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6. Data Report: Calcareous Nannofossil Biostratigraphy of Site 1127, Ocean Drilling Program Leg 182[1]

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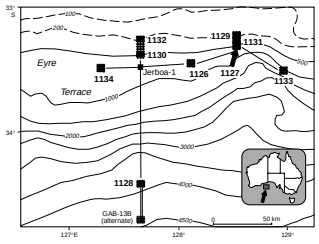
INTRODUCTION

Ocean Drilling Program (ODP) Leg 182 drilled at nine sites on the Great Australian Bight, which is located directly south of the Australian continent (Fig. F1). Leg 182 proposed to examine the paleoceanographic evolution of a midlatitude, cool-water carbonate platform. During drilling on the Great Australian Bight, three sites (1127, 1129, and 1131) recovered highly expanded Pleistocene sections. This paper presents the detailed calcareous nannofossil biostratigraphy of the most distal site. This report should provide a useful Pleistocene biostratigraphic reference for this previously unknown area.

METHODS

The nannofossil biostratigraphy presented here is based on examination of slides prepared using a dilution settling technique to create an even distribution of nannofossils on each slide. Each sample was examined with a Zeiss Photomicroscope III under 1560× magnification, using cross-polarized light. Several traverses were made, and relative abundance of individual species, overall abundance of nannofossils, and assemblage preservation were recorded for each sample using BugWin software (BugWare, Inc.). Bibliographic references for the species used in this paper can be found in Perch-Nielsen (1985) and Bown (1998). The Gartner (1977) zonation was used because it provides a more detailed breakdown of the Pleistocene than either of the zonations by Martini (1971) or Okada and Bukry (1980).

F1. Leg 182 drill sites in the western Great Australian Bight, p. 5.



[1]Ladner, B.C., 2002. Data report: Calcareous nannofossil biostratigraphy of Site 1127, Ocean Drilling Program Leg 182. *In* Hine, A.C., Feary, D.A., and Malone, M.J. (Eds.), *Proc. ODP, Sci. Results,* 182, 1–11 [Online]. Available from World Wide Web: <http://www-odp.tamu.edu/publications/182_SR/VOLUME/CHAPTERS/013.PDF>. [Cited YYYY-MM-DD]
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Abundances of individual taxa are represented by letter codes and were recorded according to the following definitions:

S = single; 1 specimen observed.
R = rare; 1 specimen per 101–1000 fields of view.
F = few; 1 specimen per 11–100 fields of view.
C = common; 1 specimen per 2–10 fields of view.
A = abundant; 1–10 specimens per field of view.
V = very abundant; 10–100 specimens per field of view.

The same definitions were used for estimates of total abundance in each sample, with an added definition

B = barren of nannofossils.

The preservation of nannofossils can vary significantly because of etching, dissolution, or calcite overgrowth. Finding pristine specimens in the same sample as specimens that are severely overgrown or etched is not uncommon. The state of preservation of the nannofossil assemblages in this paper was recorded as follows:

G = good preservation; little or no evidence of dissolution and/or overgrowth, primary diagnostic features preserved, and specimens are identifiable to the species level.
M = moderate preservation; specimens exhibit some etching and/or overgrowth, primary diagnostic features somewhat altered, but most specimens are identifiable to the species level.
P = poor preservation; specimens are severely etched or exhibit overgrowth, primary diagnostic features largely destroyed, fragmentation has occurred, and many specimens cannot be identified to the species and/or generic level.

Age-depth plots were constructed using the nannofossil datums. Ages for the nannofossil datums were obtained from Berggren et al. (1995) and Sato and Kameo (1996).

SITE SUMMARY

Site 1127 was the deepest site (479.3 meters below sea level) of a depth transect of three sites (1127, 1129, and 1131) oriented perpendicular to the coast (Fig. F1). Sediments recovered from Hole 1127B indicate a highly expanded Pleistocene section (Table T1). The sediments recovered were very fine to fine grained, heavily bioturbated, unlithified to partially lithified, greenish gray wackestone to packstone (Shipboard Scientific Party, 2000b). Calcareous nannofossils found at Site 1127 were moderately to well preserved and generally abundant in each sample.

Samples 182-1127B-1H-1, 120–121 cm (1.20 mbsf), through 4H-1, 120–121 cm (26.10 mbsf), were placed in the *Emiliania huxleyi* Acme Zone, based upon the dominance reversal to abundant *E. huxleyi* from large *Gephyrocapsa*. The first occurrence (FO) of *E. huxleyi* in Sample 182-1127B-15H-7, 120–121 cm (137.71 mbsf), marks the base of the *E. huxleyi* Zone. The last occurrence of *Helicosphaera inversa* should be located within this zone but was not recognized here.

T1. Distribution of calcareous nannofossils, Hole 1127B, p. 7.

Samples 182-1127B-19X-1, 120–121 cm (168.70 mbsf), through 25X-3, 120–121 cm (226.50 mbsf), are placed in the *Gephyrocapsa oceanica* Zone based on the absence of *Pseudoemiliania lacunosa.* The last occurrence (LO) of *P. lacunosa,* which marks the top of the *P. lacunosa* Zone, is found in Sample 182-1127B-26X-1, 120–121 cm (233.10 mbsf). The FO of *H. inversa* is located in Sample 182-1127B-29X-1, 120–121 cm (262.00 mbsf), and the LO of *Reticulofenestra asanoi* was noted in Sample 182-1127B-39X- 1, 120–121 cm (358.20 mbsf). The *P. lacunosa* Zone persists through Sample 182-1127B-40X-3, 120–121 cm (370.80 mbsf).

The LO of dominantly small *Gephyrocapsa,* found in Sample 182-1127B-41X-1, 120–121 cm (377.40 mbsf), marks the top of the small *Gephyrocapsa* Zone. The position of the FO of *R. asanoi* in Sample 182-1127B-44X-1, 120–121 cm (406.01 mbsf), near the bottom of this zone suggests that the *Helicosphaera sellii* Zone is absent as a result of a hiatus or erosional surface.

Sample 182-1127B-44X-5, 120–121 cm (412.01 mbsf), marks the top of the *Calcidiscus macintyrei* Zone that persists through Sample 182-1127B-50X-3, 144–146 cm (466.94 mbsf). The bottom of this zone marks the lowermost Pleistocene sediments found at this site and is recognized by the absence of *Discoaster* spp. This zone also contains a possible FO of *Gephyrocapsa oceanica* in Samples 182-1127B-49X-3, 120–121 cm (457.10 mbsf). This FO is problematic because preservation degrades near the bottom of the Pleistocene sequence and could result in *G. oceanica* not being recognized between this occurrence and a single rare occurrence in Sample 182-1127B-50X-3, 144–146 cm (466.94 mbsf).

AGE-DEPTH PLOT

Biostratigraphic datum levels from Table T1 are summarized in Table T2. Age estimates for the datums were obtained from Berggren et al. (1995) and Sato and Kameo (1996). The age-depth plot (Fig. F2) indicates highly accelerated sedimentation from the present day until 420 ka (averaging 625 m/m.y.), then slows during the period between 420 and 950 ka, where it drops to an average of 265 m/m.y.

There is a period of slower sedimentation between 950 ka and 1.16 Ma, where the average is closer to 135 m/m.y. and again between 1.16 and 1.59 Ma, where the rate drops to 15 m/m.y. This level may represent a hiatus. This rate could be affected by the reliability of the location of *Calcidiscus macintyrei.* This fossil occurs sporadically at this site, which may affect the reliability of this datum. In addition, many of the specimens have considerable overgrowth and could possibly be reworked. Rates between 1.59 and 1.95 Ma are an estimate only, averaging 160 m/m.y. It is possible that the true base of the Pleistocene (marked here at 1.95 Ma) is not found at this site.

T2. Age-depth plot data, Site 1127, p. 11.

F2. Age-depth plot of nannofossil datums, p. 6.

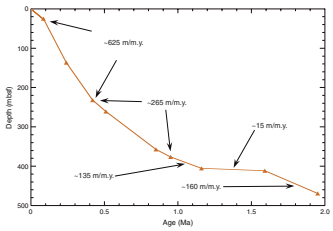

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Figure F1. Leg 182 drill sites in the western Great Australian Bight (adapted from Shipboard Scientific Party, 2000a, p. 45). Arrow = Site 1127.

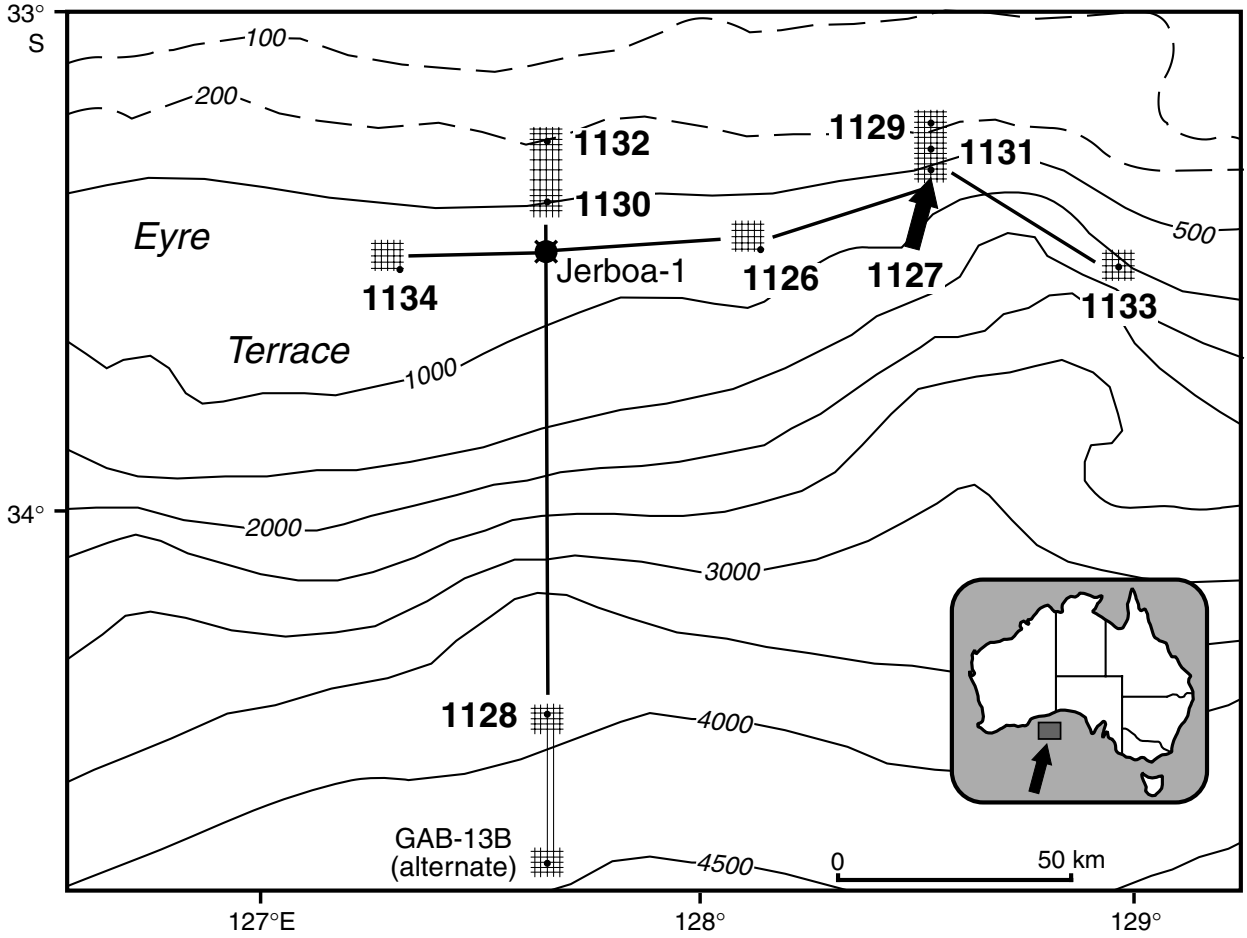

Figure F2. Age-depth plot of nannofossil datums in Hole 1127B (see Table T2, p. 11, for datums used in this plot). Ages obtained from Berggren et al. (1995) and Sato and Kameo (1996).

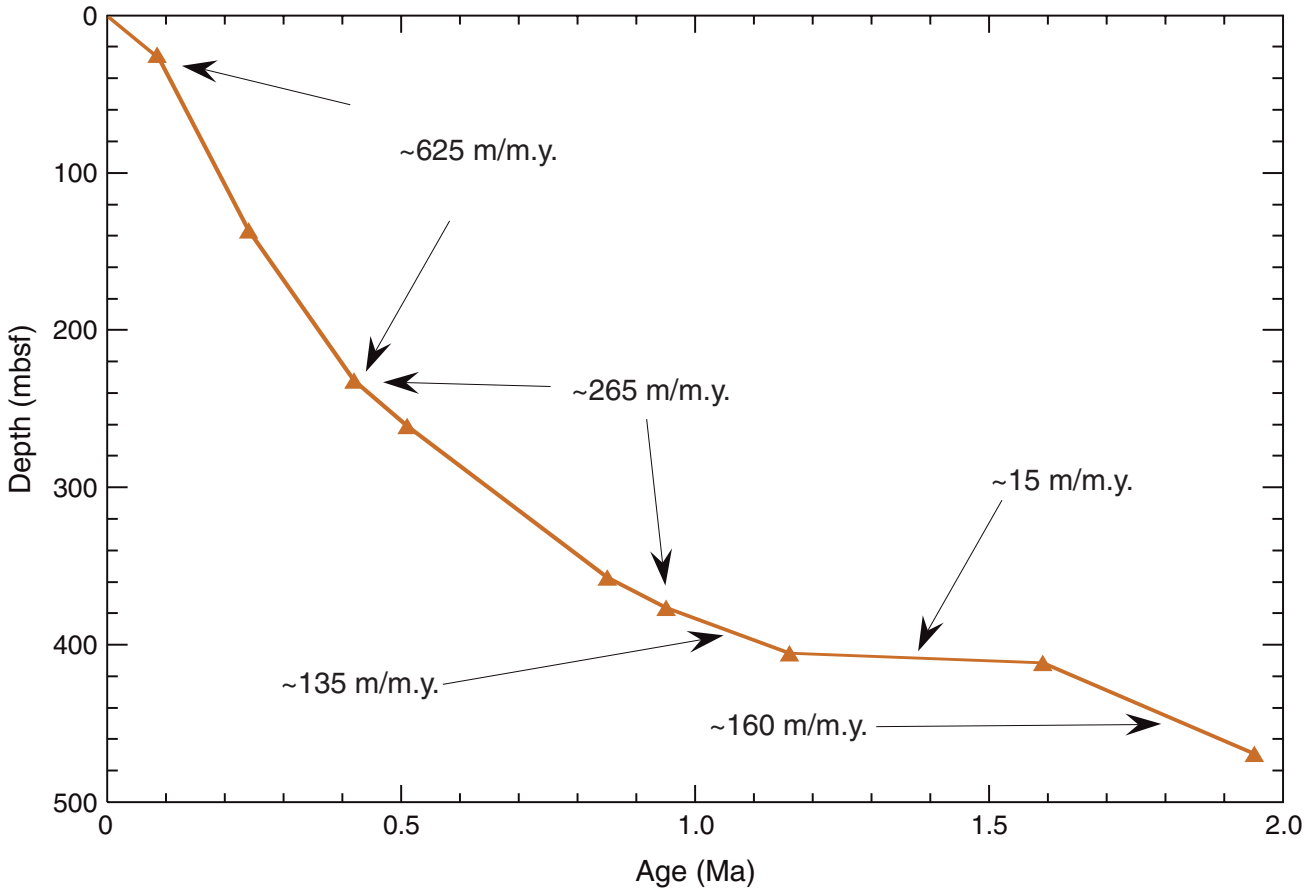

Table T1. Distribution of calcareous nannofossils, Hole 1127B. (See table notes. Continued on next three pages.)

Gartner zones (1977)	Core, section, interval,	Depth (mbsf)	Total abundance	Sample preservation	Reworked Cretaceous	Reworked Paleogene	*Braarudosphaera bigelowii*	*Braarudosphaera plate*	*Calcidiscus leptoporus*	*Calcidiscus macintyrei*	*Coccolithus pelagicus*	*Dictyococcites productus*	*Discosphaera tubifera*	*Emiliania huxleyi*	*Gephyrocapsa caribbeanica*	*Gephyrocapsa caribbeanica* (<4 µm)	*Gephyrocapsa aperta*	*Gephyrocapsa ericsonii*	*Gephyrocapsa muellerae*	*Gephyrocapsa oceanica*	*Gephyrocapsa oceanica* (<4 µm)	*Gephyrocapsa parallel*	*Helicosphaera carteri*	*Helicosphaera hyalina*	*Helicosphaera inversa*	*Helicosphaera sellii*	*Helicosphaera wallichi*	*Oolithotus fragilis*	*Pontosphaera discopora*	*Pontosphaera* spp.	*Pseudoemiliania lacunosa*	*Pseudoemiliania lacunosa ovata*	*Rhabdosphaera clavigera*	*Reticulofenestra asanoi*	*Scapholithus fossilis*	*Sphenolithus moriformis*	*Syracosphaera pulchra*	*Umbellosphaera irregularis*	*Umbilicosphaera sibogae*
	182-11127B-																																						
Emiliania huxleyi Acme Zone	1H-1, 120–121	1.20	V	M			R		C			F		A	C		C	F	F	A			F	F									F		R		F	C	C
	1H-3, 120–121	4.20	V	G			R		R			F		A	R		F	F	A	F			R										R		R		R	R	F
	2H-1, 120–121	7.10	V	G	1				R			F		A	R		F		C	A			R	R						R			R		R		R		C
	2H-3, 120–121	10.10	V	G			F	F	C			F		A			F	F	A	F			R	R									R		R		F	R	F
	2H-5, 120–121	13.10	V	G					F			F		A			R	F	A	R			R	R									R		R		F	R	R
	3H-1, 120–121	16.60	V	G			R		F			F		A			A	A	F	C			F										R				R		R
	3H-3, 120–121	19.60	V	G			1		F	1		F		A			A	C	A	A			F	F													1		
	4H-1, 120–121	26.10	V	G			1		R			F		A			A	C	A	A			R														R	R	
Emiliania huxleyi Zone	4H-3, 120–121	28.03	V	G			R					F		C			C	C	A	C															R			R	
	5H-1, 120–121	35.60	V	G			R		F			F		C			C	C	A	C			F										R		R				
	5H-3, 120–121	38.60	V	G			R		C			F		F			C	C	A	C			F										F		R		F		R
	5H-5, 120–121	41.60	V	G			R	R	F			F		F			C	C	A	C			F												1		R		R
	6H-1, 120–121	45.10	V	G			R		F			F		C			C	A	A	C			F										R		F				R
	6H-3, 120–121	48.10	V	G					R			F		F	R		C	A	C	C			F												R		R		
	6H-5, 121–122	51.11	A	G					F		F	F		F				F	A	C			R										F		F		R	R	F
	7H-1, 120–121	54.60	A	G	1		R		F		F	F		F			F	C	A	A			F						R						F		F		
	7H-3, 120–121	57.60	V	G			F		F		F	F		F			A		A	C			R						R				F		R		F	R	R
	7H-5, 120–121	60.60	A	G			R		F			F		C			C	A	C	C			F										F		F		F		F
	8H-1, 120–121	64.10	A	G					R			F		F	R		R	A	C	A			R						R				F		F		R	1	R
	8H-3, 120–121	67.10	A	G			R		C			F		F	R		F	A	A	A													R		R		R		
	8H-5, 120–121	70.10	A	G					F			F		F			C	A	A	C			F										R		R				
	9H-1, 120–121	73.60	A	G			R		R			F		F	R		F	F	C	F			F												R				
	9H-3, 120–121	76.60	A	G			R		F			F		F			C	C	C	C																			
	9H-5, 120–121	79.53	A	G			R	R				F			C		A	A	C	C																			R
	10H-3, 120–121	84.99	A	G		1			R	1		F			F		A	C	C	C			F					F					F		R		F	R	
	10H-5, 120–121	87.99	A	G			R					F		F	F		C	C		F			F						R				F						
	11H-1, 120–121	92.60	A	M				R	R			F			R		C	C	A	F			R										R				R	R	
	11H-5, 120–121	98.58	A	M					R			F		F	R		C	C	C	C			F										R		R		R	R	
	12H-2, 119–120	102.83	A	M			F	R	F		R	F		F	R			C	C	F			R										F				R		
	12H-3, 119–120	104.33	A	M					R		F	F	R	F	F		F	A	A	C			R					F		R								F	
	12H-5, 119–120	107.33	A	M				R	R		1	F		F	R		C	C	C	C			F																
	13H-1, 120–121	111.60	V	M								F			C		A	A	A	C			C					R							F		F	R	R
	13H-3, 120–121	114.60	A	M					R			F		R			F	C	C	A			R					R							R		R		R
	13H-5, 120–121	117.32	V	M				R	R			F		F	R		A	A	A	A			F					F					F		R		F	R	F
	14H-2, 120–121	121.75	A	M			R		F			F	R	F	C		C	C	A	C			F					R					F		R		F	R	
	14H-3, 120–121	123.25	A	M			R		R			F		C	C		F	C	A	F			R														R		
	14H-5, 120–121	126.25	A	M				R	F		1	F		F	C		C	A	A	C			R										R		R		R		
	15H-2, 120–121	131.36	A	M					R			F		F	C		C	C	A	F																			

Table T1 (continued).

Gartner zones (1977)	Core, section, interval,	Depth (mbsf)	Total abundance	Sample preservation	Reworked Cretaceous	Reworked Paleogene	*Braarudosphaera bigelowii*	*Braarudosphaera plate*	*Calcidiscus leptoporus*	*Calcidiscus macintyrei*	*Coccolithus pelagicus*	*Dictyococcites productus*	*Discosphaera tubifera*	*Emiliania huxleyi*	*Gephyrocapsa caribbeanica*	*Gephyrocapsa caribbeanica* (<4 µm)	*Gephyrocapsa aperta*	*Gephyrocapsa ericsonii*	*Gephyrocapsa muellerae*	*Gephyrocapsa oceanica*	*Gephyrocapsa oceanica* (<4 µm)	*Gephyrocapsa parallel*	*Helicosphaera carteri*	*Helicosphaera hyalina*	*Helicosphaera inversa*	*Helicosphaera sellii*	*Helicosphaera wallichi*	*Oolithotus fragilis*	*Pontosphaera discopora*	*Pontosphaera* spp.	*Pseudoemiliania lacunosa*	*Pseudoemiliania lacunosa ovata*	*Rhabdosphaera clavigera*	*Reticulofenestra asanoi*	*Scapholithus fossilis*	*Sphenolithus moriformis*	*Syracosphaera pulchra*	*Umbellosphaera irregularis*	*Umbilicosphaera sibogae*
	15H-3, 120–121	132.86	V	M			R		F		R	F		R	C		A	F	A	C			R										R		R		R		
Emiliania huxleyi Zone	15H-5, 120–121	135.86	A	M				R	R		R	F		R	C		C	C	A	C																	R		
	15H-7, 120–121	137.71	V	M			F		F			C		R	A		C	C	A	C			F														F		
	16H-1, 120–121	140.10	V	M			R		F			C			A		C	C	A	C			R										F		R		F		R
	16H-3, 120–121	143.10	A	M			R					C			C		F	F	C	C			R												F				
	16H-4, 120–121	144.60	A	M					R			F			C			F	A	A			R												F		F	R	
	17X-1, 120–121	149.60	A	M				R	R			F			C			F	A	C			F										R				F		
	17X-3, 120–121	142.60	A	M					F			C			A			F	A	C			R												R		F		
	18X-1, 120–121	156.10	A	M				R	F			F			C				A	C			R										R		F		F		
	18X-3, 120–121	159.10	A	M			F		F			F			F		C	F	A	A			F										R		F				
	19X-1, 120–121	165.70	A	M			R		F		F	F			C			F	A	C			F										1				F		
	19X-3, 120–121	168.70	A	M			R		F		F	F			C		C		A	C													F				F		F
	20X-1, 120–121	175.30	A	M			F	R	F			F			C		C		A	C			R										R		R		F		
	20X-3, 120–121	178.30	V	M	R		R				R	F			C		A		A	A			C					R					F		R		F		
Gephyrocapsa oceanica Zone	21X-1, 119–120	184.89	V	M			R	R	F			C			A		A	C	A	F			F						1				R				F		R
	21X–3, 120–121	187.61	A	M			1	R	F			F			C		C	F	A	C			F														F	R	F
	21X–6, 120–121	191.69	A	M			R		F			F			C			F	A	C			F														R	R	R
	22X-1, 120–121	194.60	A	M			1	R	F			F			C			F	A	C			C		1								F		R		F		
	22X-3, 120–121	197.60	A	M			R	R	F			F			C				A	C			F						1				F		R		R		
	23X-1, 120–121	204.20	A	M				R	R			F			C		C	C	C	F			F												F				
	23X-3, 120–121	207.20	A	M			R	R				C			A			C	A	C			F										R		R		R		R
	23X-5, 120–121	210.20	A	M				R	F			F			C		C		A	F			F												R			R	
	24X-1, 120–121	213.80	A	M								C			A		C		A				F																
	24X-3, 120–121	216.80	A	M					F			C	1		A				A	F			F										F		R		F		
	25X-1, 120–121	223.50	A	M					F		R	C			A				A	F								R					F						
	25X-3, 120–121	226.50	V	M			R		F		R	C			A			C	A				F		F				R						F	1	F		F
	26X-1, 120–121	233.10	A	M			R	F	F			C			A				A	A			F				R				C	R	F		R		F		
	26X-3, 120–121	236.10	A	M			R					C			C				A	C			F						R		F	C	F		F		F		
	27X-1, 120–121	242.70	A	M		1					F	C			A		F		A				R								F	R					F		
	27X-3, 120–121	245.70	A	M			R	R	R			C			A				A	C			F				R						R		R		F		R
	27X-5, 120–121	248.70	A	M								C			A				A	C			F								F						F		
	28X-1, 120–121	252.30	A	M			R	R				C	R		A	F			A		F		F						R		F	R							
Pseudoemiliania lacunosa Zone	28X-3, 120–121	255.30	A	M					F			C			A		F		C	F											F						F		
	28X-5, 120–121	258.30	A	M			R	R	F			F			C	F			A				F		R				R		F	F			R		F		R
	29X-1, 120–121	262.00	A	M			R		F			F			C	C			C	C			F		R										F		F		R
	29X-3, 120–121	265.00	A	M					F			C			A	C			A	C			F								F		F			1	F		
	29X-5, 120–121	268.00	A	M			R	R	F			C			A				A	F			C								F	R	R						R
	30X-1, 119–120	271.59	A	M			C	R	F			C			A				A	F			F								F		F		R		F		
	30X-3, 121–122	274.61	A	M					F			C			A				A	C			F								R	R					F		R

Table T1 (continued).

Gartner zones (1977)	Core, section, interval,	Depth (mbsf)	Total abundance	Sample preservation	Reworked Cretaceous	Reworked Paleogene	*Braarudosphaera bigelowii*	*Braarudosphaera plate*	*Calcidiscus leptoporus*	*Calcidiscus macintyrei*	*Coccolithus pelagicus*	*Dictyococcites productus*	*Discosphaera tubifera*	*Emiliania huxleyi*	*Gephyrocapsa caribbeanica*	*Gephyrocapsa caribbeanica* (<4 µm)	*Gephyrocapsa aperta*	*Gephyrocapsa ericsonii*	*Gephyrocapsa muellerae*	*Gephyrocapsa oceanica*	*Gephyrocapsa oceanica* (<4 µm)	*Gephyrocapsa parallel*	*Helicosphaera carteri*	*Helicosphaera hyalina*	*Helicosphaera inversa*	*Helicosphaera sellii*	*Helicosphaera wallichi*	*Oolithotus fragilis*	*Pontosphaera discopora*	*Pontosphaera* spp.	*Pseudoemiliania lacunosa*	*Pseudoemiliania lacunosa ovata*	*Rhabdosphaera clavigera*	*Reticulofenestra asanoi*	*Scapholithus fossilis*	*Sphenolithus moriformis*	*Syracosphaera pulchra*	*Umbellosphaera irregularis*	*Umbilicosphaera sibogae*
Pseudoemiliania lacunosa Zone	30X-5, 121–122	277.61	A	M				R	F		F	C			A				A	C			F					R			F		F		R			R	
	31X-1, 120–121	281.20	A	M			F		F			F			C	F	F		C	C			F								F	F	F						
	31X-3, 117–118	284.17	A	M			F	R	F		R	F			C				C	F			F								C	F			F		F		
	31X-5, 120–121	287.20	A	M			R		F			F			A	F			A	C			R					R			F				F		F		F
	32X-1, 120–121	290.90	A	M			R	R				F			A				C	C			F								F		F				F		
	32X-3, 120–121	293.90	A	M			R	R	F			F			C	C			C	F			F								F								
	33X-1, 120–121	300.50	A	M			R	R	F			F			A	C			A	C	F		R								F		F		R		F		
	33X-3, 120–121	303.50	A	M			F	F	F		F	F			C	A			C	F	C		F								F		F				F		
	33X-5, 120–121	306.50	A	M			R	R	F			F			C		F		C	F	F		F						F		F		F				F		
	34X-1, 120–121	310.10	A	M					F			F				F			C	C			C						F		C	F	F		F		F		
	34X-3, 120–121	313.10	A	P			R	R	F			F			R	C			F		C		F								F		F				F		
	34X-5, 120–121	316.10	A	P					R			F			F	C	C		C	F	C		F								F	F	F				F		F
	35X-1, 120–121	319.70	A	M			F		F			F			F	C	C		C	F	F		F								F	F			R				
	35X-3, 120–121	322.70	A	M			F	R	F			F			F	C	F		C	F	F		F						F		C	F					F		
	35X-5, 120–121	325.70	A	M				R				F			F	C	C		C	F	F		F						R		F						F		
	36X-1, 120–121	329.30	A	M				R	F			F			C	C			C	C	1		F						R		F						F		
	36X-3, 120–121	332.30	A	M			R		F			F			F	C	C		F	R			F								F						F		
	37X-1, 120–121	338.90	A	M			R		R			F			F	C	C		C	F			F								F	F	R				F		
	37X-3, 120–121	341.90	A	M				R	F			C			F	C	A		C	C			F								F		F		R		F		F
	37X-5, 120–121	344.90	A	M			F	R	F			F			F	C	C		F	F	F		F						R		F				F		F		R
	38X-1, 120–121	348.50	A	M			R	R				F			C	C	C		C	C			F						R				R		R				R
	38X-3, 122–123	351.52	A	M			R	F	F			C				A	A		A		C		F						F		F		F				F		F
	38X-5, 120–121	354.50	A	M				1	F			C			C	A	C		A	F			F																R
	39X-1, 120–121	358.20	A	M								F			F	F	F		A	C			F								C	F		R	C		F		C
	39X-3, 120–121	361.20	A	M			F	R	F		R				C		C		C	C	F	R	F						R		C	F	R	F			F		
	40X-1, 120–121	367.80	A	M				R	F		F	F			F		F		C	F			F						R		F	F	R	C					F
	40X-3, 120–121	370.80	A	M					F		R	F			F		F		A	F			F						F		C		R	C			F		
small *Gephyrocapsa* Zone	41X-1, 120–121	377.40	A	M					R			F				F	C		C		C		R						R		C		1	R					
	41X-3, 120–121	380.40	A	M				1	F							C	C		C		C		F						R		C			F			F		
	41X-5, 120–121	383.40	V	M			R	R	F			F				C	C		A		F		C						F		C		R	R			F		
	42X-1, 120–121	386.80	A	M			F	R	F		R	C				F	C		C		F								R		C			F					R
	42X-3, 120–121	389.80	A	M				R	F			C				C	C		C		F		F								C			C			F		
	42X-5, 120–121	392.80	A	M					F			C				F	C		A		F		F						F		C			R	R		F		F
	43X-1, 120–121	396.40	A	M				R	F			C				C	C		C		F		F						R		C		F	F	R		F		R
	43X-3, 120–121	399.40	A	M				R	F			C				F	C		C		F		F						F		C	F	F	F			F		
	44X-1, 120–121	406.01	A	M				R	R			C			F		C		C										R		C		R	R					R
	44X-3, 120–121	409.01	A	M				R	F			C			F		C		A	R			F						R		C		R				F		R

Table T1 (continued).

Gartner zones (1977)	Core, section, interval,	Depth (mbsf)	Total abundance	Sample preservation	Reworked Cretaceous	Reworked Paleogene	*Braarudosphaera bigelowii*	*Braarudosphaera plate*	*Calcidiscus leptoporus*	*Calcidiscus macintyrei*	*Coccolithus pelagicus*	*Dictyococcites productus*	*Discosphaera tubifera*	*Emiliania huxleyi*	*Gephyrocapsa caribbeanica*	*Gephyrocapsa caribbeanica* (<4 µm)	*Gephyrocapsa aperta*	*Gephyrocapsa ericsonii*	*Gephyrocapsa muellerae*	*Gephyrocapsa oceanica*	*Gephyrocapsa oceanica* (<4 µm)	*Gephyrocapsa parallel*	*Helicosphaera carteri*	*Helicosphaera hyalina*	*Helicosphaera inversa*	*Helicosphaera sellii*	*Helicosphaera wallichi*	*Oolithotus fragilis*	*Pontosphaera discopora*	*Pontosphaera* spp.	*Pseudoemiliania lacunosa*	*Pseudoemiliania lacunosa ovata*	*Rhabdosphaera clavigera*	*Reticulofenestra asanoi*	*Scapholithus fossilis*	*Sphenolithus moriformis*	*Syracosphaera pulchra*	*Umbellosphaera irregularis*	*Umbilicosphaera sibogae*
	44X-5, 120–121	412.01	A	M			R		F	R		C					C		A				F						F		C	F	R						F
	45X-1, 120–121	415.60	A	M					C	R	F	F			F		C		C				F						F		C	C			R				F
	45X-3, 120–121	418.60	A	M			1	R	F			C			C		C		A				F						F		C	C	R				F		R
	45X-5, 120–121	421.60	V	M			R		C	R		C			F		C		A	R	F		F					R	F		C	C	F				F		F
	46X-1, 120–121	425.20	A	M			R	F	F	R		C			F		C		A				F						F		F	C					C	R	
	46X-3, 120–121	428.20	A	M			F	R	F	R	R	F			C		C		C	R			F						F		C		F				C		F
	47X-1, 120–121	434.90	A	M			R	R	F			F			F		C		C										F		C		F				F	R	
	47X-3, 120–121	437.90	A	M			1		F	R		F			F		C		C	R			F						R		C		F						R
Calcidiscus macintyrei Zone	48X-1, 120–121	444.50	A	M			R		F	F	F	C			C		A		A				F						F				F				F		
	48X-3, 120–121	447.50	A	M			F	F		R	F	F			C		C		C												C	C	F						F
	48X-5, 101–102	450.31	V	M			R		F	F		C			C		A		A	F			C						C		C	C	C				C		R
	49X-1, 120–121	454.10	A	M					F	F		F			C		C		C	F			F			R			F										
	49X-3, 120–121	457.10	A	M			R	F	F	F		C			C		C		A	R									C		C	F	F				C		
	49X-5, 09–11	458.99	A	M			F	C	F		R	C					C		A										F			C	F				F	R	
	49X-CC, 34–37	459.62	A	M			R	C				C					F		C										F										
	50X-1, 120–121	463.70	A	M			F	F		F		A			C		C		A				F						R		F						F		F
	50X-3, 144–146	466.94	A	M				R	F		F	A			C		C		C	R			F						F		F	F					F		

Notes: Total abundance: V = very abundant, A = abundant. Sample preservation: G = good, M = moderate, P = poor. R = rare, F = few, C = common. 1 = one speciman noted.

Table T2. Age-depth plot data, Site 1127.

Nannofossil datum	Datum type	Depth (mbsf)	Age (Ma)	References
Emiliania huxleyi	Acme	26.10	0.085	1
Emiliania huxleyi	FO	137.71	0.240	2
Pseudoemiliania lacunosa	LO	233.10	0.420	2
Helicosphaera inversa	FO	262.00	0.510	2
Reticulofenestra asanoi	LO	358.20	0.850	2
Small *Gephyrocapsa* spp.	LO	377.40	0.950	2
Reticulofenestra asanoi	FO	406.01	1.160	2
Calcidiscus macintyrei	LO	412.01	1.590	1
Discoaster brouweri	LO	469.70	1.950	2

Notes: FO = first occurence, LO = last occurrence. References: 1 = Berggren et al., 1995, 2 = Sata and Kameo, 1996.