Table T15. Dinoflagellate cyst, pollen, and palynomorph range chart, Holes U1343A and U1343E. (See table notes.) (Continued on next page.)

Core, section	Depth (mbsf) Top	Depth (mbsf) Bottom	Preservation	Marine: Dinoflagellate cysts	Marine: Organic lining of foraminifers	Pollen and spores: *Picea*	Pollen and spores: *Pinus*	Pollen and spores: Pollen (trees)	Pollen and spores: Pollen (shrubs)	Pollen and spores: Pollen (herbs)	Pollen and spores: Total pollen	Pollen and spores: Spores of *Sphagnum*	Pollen and spores: Spores of pteridophytes	Fresh water: *Botryococcus* + *Pediastrum*	Fresh water: *Hallodinium*	Fresh water: Tintinnids	Reworked palynomorphs	Dinoflagellate cyst assemblages: *Bitectatodinium tepikiense*	*Brigantedinium cariacoense*	*Brigantedinium simplex*	*Brigantedinium* spp.	*Dubridinium* spp.	*Filisphaera filifera*	*Impagidinium pallidum*	*Impagidinium* spp.	*Islandinium* cf. *brevispinosum*	*Islandinium minutum*	*Islandinium* morphotype *cesare*	*Nematosphaeropsis lemniscata*	*Operculodinium centrocarpum*	*Operculodinium centrocarpum* - Arctic morphotype	*Operculodinium centrocarpum* var. short processes	*Pentapharsodinium dalei*	*Polykrikos* - Arctic morphotype	*Polykrikos schwartzii*	*Protoperidinium americanum*	*Quinquecuspis concreta*	*Selenopemphix quanta*	*Spiniferites elongatus*	*Spiniferites ramosus*	*Trinovantedinium variabile*	*Votadinium spinosum*
323-U1343A-																																											
1H-CC	5.4	5.5	G	C	R	F	R	C	R	R	C	R	R	F	R	R	R	R	R	F	A			R		R	D			R		R	R	R		R						R
3H-CC	24.6	24.7	G	C	F	C	R	C	R		C	F	F	R	R		R		R	A	A					F	D			R		R	F	R		R	R		R			
5H-CC	43.9	44.0	G	C	R	C		C		R	C	F	F	R			R		R	A	D	R				F	R			R						R						
7H-CC	62.2	62.3	G	A	C	F	R	A	R		A	C	A	C			F		R	A	D					R	F															
8H-4	67.3	67.4	G	C	R	C	R	C	R	R	C	R	R	R	R				R	A	D						A			R	A											
9H-CC	81.9	82.0	G	C	C	C	R	C	R		C	C	C				R		R	A	D						F			A												
10H-6	89.2	89.3	G	A	R	R		R	R	R	F	R	R	R					F	A	D					R	A															
11H-CC	100.5	100.6	G	C	R	C		C	F		C	C	F	C			C		F	A	D																					
12H-7	109.5	109.6	G	A	C	F		F	C	R	C	C		C			R		F	D	D					R	R	R							R	R	R	R				
13H-CC	119.3	119.4	G	A		C		C	F	R	C	C	F	F			R		F	D	D						R										R					
15H-CC	139.1	139.2	M	C	R	C		C	R	R	C	R	R				F		R	A	D				R		D															R
17H-CC	157.3	157.4	M	C	C				R	R	F	R		F			F			R	D					R	A	F	A													
19H-CC	173.8	173.9	P	C	R	R		R	R	R	F	R	R	R			R		F	D	D																					
21H-CC	191.5	191.6	M	A	F	F		F	R		F	R					C		F	A	D						R															
22H-CC	201.7	201.8	M	A	C	C	F	C	C	R	C	C	R	C			C		R	A	D						R			F												
323-U1343E-																																											
2H-CC	17.7	17.8	G	C	C	C	R	C	F	R	C	R	C	R			F		F	A	D					R	A								R							
4H-CC	37.1	37.2	G	A	C	F		F	R	R	C		R	F			R		R	A	D						F			R		R	R				R					
6H-CC	55.5	55.6	M	F	F	C	R	C	F	R	C	C	C	F			R				P						A			P	P											
8H-CC	74.8	74.9	M	C	R	R	R	R	R		F	R	R	R			R		R	F	D						D						R									
10H-CC	90.9	91.0	G	C	F	F		C	R	R	C	C	R	C		R	F			A	D						D															
12H-CC	106.6	106.7	G	A	C	C		C	R	R	C	R	R	R			R		R	A	D						D										R					
14H-CC	116.0	116.1	G	C	C	C	R	C	R		C	C	R	R			R		R	A	D						A										R					
16H-CC	129.5	129.6	G	A	C	A	R	A	F		A	F	C	C			R		R	A	D						R			R							R					
18H-CC	148.2	148.3	G	A	C	C		C	R	R	C	F	R	R			R		R	A	D						D										R					
20H-CC	164.9	165.0	M	A	F	R		R			R	R	R	R			R		R	F	D	R					A			R							R				R	
22H-CC	183.8	183.9	G	C	R				R		R	R							F	D	D						A															
24H-CC	197.5	197.6	G	C					R	R	F	C		C			R		R	A	D						A			R												
26H-CC	217.0	217.1	G	C	C	R	R	F	R		F	F	C	F			R		F	A	D						A			F							R					
28H-CC	234.7	234.8	M	C	C	F	R	F	R	R	C	F	R	C			R		F	A	D						A		F													
30H-CC	254.2	254.3	M	C	F	C		C	F		C	R	F	R			R		R	D	D						R															
32H-CC	272.5	272.6	M	C		C		C			C	F	F	F			F		A	A	D																					
34H-CC	291.2	291.3	M	C		R		R	R		F		R				R		F	A	D																					

Table T15 (continued).

Core, section	Depth (mbsf) Top	Depth (mbsf) Bottom	Preservation	Marine: Dinoflagellate cysts	Marine: Organic lining of foraminifers	Pollen and spores: *Picea*	Pollen and spores: *Pinus*	Pollen and spores: Pollen (trees)	Pollen and spores: Pollen (shrubs)	Pollen and spores: Pollen (herbs)	Pollen and spores: Total pollen	Pollen and spores: Spores of *Sphagnum*	Pollen and spores: Spores of pteridophytes	Fresh water: *Botryococcus* + *Pediastrum*	Fresh water: *Hallodinium*	Fresh water: Tintinnids	Reworked palynomorphs	Dinoflagellate cyst assemblages: *Bitectatodinium tepikiense*	*Brigantedinium cariacoense*	*Brigantedinium simplex*	*Brigantedinium* spp.	*Dubridinium* spp.	*Filisphaera filifera*	*Impagidinium pallidum*	*Impagidinium* spp.	*Islandinium* cf. *brevispinosum*	*Islandinium minutum*	*Islandinium* morphotype *cesare*	*Nematosphaeropsis lemniscata*	*Operculodinium centrocarpum*	*Operculodinium centrocarpum* - Arctic morphotype	*Operculodinium centrocarpum* var. short processes	*Pentapharsodinium dalei*	*Polykrikos* - Arctic morphotype	*Polykrikos schwartzii*	*Protoperidinium americanum*	*Quinquecuspis concreta*	*Selenopemphix quanta*	*Spiniferites elongatus*	*Spiniferites ramosus*	*Trinovantedinium variabile*	*Votadinium spinosum*
36H-CC	311.1	311.2	M	C	R	R	R	F			F			R			R		A	A	D						R																
38H-CC	329.7	329.8	G	C	C	C	F	C	R		C	C	R	F			F		A	D	D						R																
40H-CC	346.7	346.8	G	C	C	C	C	C	F		C	F	R	R			R		F	A	D									R													
42X-CC	359.6	359.7	G	C	F	C	C	C	R		C	C	F	C		R	R	A	R	A	D									R													
44X-CC	376.6	376.7	M	C	R	C	R	C			C	C	C				R			A	D		A																				
46H-CC	398.6	398.7	G	A	F	C	C	C		R	C	C	C	F			R		R	R	A		D	R			R																
48H-CC	412.3	412.4	M	C	F	C		C			C	R	F							A	D		A															R					
50X-CC	428.5	428.6	M	C	F	C		C	C		C		F				F			A	D																						
52X-CC	446.2	446.2	P	R	R	C	F	C	F	R	C	C	R	R			R			P	P																						
54X-CC	463.4	463.5	G	A	F	C		C	F		C	F	F	C			R		R	F	D		D															R			R		
56X-CC	482.6	482.7	M	C	F	R		R	R		F	F		R						A	D		F				F																
58X-CC	502.9	503.0	M	C	F	C		C			C		F	F			R			P	P																						
60X-CC	521.9	522.0	P	C	F	F		F			F								F		D						A										F					
62X-CC	541.8	541.9	M	C	C	C		C	R		C		R	F						F	D		F			F	F															
63X-CC	550.5	550.6	M	C	F	C		C		R	C		F				F			F	F		D				F																
64X-CC	561.1	561.2	M	A		C		C			C	F	C				C				D		D																				
66X-CC	581.0	581.1	P	C	R	C	R	C			C	R	C	R			C			A	D		A																				
68X-CC	599.3	599.4	G	C	R	F		F			F									D	D		R																				
70X-CC	617.9	618.0	M	C		C		C	R		C		R	R							P																						
72X-CC	634.4	634.5	P	F	F	C		C	R		C	R	R				C				P																						
74X-CC	657.4	657.5	M	C		C		C		F	C	C	F				C			P	P																						
76X-CC	675.0	675.1	M	C		C	F	C	F		C	C		F			C				P																						
78X-CC	695.2	695.3	G	A	R	F		F			F	F	R	R			R			R	F		D																				
80X-CC	713.8	713.9	M	F	F	C		C	R	R	C			F			F				P	P	P																				
82X-CC	734.4	734.5	M	F		R		R	F		C	R	R				F				P	P	P																				
84X-CC	743.9	744.0	P	F		F		F	F		C		F				F				P																						

Notes: Absolute abundance: A = abundant (>2000/cm^3), C = common (>200/cm^3), F = few (>100/cm^3), R = rare (<100/cm^3). Relative abundance of dinoflagellate cysts: D = dominant (>30%), A = abundant (>10%), F = few (>5%), R = rare (<5%), P = occurrence (when counts are <20). Preservation: G = good, M = moderate, P = poor.