5	5	5	5	5	5																															
Sphaeroidinella dehiscens	3	3	2	3	2	3	5	4	2																															
Sphaeroidinellopsis seminulina															4	4	5	4																						
S. subdehiscens										1				1	4	4	4	4																						
Juvenile Indeterminants																																								

Age	Middle Eocene															Paleocene			
Zone																			
Site 220 (Cont) / Core-Section, Interval (cm) / Species	12-2, 8-10	12-3, 8-10	12-4, 8-10	12-5, 8-10	13-1, 45-47	13-2, 8-10	13-3, 8-10	13-4, 8-10	14-1, 8-10	14-2, 8-10	14-3, 4-5	15-2, 8-10	15-3, 8-10[c]	15-4, 8-10	15-5, 21-23	15-6, 8-10	16-2, 23-25	17-1, 28-30	18-2, 41-43
Total Abundance	4	5	5	5	5	5	5	4	4	4	4	3	3	3	3	5	4	4	4
Cassigerinella chipolensis																			
Catapsydrax stainforthi																			
Globigerina bulloides																			
G. nepenthes																			
C. ciperoensis angulisuturalis																			
G. ciperoensis angustiumbilicata																			
G. ciperoensis ciperoensis																			
G. tripartita			1																
G. cf. *dissimilis*																			
G. yeguaensis	1		1		1		1		1										
Globigerinoides conglobatus																			
G. obliquus																			
G. ruber																			
G. sacculifer																			
Globoquadrina altispira																			
G. conglomerata																			
G. dutertrei																			
G. hexagona																			
G. humerosa																			
G. venezuelana																			
G. binaiensis																			
G. unicava																			
G. cf. *rohri*																			
Globorotalia acostaensis																			
G. crassaformis																			
G. cultrata																			
G. scitula																			
G. tosaensis																			
G. truncatulinoides																			

Age	Middle Eocene																Paleocene		
Zone																			
Site 220 (Cont) / Core-Section, Interval (cm) / Species	12-2, 8-10	12-3, 8-10	12-4, 8-10	12-5, 8-10	13-1, 45-47	13-2, 8-10	13-3, 8-10	13-4, 8-10	14-1, 8-10	14-2, 8-10	14-3, 4-5	15-2, 8-10	15-3, 8-10[c]	15-4, 8-10	15-5, 21-23	15-6, 8-10	16-2, 23-25	17-1, 28-30	18-2, 41-43
G. tumida																			
G. opima nana																			
G. siakensis																			
G. aragonensis	1	5	4	2	2	2	3	5	3	3	1	1	1	2	2	5	4	2	2
G. bullbrooki	3	5	5	5	5	5	5	5	5	5	5	2		2	2	5	4	2	4
G. spinulosa	4	4	1	5	2	5	5												
G. velascoensis																			1
"Globorotalia" broedermanni	1	5	4	4	3	3	4	4	1	1	1								1
Globorotaloides sp.																			
Globigerapsis kugleri	3	5	2	5	4	4	5	4	4	4	2								
Guembelina cubensis																			
Hastigerina siphonifera																			
Morozovella lehneri				1	1	1	1												
Orbulina universa																			
Pseudohastigerina micra																	1		3
Pulleniatina obliquiloculata																			
Sphaeroidinella dehiscens																			
Sphaeroidinellopsis seminulina																			
S. subdehiscens																			
Juvenile Indeterminants																	4	4	4

Note: Site 221, in all cores, planktonic foraminifera either absent or nondiagnostic due to solution.

[a]Lower Oligocene.

[b]P.19 or P.18.

[c]Indeterminant juveniles.

Site 222 / Core-Section Interval (cm) / Species	1-1, 14-16	1-3, 8-10	1-4, 18-20	2-1, 40-42	3-1, 73-75	3-2, 8-10	3-3, 8-10	3-4, 8-10	4-1, 30-32	5-2, 8-10	5-3, 8-10	5-4, 8-10	5-5, 8-10	5-6, 8-10	6-2, 8-10	6-3, 8-10	6-4, 8-10	7-2, 8-10	8-1, 88-90	8-2, 18-20	8-3, 8-10	8-4, 1-3	8-5, 8-10	9-2, 8-10	9-3, 8-10	9-4, 8-10	11-2, 12-14?	12-1, 8-10	12-2, 8-10	13-1, 30-32?	13-2, 10-12?	13-3, 8-10	13-4, 8-10	14-2, 8-10	14-3, 12-14	14-4, 8-10	15-2, 8-10	16-1, 8-10	18-1, 60-62	18-2, 8-10
Age	Holocene			a		? Pliocene ? ? Foraminifera Small, Juveniles nondiagnostic for exact age																																		
Zone																																								
Total Abundance	5	5	5	5	4	4	4	4	3	2	2	2	3	3	2	2	2	2	2	2	2	2	2	1	2	0	2	2	2	3	3	2	2	0	2	2	0	0	1	2
Globigerina bulloides	1	5	5	5	4																	1	1									1								
G. digitata		1	1																																					
G. nepenthes																																								
G. cf. *nepenthes*																																								
G. cf. *pseudofoliata*																														3	3	2	1		1	1				1
Globigerinita glutinata	5	5	5	5	5	1	4	4					1	2	1	1	1	1	1	1	1	3	3	1	1		2	2	2	4	4	3	2		3	3				3
Globigerinoides conglobatus	1		1	1																																				
G. obliquus					2	3	5	4	3	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1			2		3	2	2	1		2	3			1	1
G. ruber	4	5	5	5	3	3	5	4	1			1	1	2	1	1	1					1	1																	
G. sacculifer	4	5	5	4	2	5	5	5	2		1	1	1	1	1	1	1		1	1	1	1	1				1	1	1	1	1	1	1		1	1				1
G. sacculifer fistulosus						1	1																																	
Globoquadrina altispira									1	2		1	1	2	1	1	1	1				1	1				1			1	1				1	1				1
G. conglomerata		1																																						
G. dutertrei	5	5	5	5																																				
G. hexagona	3			1	1							2	1	1	1		1	1		1			1								1									
G. humerosa					5	5	4	5	1				1	1	1			1	1																					
G. cf. *dehiscens*																																								
G. venezuelana																																								
G. n. sp.																																								
G. dehiscens																																								
Globorotalia acostaensis					1	1	1	2	2	3	1	2	2	5	2	1	2	1	1	1	1	2	3	1	1		2			1	1	1								
G. crassaformis		2	2	2																																				
G. cultrata (sin.)	5	4	5	5	1							1		1									1							1	1		1							
G. cultrata (dex.)					2	3	4	4	1	1		1	1	2		1		1	1	1	1	2	1	1	1		2	2	1	1	1	1								1
G. hirsuta	3	1	1																																					
G. merotumida						1	2	2	1			1		1			1											1	1	1	1	1	1		1					1

Site 222 / Core-Section Interval (cm)	1-1, 14-16	1-3, 8-10	1-4, 18-20	2-1, 40-42	3-1, 73-75	3-2, 8-10	3-3, 8-10	3-4, 8-10	4-1, 30-32	5-2, 8-10	5-3, 8-10	5-4, 8-10	5-5, 8-10	5-6, 8-10	6-2, 8-10	6-3, 8-10	6-4, 8-10	7-2, 8-10	8-1, 88-90	8-2, 18-20	8-3, 8-10	8-4, 1-3	8-5, 8-10	9-2, 8-10	9-3, 8-10	9-4, 8-10	11-2, 12-14?	12-1, 8-10	12-2, 8-10	13-1, 30-32?	13-2, 10-12?	13-3, 8-10	13-4, 8-10	14-2, 8-10	14-3, 12-14	14-4, 8-10	15-2, 8-10	16-1, 8-10	18-1, 60-62	18-2, 8-10
Age	Holocene			a		? Pliocene ? ? Foraminifera Small, Juveniles nondiagnostic for exact age																																		
Zone																																								
G. scitula		1		1					1	1		1	1	1						1	1		1						1	1	1									
G. truncatulinoides	1	1	1	1																																				
G. tumida	1	1	1																																					
G. acostaensis																																								
G. margaritae																																								
G. lenguaensis																																								
G. miocenica																																								
Hastigerina siphonifera	5	4	1	1					1	1																														
Orbulina universa	4	5	4	4	1	1	1	1				1																1		1		1				1				
Pulleniatina finalis	4	5	4																																					
P. obliquiloculata				5																																				
P. praepulleniatina					4	4	3	5																																
P. primalis					5	5	5	5	2	1	1	1	1	3	1	1	1	1	1		1	2	2	1	1		1	1				1								
Sphaeroidinella dehiscens			1	2	1																																			
S. dehiscens immatura									1																															
Sphaeroidinellopsis seminulina																																								
S. subdehiscens																																								
Indeterminants (juveniles)																																								

| Age | Pliocene ? ? ? Foraminifera small, juveniles nondiagnostic for exact age | | |

Site 222 (Cont) / Core-Section, Interval (cm)	19-1, 52-54	19-2, 8-10	19-3, 8-10	20-1, 51-3	20-2, 8-10	20-3, 8-10	20-4, 4-5	21-1, 8-10	21-2, 8-10	21-3, 8-10	21-4, 8-10	22-1, 8-10	22-2, 8-10	22-3, 8-10	22-4, 8-10	22-5, 8-10	22-6, 8-10	23-1, 40-42	23-2, 8-10	23-3, 45-47	23-4, 8-10	24-1, 28-30	24-2, 8-10	24-3, 8-10	24-4, 8-10	25-1, 8-10	25-2, 8-10	25-3, 8-10	25-4, 8-10	25-5, 8-10	25-6, 8-10	27-1, 30-32	27-2, 8-10	28-1, 49-51	28-2, 8-10	28-3, 8-10	28-4, 8-10	28-5, 8-10	29-1, 14-16	29-2, 8-10
Age	Pliocene ? ? ? Foraminifera small, juveniles nondiagnostic for exact age																																							
Zone																																								
Species																																								
G. scitula																																								
G. truncatulinoides																																								
G. tumida																																								
G. acostaensis							1																																	
G. margaritae																									1															
G. lenguaensis																																								
G. miocenica																				1																				
Hastigerina siphonifera																																								
Orbulina universa								1							1	1	1	1	1	1					1									1		1				
Pulleniatina finalis																																								
P. obliquiloculata																																								
P. praepulleniatina																																								
P. primalis	1	1									1																													
Sphaeroidinella dehiscens																																								
S. dehiscens immatura																																								
Sphaeroidinellopsis seminulina										1		1			1	1	1	1									1												1	
S. subdehiscens								1	1																															
Indeterminants (juveliles)																																								

Age																																					
																Probably Upper Miocene but only juvenile																					Upper Miocene
Zone																Foraminifera found-All residues very small																					? ? ?
Site 222 (Cont) / Core-Section, Interval (cm) / Species	29-3, 8-10	29-4, 8-10	29-5, 30-32	29-6, 8-10	31-1, 8-10	31-2, 8-10	31-3, 8-10	31-4, 8-10	31-5, 8-10	31-6, 8-10	32-1, 8-10	32-2, 53-55	32-3, 13-14	132-4, 4-5	32-5, 7-8	32-6, 7-8	33-1, 70-71	33-2, 8-9	33-3, 9-10	33-4, 8-9	33-5, 12-13	33-6, 8-9	34-1, 26-27	34-2, 30-31	34-3, 28-30	34-4, 28-29	34-5, 9-10	34-6, 9-10	35-1, 8-9	35-2, 7-8	35-3, 7-8	35-4, 9-10	35-5, 8-9	35-6, 8-9	36-1, 86-87	36-2, 30-31	36-3, 21-22
Total Abundance	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	2	1	1	1	1	0	2	0	0	0	1	0	0	0	2	0	2	0	0	1	1
Globigerina bulloides																																					
G. digitata																																					
G. nepenthes																1																					
G. cf. *nepenthes*																																					
G. cf. *pseudofoliata*																																					
Globigerinita glutinata																1																					
Globigerinoides conglobatus																																					
G. obliquus	1												1		1	1	1		1																		
G. ruber																																					
G. sacculifer	1												1			1																					
G. sacculifer fistulosus																																					
Globoquadrina altispira			1	1									1																							1	
G. conglomerata																																					
G. dutertrei																																					
G. hexagona																																					
G. humerosa																																					
G. cf. *dehiscens*																																					
G. venezuelana																																					
G. n. sp.																																					
G. dehiscens																																					
Globorotalia acostaensis	1														1	1	1						1														
G. crassaformis																																					
G. cultrata (sin.)	1	1										1																			1						
G. cultrata (dex.)													1			1			1												1						
G. hirsuta																																					
G. merotumida																																					

| Age | Probably Upper Miocene but only juvenile | | |

Age	Holo-cene	Pleistocene										Pliocene															Upper Miocene																					
Zone	1 2																										N-17																					
Site 223 Core-Section Interval (cm) / Species	1-1, 60-62	1-2, 8-10	1-3, 12-14	2-1, 80-82	2-2, 8-10	2-3, 8-10	2-4, 8-10	2-5, 20-22	2-6, 8-10	3-1, 92-94	4-2, 8-10	4-3, 8-10	4-4, 8-10	4-5, 24-26	4-6, 8-10	5-2, 8-10	5-3, 8-10	5-4, 7-9	5-5, 7-9	5-6, 8-10	6-2, 17-19	6-3, 8-10	6-4, 8-10	6-5, 8-10	7-2, 8-10	7-3, 10-12	7-4, 8-10	7-5, 24-26	7-6, 8-10	8-1, 41-43	9-1, 8-10	9-2, 6-8	9-3, 17-19	9-4, 8-10	9-5, 8-10	9-6, 8-10	10-1, 28-30	10-2, 8-10	11-1, 8-10	11-2, 8-10	11-3, 8-10	11-4, 10-12	11-5, 8-10	11-6, 8-10	12-2, 8-10
Total Abundance	5	5	5	5	5	5	4	4	4	4	3	4	3	3	3	2	2	2	2	2	2	4	3	2	3	2	2	3	4	3	2	2	3	3	3	2	2	1	1	2	2	2	3	2	2
Candeina nitida										1						1																														
Catapsydrax dissimilis																																														
C. unicavus																																														
Chiloguembelina cubensis																																														
Globigerapsis kugleri																																														
Globigerina ampliapertura																																														
G. bulloides	5	2	2	4	2	4	2	4	4													1											3	2		1									
G. calida	5	2	2																																											
G. rubescens	3	1	3		1	4	4																																							
G. senni																																														
G. yeguaensis																																														
Globigerinatheka mexicana																																														
Globigerinatella insueta																																														
Globigerinita glutinata	5	2	3	5	3	5	4	5	4	1					3			1																												
Globigerinoides conglobatus			4	5						1																			1				1												
G. obliquus											1	1	1	3	3	1	1	1	1	1	1	4	3	1	4	1	1	2	3	2	1	1	3	2	3	1	2		1	3	1	1	4	3	1
G. ruber	5	4	5	3	3	4	2	2	5	4	1	4	1	3	3	1		1	1	1																										
G. sacculifer	5	4	5	5	5	4	2	2	4	4	1	1	1	2	3	1	1	1	1	1	1	3	3	1	4	1	1	2	3	3	2	2	3	3	3		2			1	1	1	3	4	1
Globoquadrina altispira											1	1	1	2	3	1	1	1	1	1	1	1	2	1		1			1	1	1	1	3	3	3	1	1		1	3	1	1	4	1	2
G. dehiscens																									1							1	1			1	1						1		
G. dutertrei	5	5	5	5	5	5	3	3	5	5																																				
G. hexagona	1	1	1	1							1																																			
G. humerosa											1	4	3	3	4	1	1	1	1	1	1	3	1						1																
G. tripartita																																														
G. venezuelana																									1				1	1	1	1	1	1	1		1								
G. cf. *venezuelana*																																														
G. n. sp.																					2	3	2	1	3																				
Globorotalia bullbrooki																																														
G. centralis																																														

| Age | Holo-cene | Pleistocene | | | | | | | | | | Pliocene | | | | | | | | | | | | | | | | | | Upper Miocene | | | | | | | | | | | | | | | | | |

Age	Upper Miocene																																															
Zone																																																
Site 223 (Cont) / Core-Section, Interval (cm) / Species	12-3, 10-12	12-4, 12-14	12-5, 8-10	12-6, 9-11	13-2, 9-11	13-3, 9-11	14-1, 60-62	14-2, 8-10	14-3, 8-10	14-4, 8-10	14-5, 8-10	14-6, 8-10	15-1, 56-58	15-2, 8-10	16-1, 102-104	16-2, 8-10	16-3, 8-10	16-4, 8-10	16-5, 8-10	16-6, 8-10	17-1, 45-47	17-2, 8-10	17-3, 8-10	17-4, 8-10	17-5, 8-10	18-1, 8-10	18-2, 8-10	18-3, 8-10	18-4, 8-10	18-5, 8-10	18-6, 8-10	19-1, 75-77	19-2, 8-10	19-3, 8-10	19-4, 10-12	19-5, 14-16	19-6, 8-10	20-1, 24-26	20-2, 8-10	20-3, 8-10	20-4, 8-10	21-1, 60-62	22-1, 58-60	22-2, 8-10	23-2, 6-7
Total Abundance	2	3	2	2	3	3	4	2	1	2	2	1	0	3	1	1	1	2	2	1	1	1	0	0	0	2	0	0	2	0	1	2	0	0	0	0	0	1	0	0	2	0	0	0	1	0
Candeina nitida																																																
Catapsydrax dissimilis																																																
C. unicavus																																																
Chiloguembelina cubensis																																																
Globigerapsis kugleri																																																
Globigerina ampliapertura																																																
G. bulloides																																																
G. calida																																																
G. rubescens																																																
G. senni																																																
G. yeguaensis																																																
Globigerinatheka mexicana																																																
Globigerinatella insueta																																																
Globigerinita glutinata																																																
Globigerinoides conglobatus																																																
G. obliquus	1	3	2	2	4	5	5	2	1	3	4			5				2	1		1					1			1												1					
G. ruber																																																
G. sacculifer	1	3	2	2	3	3	5	1	1	3	3			3		1	1	2	2	1						1			2		1	2						1		2				1	
Globoquadrina altispira	2	3	1	1	1	2	3	1	1	2	2	1		2	1	1		1	1							1			2		1	1														
G. dehiscens							1																																		1					
G. dutertrei																																																
G. hexagona																																																
G. humerosa																																																
G. tripartita																																																
G. venezuelana					1		1																																									
G. cf. *venezuelana*																																																
G. n. sp.																																																
Globorotalia bullbrooki																																																
G. centralis																																																

| Age | Upper Miocene | | |

Age	Middle Miocene										Lower Miocene										Upper Oligocene			?				Upper Eocene			Middle Eocene							
Zone																					P.21							P.15			P.11							
Site 223 (Cont) / Core-Section, Interval (cm) / Species	24-1, 30-32	24-2, 8-10	24-3, 16-18	25-1, 91-93	25-2, 9-10	26-2, 7-9	26-3, 7-9	26-4, 17-19	27-1, 65-67	27-2, 9-10	28-1, 20-1	28-2, 9-10	28-3, 5-6	28-4, 8-9	28-5, 18-19	28-6, 9-10	29-1, 8-9	29-2, 28-29	29-3, 30-31	29-4, 36-37	29-5, 15-16	29-6, 29-30	30-2, 13-14	30-3, 9-10	30-4, 8-9	30-5, 11-12	30-6, 5-6	31-1, 29-30	31-2, 9-10	31-3, 9-10	31-4, 8-10	32-1, 65-66	32-2, 8-9	32-3, 16-17	32-4, 9-10	33-2, 8-9	34-2, 8-9	35-2, 10-14[a]
Total Abundance	4	2	2	2	2	2	2	2	2	3	3	0	4	2	2	2	2	2	2	0	2	1	0	0	1	1	1	3	5	5	5	5	5	5	5	5	5	2
Candeina nitida																																						
Catapsydrax dissimilis													1		1		1	1	1																			
C. unicavus																									1	1	1	3	3	4	4	2						
Chiloguembelina cubensis																													4	4	4				1	2		
Globigerapsis kugleri																																					2	
Globigerina ampliapertura																														5	4	1						
G. bulliodes																																						
G. calida																																						
G. rubescens																																						
G. senni																																			2	2	1	
G. yeguaensis																													2	3	3	4		3	1			
Globigerinatheka mexicana																																	1	2				
Globigerinatella insueta									1	1																												
Globigerinita glutinata																																						
Globigerinoides conglobatus																																						
G. obliquus																																						
G. ruber																																						
G. sacculifer				1																																		
Globoquadrina altispira			1	1	1																																	
G. dehiscens																																						
G. dutertrei																																						
G. hexagona																																						
G. humerosa																																						
G. tripartita													1		1			1											2	2	2	1						
G. venezuelana	2					1	1		1		1		2	1	1		2	2	1																			
G. cf. *venezuelana*																													5	5	5	5	5					
G. n. sp.																																						
Globorotalia bullbrooki																																			3	3		
G. centralis																																					1	

Age	Middle Miocene								Lower Miocene										Upper Oligocene			?			Upper Eocene			Middle Eocene							
Zone																			P.21						P.15			P.11							
Site 223 (Cont) / Core-Section, Interval (cm) / Species	24-1, 30-32	24-2, 8-10	24-3, 16-18	25-1, 91-93	25-2, 9-10	26-2, 7-9	26-3, 7-9	26-4, 17-19	27-1, 65-67	27-2, 9-10	28-1, 20-1	28-2, 9-10	28-3, 5-6	28-4, 8-9	28-5, 18-19	28-6, 9-10	29-1, 8-9	29-2, 28-29	29-3, 30-31	29-4, 36-37	29-5, 15-16	29-6, 29-30	30-2, 13-14	30-3, 9-10	30-4, 8-9	30-5, 11-12	30-6, 5-6	31-1, 29-30	31-2, 9-10	31-3, 9-10	31-4, 8-10	32-1, 65-66	32-2, 8-9	32-3, 16-17	32-4, 9-10	33-2, 8-9	34-2, 8-9	35-2, 10-14[a]
G. cerroazulensis																																		5	5	1		
G. continuosa																																						
G. crassaformis																																						
G. cultrata (dex.)																																						
G. cultrata (sin.)																																						
G. hirsuta																																						
G. mayeri	5	2	5	5	4	3	2	2	4	5	5		1																									
G. minutissima													5	2	2	2	3	2	2																		
G. nana																					2	1					1										
G. opima																					1																
G. peripheroronda										1	3																										
G. siakensis																																						
G. scitula																																						
G. spinulosa																																				1	3	
G. topilensis																																						4
G. truncatulinoides																																						
G. tumida																																						
G. cf. *G. kugleri*													5	2	3	3	2	1	1																		
Hastigerina siphonifera																																						
Hantkenina sp.																																		1	1	1	1	1
Orbulina universa																																						
Pulleniatina finalis																																						
P. obliquiloculata																																						
P. primalis																																						
Pseudohastigerina micra																														1	1	5	5	5	5			
Sphaeroidinella dehiscens																																						
Sphaeroidinellopsis seminulina									1																													
S. subdehiscens																																						
Indeterminant juveniles																																						
Non-diagnostic (juveniles)																											5	5	5	5	5	5	5	5	5	5	5	

[a]Non-diagnostic juveniles contaminated (?) with Neogene spp.

Age	a	b
Zone		
Site 224 / Core-Section, Interval (cm) / Species	2-2, 16-18	9-1, 43-45
Total Abundance	4	4
Non-diagnostic (juveniles, fragments)	5	5

[a]Upper Miocene

[b]Lower Oligocene

Age	? Early Pleistocene ?																																										
Zone																																											
Site 225 / Core-Section Interval (cm) / Species	3-2, 8-10[a]	3-3, 8-10	3-4, 80-82	4-1, 50-52	4-2, 8-10	4-3, 8-10	4-4, 8-10	4-5, 8-10	4-6, 8-10	5-1, 94-96	5-2, 8-10	5-3, 8-10	5-4, 8-10	5-5, 8-10	5-6, 1820	6-1, 4-6	6-2, 8-10	6-3, 8-10	6-4, 8-10	6-5, 18-20	6-6, 8-10	8-2, 8-10	8-3, 12-14	9-1, 82-84	9-2, 8-10	9-3, 11-12	9-4, 9-11	9-5, 8-10	9-6, 8-10	10-1, 81-83	10-2, 61-71	11-2, 11-13	11-3, 10-12	11-4, 48-50	11-5, 8-10	11-6, 9-11	12-1, 65-67	13-3, 11-13	13-4, 17-19	13-5, 9-11
Total Abundance	3	0	0	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	4	5	5	5	5
Candeina nitida								1		1																																
Chiloguembelina cubensis																																										
Globigerina bulloides				2	1		5		5							4				1	1	1	1																			
G. bulloides apertura																																										
G. foliata																																										
Globigerinita glutinata	3			5			5	4	4	4	4	5	4	5	4	5	4	4	5	4	4	2	2		2	2	3	2	2	3	3	2	2								
G. uvula																																										
Globigerinoides conglobatus							3	1		3							1				1	1		1	3		3	2	4	2											
G. obliquus	1					1	1									1	1			1	1	1		1	2	3	3	2	2	4	5	5	5	5	5	5	5	5	5	5
G. ruber				5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	4	4	4	4	4
G. sacculifer	2			5	5	5	5	5	4	4	4	5	4	5	5	5	5	5	5	5	5	5	4	1	3	3	3	5		4	1	1	2		1	1		2	1	1
G. sacculifer fistulosus																												1												
Globoquadrina humerosa	2					1																														1				
Globorotalia cultrata (dex.)	1																													5	1	5	3	2			1	4	3	4
G. cultrata (sin.)	1																																							
G. multicamerata																														1		3	1	1	1				2	
G. scitula	1																1													1										
G. tumida	1																																							
Hastigerina siphonifera				3	1	3	4	4	4		1	4	3	3	3	4	4	4		4	4	2	2	1	1			1	1											
Orbulina universa				2	4	3	5	4	5	3		4	4	3	4	5	5	4	4	5	4	5	4	1	3	1	1	5	1	2										
Pulleniatina primalis	1																																							
Indeterminants (juveniles)																																								

Zone	Late Miocene ?															Oligo–cene					Mixed assemblage - age uncertain																			
Age																																								
Site 225 (Cont) / Core-Section Interval (cm) / Species	13-6, 18-20	14-1, 54-56	14-2, 8-10	14-3, 8-10	14-4, 6-8	15-2, 11-13	16-2, 8-10	16-3, 7-9	17-2, 9-11	17-3, 13-15	17-4, 11-13	18-1, 16-18	18-2, 10-12	18-3, 7-9	18-4, 8-10	18-5, 5-7	19-1, 12-14	19-2, 13-15	19-3, 9-11	19-4, 6-8	20-1, 63-65	20-2, 11-13	21-1, 62-64	21-2, 8-10	21-3, 20-22	22-1, 8-10	22-2, 8-10	22-3, 8-10	22-4, 8-10	22-5, 8-10	22-6, 8-10	23-1, 8-10	23-2, 8-10	23-3, 8-10	24-1, 60-62	25-1, 133-135	26-1, 12-14	29-2, 67-68
Total Abundance	5	5	5	4	5	0	4	5	1	4	3	4	1	5	5	0	2	4	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Candeina nitida																																						
Chiloguembelina cubensis															5		3	5		1	3																	
Globigerina bulloides																																						
G. bulloides apertura					1																																	
G. foliata																			5																			
Globigerinita glutinata		5	5	5	5					5																												
G. uvula										5	4								3																			
Globigerinoides conglobatus																																						
G. obliquus	5	3	3		5		5	5	1	1		5	1	5				5	4		2																	
G. ruber	5	2	1		2		4																															
G. sacculifer							2					2							3		1																	
G. sacculifer fistulosus																																						
Globoquadrina humerosa																																						
Globorotalia cultrata (dex.)																																						
G. cultrata (sin.)																																						
G. multicamerata																																						
G. scitula																																						
G. tumida																																						
Hastigerina siphonifera																																						
Orbulina universa												2																										
Pulleniatina primalis																																						
Indeterminants (juveniles)		5	5	5	5		5	5	1	5	5	5	1							3																		

[a]Possibly incorrectly labelled.

Age	Q?	
Zone	23?	
Site 226 / Core-Section, Interval (cm) / Species	1-3, 114-116	1-4, 8-10
Total Abundance	1	2
Globigerina rubescens		1
Globigerinita glutinata		1
Globigerinoides ruber		1
G. sacculifer		1
Hastigerina siphonifera	1	1

Age	Pliocene															?																												
Zone	?															?																												
Site 227 / Core-Section, Interval (cm) / Species	1-1, 19-21	3-1, 10-12	5-2, 22-24	6-1, 20-21	6-2, 25-27	8-1, 94-96	10-1, 112-114	10-2, 18-20	12-2, 8-10	13-1, 17-19	13-2, 8-10	14-1, 74-75	15-1, 80-82	16-1, 50-52	16-2, 8-10	17-1, 46-48	17-2, 8-10	18-2, 7-8	18-3, 14-15	19-1, 47-49	19-2, 15-17	19-3, 12-14	20-2, 8-10	20-3, 16-18	20-4, 9-11	20-5, 9-11	22-2, 12-14	23-3, 9-10	23-4, 9-11	24-6, 8-10	25-2, 19-20	26-2, 8-10	27-1, 10-12	28-2, 20-22	28-3, 15-16	29-1, 63-65	29-2, 52-54	29-3, 48-50	29-4, 43-45	29-5, 8-10	31-1, 66-68	36-2, 129-131
Total Abundance	3	5	2	5	5	2	3	4	0	4	0	0	3	0	0	4	0	2	5	4	2	3	0	0	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chiloguembelina cubensis							4R	4R		5R						1R		2R	3R	1R							5R																
Globigerina bulloides			4																																								
G. quinqueloba					5					2			5			4				5		5				4	5																
Globigerinita glutinata							1												5																								
G. uvula										5			1			5		3	5		3																						
Globigerinoides obliquus		4	1	5		2	3	2										1	1			1																					
G. ruber	2	5		2																																							
G. sacculifer	5			1				1																																			
G. sacculifer fistulosus	1																																										
Globoquadrina humerosa							2																																				
Globorotalia cultrata (dex.)		1																																									
Hastigerina siphonifera	2			1																																							
Orbulina universa	1																																										
Indeterminants (juveniles)					5		3	5		5			3																														

| Age | Quaternary | | | | | | | | | | Pleistocene | | | | | | | | | |

| Age | Pliocene ? | | |

Age	Pliocene																					?																				
Zone	?																					?																				
Site 228 / Core-Section, (Interval (cm)) / Species	26-2, 16-17	26-3, 10-11	26-4, 9-11	27-1, 60-62	27-2, 13-14	27-3, 9-10	28-1, 7-8	28-2, 10-11	28-3, 8-9	28-4, 9-10	29-1, 42-43	29-2, 11-12	29-3, 20-22	29-4, 12-13	30-1, 5-7	30-2, 10-11	30-3, 9-11	30-4, 8-10	30-5, 8-10	30-6, 10-11	31-1, 57-59	31-2, 12-13	31-3, 8-9	31-4, 8-10	32-2, 10-11	32-3, 11-13	33-1, 9-11	33-2, 8-10	33-3, 10-11	33-4, 10-11	34-1, 34-36	34-2, 10-11	34-3, 8-10	35-1, 56-58	35-2, 75-77	36-1, 120-122	37-1, 97-99	37-1, 120-122	37-2, 109-110	39-1, 46-48
Total Abundance	5	5	5	5	3	5	3	2	4	2	3	5	3	2	2	2	5	0	4	4	3	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Globigerina cf. *bulloides*															4																										
G. quinqueloba							5		1																																
G. rubescens																																									
Globigerinita glutinata							3	1	1	3	1		5	5																											
G. uvula																																									
Globigerinoides conglobatus	5																																								
G. obliquus	5	5	5	5	5		1	1	5		5	5		1																											
G. ruber	5	5	5	5	5			5			5	5									5	5		1																	
G. sacculifer	1						1										5			5				1																	
G. sacculifer fistulosus																								1																	
G. sp. cf. *G. ruber*																																									
Globoquadrina humerosa														1																											
Globorotalia acostaensis																			5	1																					
G. cultrata (dex.)																																									
G. cultrata (sin.)																																									
G. multicamerata																																									
Hastigerina siphonifera																																									
Orbulina universa																																									
Indeterminants (juveniles)																4				2																					

Age	Quaternary																		
Zone	?								?							?			
Hole 229 / Core-Section, Interval (cm) / Species	1-1, 120-122[a]	2-1, 8-10[b]	2-2, 8-10	2-3, 8-10	2-4, 12-14	2-5, 8-10	2-6, 8-10	3-1, 11-13	3-2, 7-9	3-3, 6-8	3-4, 8-10	3-5, 4-6	3-6, 18-20	4-1, 28-30[c]	4-2, 11-13[c]	4-3, 15-17	4-4, 70-72	4-5, 10-12	4-6, 8-10
Total Abundance	3	3	5	5	5	5	5	4	5	3	5	5	5	3	3	4	3	3	3
Globigerina bulloides	5	2	5	5	5	5	5		5	3	5	5	4	1	1	1			
G. quinqueloba								5	5	3	2						4	2	2
Globigerinita glutinata	4	5	4	3	2	5	1	3	5	4	5	3	4	1		3		1	1
Globigerinoides ruber	5	1	5	5	5	5	5	1	5	4	5	5	5	4	4	5	3	3	3
G. sacculifer	5		5	5	5	5					1	2	1	1	5	1			
Globoquadrina dutertrei	1		2	1	2	2	1					1			1	1			
Globorotalia crassaformis											1	1	1	1	1	1			
G. cultrata (dex.)						1													
G. cultrata (sin.)	1		2	3	3	2	1		1	1	4	3	4	2	3	4	1	1	1
G. hirsuta	1		1			1	1				1								
G. truncatulinoides															1				
Hastigerina siphonifera	4		5	5	5	4	5		2	2	5	1	5	2	3	4	1	1	1
Orbulina universa	5		5	4	4	2	1		1	1	2	1	3	1	4	1	1	1	1
Pulleniatina obliquiloculata			1			1					1	1	1	1					
Indeterminants (juveniles)																	5	5	5

[a]Mostly pteropods

[b]Small pteropods, juvenile forams, rads

[c]Mainly otoliths, worm tuses, and echinoid fragments. Also large *streblus beccarii*, pteropods

| Age | Quaternary | | |

Hole 229A (Cont) / Core-Section, Interval (cm) / Species	8-2, 110-112	8-3, 90-92	9-1, 30-32	9-2, 9-11	10-3, 18-20	10-5, 12-14	10-6, 28-30	12-1, 13-15	12-2, 8-10	12-3, 16-18	12-4, 16-18	12-5, 4-6	13-1, 61-63	13-3, 26-28	13-4, 9-11	13-5, 15-17	13-6, 5-7	14-2, 7-9	14-3, 10-12	15-1, 11-13	15-2, 14-16	15-3, 9-11	15-4, 8-10	15-5, 8-10	15-6, 58-60	16-1, 8-10	16-2, 7-9	16-3, 11-13	16-4, 101-103	16-5, 7-9	16-6, 49-51	17-1, 89-91	17-2, 8-10	18-1, 37-39	18-3, 31-3	18-4, 10-12	18-5, 12-14	18-6, 8-10
Age	Quaternary																																					
Zone	?																							?														
Total Abundance	3	3	3	3	3	4	5	3	5	5	4	3	4	4	4	3	4	1	2	1	2	1	2	4	0	4	5	3	2	2	0	3	0	3	4	4	4	4
Globigerina bulloides	3	3	3	1	1	2	3	1	3	5	4	3	3	3	1		2		1		1			3		2	4		1			1		2	5	5	3	3
G. quinqueloba		3		2	5	5	5	5	2	4	3		5	5	5	5	5		1		4	1	3	4		4	3	5	3	3		5		5	5	5	4	5
Globigerinita glutinata			1	1	3	3	5	5	5	5	5	5	5	5	4	4	5							4		4	4	5							5	5	5	5
G. uvula											1			1	1																					1		
Globigerinoides conglobatus																																						1
G. ruber	5	5	5	5	5	5	5		5	5	5	5	5	5	5	1	5	1	1		1		1	5		5	5	1	1			3		2	5	5	5	5
G. sacculifer	4	3	3			1	2	1	1	1	2		3	4	1	1	1									2	4	1	1			1		2	5	4	3	3
Globoquadrina dutertrei	1	1				2	2	1						3	1		2							1		1	2		1					1	1	1	1	1
Globorotalia crassaformis	1	1					1						1													1											1	1
G. cultrata (dex.)																																						
G. cultrata (sin.)	2	4	4	1	2	2	5		1	1	1	1	4	4	1		1							3		4	3			1				1	3	2	4	3
G. hirsuta																																						
G. scitula							1	1																														
Hastigerina siphonifera	2	3		1	1	2	3	1	5	5	5	5	2	2	1			1						2		2	4					1		1	2	1		
Orbulina universa	4		1			2	2	1	5	5	5	3	1	2	1		1							1		1	1		1			2		3	2	2	1	3
Pulleniatina obliquiloculata						1	1										1									1	1		1									1
Indeterminants (juveniles)																			2	1																		

Age	Quaternary		
Zone	?		
Site 230 / Core-Section, Interval (cm) / Species	1-1, 32-34	1-2, 8-10	1-3, 81-0
Total Abundance	3	3	5
Globigerina bulloides	2	4	5
G. quinqueloba	4		3
Globigerinita glutinata	5	5	4
G. uvula			1
Globigerinoides ruber	5	5	5
G. sacculifer	2	3	2
Globoquadrina dutertrei			1
Globorotalia crassaformis		1	
G. cultrata (sin.)	1	1	
Hastigerina siphonifera	1	5	5
Orbulina universa	2	1	3