Table 5. Calcareous nannofossils in Hole 977A.

Table 5

HOLE 977A

Series		Zone	Core-Section, Interval (cm)	Abundance	Preservation	Amaurolithus amplificus	Amaurolithus delicatus	Amaurolithus tricorniculatus	Braarudosphaera bigelowii	Calcidiscus leptoporus	Calcidiscus macintyrei	Coccolithus miopelagicus	Coccolithus pelagicus	Cyclicargolithus floridanus	Dictyococcites perplexus	Dictyococcites productus	Discoaster asymmetricus	Discoaster brouweri	Discoaster decorus	Discoaster intercalaris	Discoaster pentaradiatus	Discoaster surculus	Discoaster tamalis	Discoaster variabilis	Gephyrocapsa spp. (small)	Gephyrocapsa spp. (small)	Helicosphaera carteri	Helicosphaera intermedia	Helicosphaera s. stalis	Helicosphaera sellii	Lithostromation perdurum	Pontosphaera indooceanica	Pontosphaera japonica	Pseudoemiliania lacunosa - C	Pseudoemiliania lacunosa - E	Pyrocyclus hermosus	Reticulofenestra gelida		Reticulofenestra minuta	Reticulofenestra minutula s.l.	Reticulofenestra pseudoumbilicus	Rhabdosphaera claviger	Rhabdosphaera procera	Scapholithus fossilis	Scyphosphaera spp.	Sphenolithus abies	Sphenolithus moriformis	Sphenolithus neoabies	Syracosphaera histrica	Thoracosphaera heimi	Thoracosphaera saxea	Umbilicosphaera jafari	Umbilicosphaera mirabilis	Umbilicosphaera sibogae		Reworked Cretaceous spp.	Reworked Paleogene spp.	Reworked Neogene spp.
Pleist.		NN19B																																																																
			29X-2, 65-67	A	G					F	F		C												A	A	F			C				R	F					C									R								R		
			29X-3, 20-21	A	G				F	C	C		C												A	A	F			C		F	R	F	C					A									F								R		
			29X-CC	A	G				C	C	C						S								A	A	C			C		C	R	F	A		F			A				R	R				C				S				R		
			30X-3, 20-21	C	M					F	C		C			R									C	C	F			C	S			F	C					C															R		R		
			30X-CC	A	M-G					C	A		C												A	A	C			A					F		F		F	A				R												F				
		NN19A	31X-3, 19-20	A	M					F	C		C			R									F	F	C			C			R	F	C					C		R							R											V
			31X-CC	A	M-G					C	C		C												C	C	F			C		F			C		R		F	A																			
			32X-3, 20-21	A	G					F	F		C												C	C	C			C			R	F	C		C			C									R								R		
			32X-CC	A	M-G					F	C		F												A	A	C			C				F	A		C			A									F									R	
			33X-3, 22-23	A	M					F	F		C			C									R	R	F			C				F	C		F			A		F							C								R		R
			33X-CC	A	G					F	F		C			C									C	C	F			C				F	C					C		R													R	R			
			34X-1, 16-17	A	G				R	F	C		C			F		S							F	F	F			C	R			F	C					A																R		
			34X-3, 16-17	A	M					F	F		F			F									F	F	F			C				F	C					C									F								R		
			34X-CC	A	M-G				S	F	F		F					S							A	A	F			F				F	C					A		F																
			35X-3, 20-21	C	M					F	F		C			F									C	C	F			F	V			F	C					C		F	R		R				R								R		
			35X-CC	C	M-G					F	F		F					S							F	F	R			F	S			F	C					C					R														
			36X-3, 21-22	C	M					F	F		C			F									C	C				C				F	F					C																F		
			36X-CC	C	M-G					F	F		F												C	C	F			C					C					A																		
			37X-3, 22-23	A	M				R	F	F		C			A									F	F	F			C				F	F		R		C	C																		
		NN18	37X-CC	A	M-G					F	F		C					V							A	A	F			F										C									R					C				
			38X-3, 21-22	A	M					F	F		C												F	F	F			F				F	C		F		C	F					R				F									
			38X-CC	A	M-G					F	F		C					S							A	A	F			C				F	C					C		F		R	R				F									
			39X-3, 15-16	A	M					F	F		C			F									C	C	F			F				F	C		F			F				S														
			39X-CC	A	M-G					F	F		C					S							F	F	F			C	S		R	F	C					C		F							F	S			R				
			40X-3, 20-21	A	M					F			C														F			F				F	C				C	C																		
			40X-4, 148-150	A	M-G					R	F		C			R											R			R				F	C				F	C																	R		
		NN17	40X-5, 18-19	A	G					F	C		C			F						R				R			F				F	C		R		C	C								F								R		
			40X-CC	A	M-G					C			C			R		F				F				F			F			F		C				A	A																		
			41X-1, 24-25	A	M-G					F	F		C			F						R		S		F			R				F	F				C	A													R			R	R	R
		NN16B	41X-2, 23-24	A	M-G					F	F		C			F		F		V			R			R			F				F	C				A	A																		
			41X-3, 23-24	A	G					F	F		C				R	F			R					R			R					C		F		C	A		R										R			R		
			41X-CC	A	G					F	F		C					C			R	F	F		S	R			C				F	C		F		C	A					R				F									
			42X-3, 20-21	A	G					F	F		C			R																	C		F		C	C													R					
			42X-CC	A	M-G					F	F							F			F		F																																	
			43X-3, 20-21	A	M					F	F		C			F		R					R			F							F	C		F		C	A										R		R			R		
			43X-CC	A	M-G				R	F	F		C			C		F				F	F										F	A				A	C																	
			44X-3, 20-21	C	M-G					R	F		C			C		F		R	F		R		R		F			F				C		F		C	C					R												
			44X-CC	A	G					F	F		C					F				R	F		F		C			C	F			A				A	C																	
		NN16A	45X-1, 20-21	A	M					F	F		F			F	R	R					R	S									F	C				C	F																	
			45X-3, 20-21	A	M					F	F		C			R	R	F		R	R	R	R	V	R				F				F	C	R	F		C	C																	
			45X-CC	A	M-G						C		C				R	F			R		F	R	R									A				A	C					R			S									V
			46X-3, 20-21	A	M-G					F	C		C									R	R	R		C	F			F			F	F				F	C		R														R	R	
			46X-CC	A	M-G					C	C		C				C	F					F	F	R	C				F		R		A		C		A	A	S																
			47X-3, 20-21	A	M-G					F	C		C				R						R	V		C								F				F	C																	
		NN15	47X-5, 21-22	A	M-G					F	F		C			F										C	F			F				F		R		C	C	V												R				
			47X-CC	A	G					F	C		F			C	R	F						F		C	·			F			R	C	A				A	A	R				R											
			48X-3, 17-18	A	G					F	E		C			C	R							R		F	R			R				F	F				F	C		R											R			R		
			48X-CC	A	G					F	F		C				R	F									R			R				F	C				C	A	R				F								R				
			49X-3, 20-21	A	M					F	F		C			C																		F					C																	
			49X-CC	A	G					F			C					F												F				C	C				C	A	R	R			R								R				
			50X-3, 18-19	C	M					F	F		C		R	C	R	R		R	R		F	R	R	C	R			R				R	R		R			A		R	R	V	F				F		R		S			R	R	
			50X-CC	A	M-G					F	F		C					R									F			R	S				R		R		C	A	R												S			F		
			51X-2, 21-22	C	M-G					R	R		C			C										C	R			R					R		R			C	R				R											R		R
		NN14	51X-3, 18-19	C	M					F	F		C			C	R	R								C	R			R				F	F		R		F	C	F							R					S			R		
			51X-CC	A	M-G					C	F		C				R	R						S	R									F				A		C	R			R	F								S			F		
			52X-3,	A	M								C			C							R							R				R				F	C	F				R													
			52X-6, 19	A	M					R	R		C			F	F	R		R						R	R			R				F				F	C	C			V									S					
		NN13	52X-6, 23	A	M					F	F		C			F		R																				F	C	F																	
			52X-CC	A	M		S			F	F		C					R				S					F	R												C	R			R	F										C		
			53X-3, 20-21	A	M					R	C		C		F	C		R					S				F									R	F			C	F				R	R		R					R			R		
			53X-CC	C	M	S				F	F		C					F							R		F	V												C	F				R											F		
			53X-3, 20-21	A	M-G																																																							
			54X-3, 82-84	C	M-G					F	C		C		F	C		F			R	F	F		F	F										F		F	C	F				F	C												
		NN12b	54X-5, 89-91	A	M					F	F		C														F	R										F	C	F				F	R											R		
			54X-CC	C	M			S		F	F		C					F										R											F					R	F												R
			55X-3, 21-22	A	M					R	C		C		C			R			R				R		F										F		F	C	C		R	V	R	C											
			55X-CC	A	M						F		C		F	C		F																					A	F				R	C											
			56X-3, 20-21	C	M-G						C		C		F	F		R									R										F		F	C	C					C											
			56X-CC	A	P						F		C		C	C		R																					R	A	F					C											
			57X-1, 21-22	A	M					R	F		C		F			F								F	F	R									F			C	C		R				C							R			R		
			57X-CC	A	P					F	F				C	C											C												A				R														
Mio.		NN7 - NN11	60X-1, pc. 1	F	M					R		R	R	R		R									R		R	R								R			R						R										R		
			60X-1, pc. 4	A	P					R	R	R	F	F																										F					R										F		
			60X-CC	F	P					R		S	F	R											R			R	R																R	R									F	R	

Table 5

HOLE 977A

Series		Zone	Core-Section, Interval (cm)	Abundance	Preservation	Amaurolithus amplificus	Amaurolithus delicatus	Amaurolithus tricorniculatus	Braarudosphaera bigelowii	Calcidiscus leptoporus	Calcidiscus macintyrei	Coccolithus miopelagicus	Coccolithus pelagicus	Cyclicargolithus floridanus	Dictyococcites perplexus	Dictyococcites productus	Discoaster asymmetricus	Discoaster brouweri	)	Discoaster decorus	Discoaster intercalaris	Discoaster pentaradiatus	Discoaster surculus	Discoaster tamalis	Discoaster variabilis	Gephyrocapsa spp. (small)
Pleist.		NN19B																								
	Upper	NN19A	29X-2, 65-67	A	G					F	F		C													A
			29X-3, 20-21	A	G				F	C	C		C													A
			29X-CC	A	G				C	C	C						S									A
			30X-3, 20-21	C	M					F	C		C			R										C
			30X-CC	A	M-G					C	A		C													A
			31X-3, 19-20	A	M					F	C		C			R										F
			31X-CC	A	M-G					C	C		C													C
			32X-3, 20-21	A	G					F	F		C													C
			32X-CC	A	M-G					F	C		F													A
			33X-3, 22-23	A	M					F	F		C			C										R
			33X-CC	A	G					F	F		C			C										C
		NN18	34X-1, 16-17	A	G				R	F	C		C			F		S								F
			34X-3, 16-17	A	M					F	F		F			F										F
			34X-CC	A	M-G				S	F	F		F					S								A
			35X-3, 20-21	C	M					F	F		C			F										C
			35X-CC	C	M-G					F	F		F					S								F
			36X-3, 21-22	C	M					F	F		C			F										C
			36X-CC	C	M-G					F	F		F													C
			37X-3, 22-23	A	M				R	F	F		C			A										F
			37X-CC	A	M-G					F	F		C					V								A
			38X-3, 21-22	A	M					F	F		C													F
			38X-CC	A	M-G					F	F		C					S								A
			39X-3, 15-16	A	M					F	F		C			F										C
			39X-CC	A	M-G					F	F		C					S								F
			40X-3, 20-21	A	M					F			C													
			40X-4, 148-150	A	M-G					R	F		C			R										

Table 5

HOLE 977A

Series	Zone	Core-Section, Interval (cm)	Abundance	Preservation	Gephyrocapsa spp. (small)	Helicosphaera carteri	Helicosphaera intermedia	Helicosphaera s. stalis	Helicosphaera sellii	Lithostromation perdurum	Pontosphaera indooceanica	Pontosphaera japonica	Pseudoemiliania lacunosa - C	Pseudoemiliania lacunosa - E	Pyrocyclus hermosus	Reticulofenestra gelida		Reticulofenestra minuta	Reticulofenestra minutula s.l.	Reticulofenestra pseudoumbilicus	Rhabdosphaera claviger	Rhabdosphaera procera	Scapholithus fossilis	Scyphosphaera spp.	Sphenolithus abies	Sphenolithus moriformis	Sphenolithus neoabies	Syracosphaera histrica	Thoracosphaera heimi	Thoracosphaera saxea	Umbilicosphaera jafari	Umbilicosphaera mirabilis	Umbilicosphaera sibogae		Reworked Cretaceous spp.	Reworked Paleogene spp.	Reworked Neogene spp.
Pleist.	NN19B																																				
UPPER	NN19A	29X-2, 65-67	A	G	A	F			C				R	F					C									R								R	
		29X-3, 20-21	A	G	A	F			C		F	R	F	C					A									F								R	
		29X-CC	A	G	A	C			C		C	R	F	A		F			A				R	R				C				S					
		30X-3, 20-21	C	M	C	F			C	S			F	C					C														R		R		
		30X-CC	A	M-G	A	C			A					F		F		F	A				R										F				
		31X-3, 19-20	A	M	F	C			C			R	F	C					C		R							R									V
		31X-CC	A	M-G	C	F			C		F			C		R		F	A																		
		32X-3, 20-21	A	G	C	C			C			R	F	C		C			C									R								R	
		32X-CC	A	M-G	A	C			C				F	A		C			A									F									R
		33X-3, 22-23	A	M	R	F			C				F	C		F			A		F							C								R	R
		33X-CC	A	G	C	F			C				F	C					C		R											R	R				
	NN18	34X-1, 16-17	A	G	F	F			C	R			F	C					A																R		
		34X-3, 16-17	A	M	F	F			C				F	C					C									F							R		
		34X-CC	A	M-G	A	F			F				F	C					A		F																
		35X-3, 20-21	C	M	C	F			F	V			F	C					C		F	R		R				R							R		
		35X-CC	C	M-G	F	R			F	S			F	C					C					R													
		36X-3, 21-22	C	M	C				C				F	F					C																F		
		36X-CC	C	M-G	C	F			C					C					A																		
		37X-3, 22-23	A	M	F	F			C				F	F		R		C	C																		
		37X-CC	A	M-G	A	F			F										C									R					C				
		38X-3, 21-22	A	M	F	F			F				F	C		F		C	F					R				F									
		38X-CC	A	M-G	A	F			C				F	C					C		F		R	R				F									
		39X-3, 15-16	A	M	C	F			F				F	C		F			F				S														
		39X-CC	A	M-G	F	F			C	S		R	F	C					C		F							F	S			R					
		40X-3, 20-21	A	M		F			F				F	C				C	C																		
		40X-4, 148-150	A	M-G		R			R				F	C				F	C																R		

						Amaurolithus amplificus	Amaurolithus delicatus	Amaurolithus tricorniculatus	Braarudosphaera bigelowii	Calcidiscus leptoporus	Calcidiscus macintyrei	Coccolithus miopelagicus	Coccolithus pelagicus	Cyclicargolithus floridanus	Dictyococcites perplexus	Dictyococcites productus	Discoaster asymmetricus	Discoaster brouweri	Discoaster decorus	Discoaster intercalaris	Discoaster pentaradiatus	Discoaster surculus	Discoaster tamalis	Discoaster variabilis	Gephyrocapsa spp. (small)
Pliocene	middle	NN17	40X-5, 18-19	A	G					F	C		C			F					R				
			40X-CC	A	M-G					C			C			R		F			F				
			41X-1, 24-25	A	M-G					F	F		C			F					R		S		
		NN16B	41X-2, 23-24	A	M-G					F	F		C			F		F	V			R			
			41X-3, 23-24	A	G					F	F		C				R	F		R					
			41X-CC	A	G					F	F		C					C		R	F	F		S	
			42X-3, 20-21	A	G					F	F		C			R									
			42X-CC	A	M-G					F	F							F			F		F		
			43X-3, 20-21	A	M					F	F		C			F		R				R			F
			43X-CC	A	M-G				R	F	F		C			C		F			F	F			
			44X-3, 20-21	C	M-G					R	F		C			C		F	R	F		R		R	
			44X-CC	A	G					F	F		C					F			R	F		F	
		NN16A	45X-1, 20-21	A	M					F	F		F			F	R	R				R	S		
			45X-3, 20-21	A	M					F	F		C			R	R	F	R	R	R	R	V	R	
			45X-CC	A	M-G						C		C				R	F		R		F	R	R	
			46X-3, 20-21	A	M-G					F	C		C								R	R	R		C
			46X-CC	A	M-G					C	C		C				C	F				F	F	R	C
	lower		47X-3, 20-21	A	M-G					F	C		C				R					R	V		C
		NN15	47X-5, 21-22	A	M-G					F	F		C			F									C
			47X-CC	A	G					F	C		F			C	R	F					F		C
			48X-3, 17-18	A	G					F	E		C			C	R						R		F
			48X-CC	A	G					F	F		C				R	F							
			49X-3, 20-21	A	M					F	F		C			C									
			49X-CC	A	G					F			C					F							
			50X-3, 18-19	C	M					F	F		C		R	C	R	R	R	R		F	R	R	C
			50X-CC	A	M-G					F	F		C					R							
			51X-2, 21-22	C	M-G					R	R		C			C									C
		NN14	51X-3, 18-19	C	M					F	F		C			C	R	R							C
			51X-CC	A	M-G					C	F		C				R	R					S	R	
			52X-3,	A	M								C			C						R			
			52X-6, 19	A	M					R	R		C			F	F	R	R						R
		NN13	52X-6, 23	A	M					F	F		C			F		R							
			52X-CC	A	M		S			F	F		C					R			S				
			53X-3, 20-21	A	M					R	C		C		F	C		R				S			
			53X-CC	C	M	S				F	F		C					F						R	
			53X-3, 20-21	A	M-G																				
			54X-3, 82-84	C	M-G					F	C		C		F	C		F		R	F	F		F	F
		NN12b	54X-5, 89-91	A	M					F	F		C												
			54X-CC	C	M			S		F	F		C					F							
			55X-3, 21-22	A	M					R	C		C		C			R		R				R	
			55X-CC	A	M						F		C		F	C		F							
			56X-3, 20-21	C	M-G						C		C		F	F		R							
			56X-CC	A	P						F		C		C	C		R							
			57X-1, 21-22	A	M					R	F		C		F			F							F
			57X-CC	A	P					F	F				C	C									
Mio.		NN7 - NN11	60X-1, pc. 1	F	M					R		R	R	R		R								R	
			60X-1, pc. 4	A	P					R	R	R	F	F											
			60X-CC	F	P					R		S	F	R										R	

						Helicosphaera carteri	Helicosphaera intermedia	Helicosphaera s. stalis	Helicosphaera sellii	Lithostromation perdurum	Pontosphaera indooceanica	Pontosphaera japonica	Pseudoemiliania lacunosa - C	Pseudoemiliania lacunosa - E	Pyrocyclus hermosus	Reticulofenestra gelida		Reticulofenestra minuta	Reticulofenestra minutula s.l.	Reticulofenestra pseudoumbilicus	Rhabdosphaera claviger	Rhabdosphaera procera	Scapholithus fossilis	Scyphosphaera spp.	Sphenolithus abies	Sphenolithus moriformis	Sphenolithus neoabies	Syracosphaera histrica	Thoracosphaera heimi	Thoracosphaera saxea	Umbilicosphaera jafari	Umbilicosphaera mirabilis	Umbilicosphaera sibogae		Reworked Cretaceous spp.	Reworked Paleogene spp.	Reworked Neogene spp.
Pliocene	middle	NN17	40X-5, 18-19	A	G	R			F				F	C		R		C	C									F							R		
			40X-CC	A	M-G	F			F			F		C				A	A																		
			41X-1, 24-25	A	M-G	F			R				F	F				C	A													R			R	R	R
		NN16B	41X-2, 23-24	A	M-G	R			P				F	C				A	A																		
			41X-3, 23-24	A	G	R			R					C		F		C	A		R										R				R		
			41X-CC	A	G	R			C				F	C		F		C	A					R				F									
			42X-3, 20-21	A	G									C		F		C	C													R					
			42X-CC	A	M-G																																
			43X-3, 20-21	A	M								F	C		F		C	A											R		R			R		
			43X-CC	A	M-G								F	A				A	C																		
			44X-3, 20-21	C	M-G	F			F					C		F		C	C						R												
			44X-CC	A	G	C			C		F			A				A	C																		
		NN16A	45X-1, 20-21	A	M								F	C				C	F																		
			45X-3, 20-21	A	M				F				F	C	R	F		C	C																		
			45X-CC	A	M-G									A				A	C					R			S										V
			46X-3, 20-21	A	M-G	F			F				F	F				F	C		R														R	R	
			46X-CC	A	M-G				F			R		A		C		A	A	S																	
			47X-3, 20-21	A	M-G									F				F	C																		
		NN15	47X-5, 21-22	A	M-G	F			F					F		R		C	C	V												R					
			47X-CC	A	G				F			R	C	A				A	A	R				R													
			48X-3, 17-18	A	G	R			R				F	F				F	C		R											R			R		
			48X-CC	A	G	R			R				F	C				C	A	R				F								R					
			49X-3, 20-21	A	M								F						C																		
			49X-CC	A	G				F				C	C				C	A	R	R				R							R					
			50X-3, 18-19	C	M	R			R				R	R		R			A		R	R	V	F				F		R		S			R	R	
			50X-CC	A	M-G	F			R	S				R		R		C	A	R												S			F		
			51X-2, 21-22	C	M-G	R			R					R		R			C	R				R											R		R
		NN14	51X-3, 18-19	C	M	R			R				F	F		R		F	C	F							R					S			R		
			51X-CC	A	M-G									F				A		C	R			R	F							S			F		
			52X-3,	A	M				R					R				F	C	F				R													
			52X-6, 19	A	M	R			R					F				F	C	C			V									S					
		NN13	52X-6, 23	A	M													F	C	F																	
			52X-CC	A	M	F	R													C	R			R	F										C		
			53X-3, 20-21	A	M	F									R	F			C	F				R	R		R					R			R		
			53X-CC	C	M	F	V												C	F				R											F		
			53X-3, 20-21	A	M-G																																
			54X-3, 82-84	C	M-G											F		F	C	F				F	C												
		NN12b	54X-5, 89-91	A	M	F	R											F	C	F				F	R										R		
			54X-CC	C	M		R												F					R	F												R
			55X-3, 21-22	A	M	F										F		F	C	C		R	V	R	C												
			55X-CC	A	M														A	F				R	C												
			56X-3, 20-21	C	M-G	R										F		F	C	C					C												
			56X-CC	A	P													R	A	F					C												
			57X-1, 21-22	A	M	F	R									F			C	C		R			C							R			R		
			57X-CC	A	P	C													A				R														
Mio.		NN7 - NN11	60X-1, pc. 1	F	M	R	R									R				R					R										R		
			60X-1, pc. 4	A	P															F					R										F		
			60X-CC	F	P		R	R																	R	R									F	R	