Table T17. Dinoflagellate cyst, pollen, and palynomorph range chart, Holes U1344A and U1344E. (See table notes.) (Continued on next two pages.)

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 (herbs)	Pollen and spores: Pollen (shrubs)	Pollen and spores: Pollen (trees)	Pollen and spores: Total pollen	Pollen and spores: Spores of *Sphagnum*	Pollen and spores: Spores of pteridophytes	Freshwater: *Botryococcus* + *Pediastrum*	Freshwater: *Halloidinium*	Freshwater: Tintinnids	Reworked palynomorphs	Dinoflagellate cyst assemblages: *Bitectatodinium tepikiense*	*Brigantedinium cariacoense*	*Brigantedinium simplex*	*Brigantedinium* spp.	*Filisphaera filifera*	*Impagidinium* spp.	*Islandinium* cf. *brevispinosum*	*Islandinium immutum*	*Islandinium* morphotype *cesare*	*Lejeunecysta* spp.	*Operculodinium centrocarpum*	*Operculodinium centrocarpum* - Arctic morphotype	*Operculodinium centrocarpum* var. short processes	*Pentapharsodinium dalei*	*Polykrikos* - Arctic morphotype	*Polykrikos schwartzii*	*Protoperidinium americanum*	*Quinquecuspis concreta*	*Selenopemphix nephroides*	*Spiniferites elongatus*	*Spiniferites frigidus*	*Spiniferites ramosus*	*Trinovantedinium variabile*
323-U1344A-																																								
1H-CC	9.00	9.14	G	A		R	R			R	F		C	F			R			F	F		R		D			R	R	R		R		R			R		
2H-CC	18.55	18.75	G	A	F	F	R			F	F		R	R			R			F	D				D			R	R		R	R				R			
3H-CC	28.49	28.72	G	C	R	C				C	C	R	R	R					R	A	D				A			A						R					
4H-CC	37.84	38.22	G	C	R	R				R	R	R	R			R	R		R	A	D				A							R					R		
5H-CC	47.07	47.61	G	A	R	C	R			C	C	R	R	R			R		F	A	D				F			R			R								
6H-CC	56.91	57.29	M	C	R	R	R		R	R	R	R	R	R			R		R	F	D				F			R				R			R				
7H-CC	66.02	66.68	G	C	R	F				F	F	R	R				R		F	D	D				F														
8H-CC	74.72	75.32	G	C	R	R	R	R		R	F	F	R			R				A	D				R										R				
9H-CC	84.52	85.21	G	A	R	C				C	C		R			R	R		F	D	D				F							R							
10H-CC	94.68	95.19	G	C	R	R	R	R	R	F	F	C	F	C			R		F	F	D				A		R	F									R		
12H-CC	113.63	113.96	G	C	R	C	R			C	C	C	C	C			R		F	A	D		R		F			R			A				R				
14H-CC	132.47	132.89	G	A	R	C	R		R	C	C	C	R	F			R		R	A	D				R			A	R	R	R						R		
16H-CC	151.86	152.23	M	A	F	C	R		R	C	C	R	R	R					F	A	D				A			R					R							
18H-CC	170.98	171.34	G	A	R	C			R	F	C	C	C	C			R		R	R	D				D			A	R	F								R	
20H-CC	190.09	190.40	M	C	F	C	R			C	C	R	R	R			F		A	A	D				R														
22H-CC	208.45	208.83	M	C		C		R		C	C	C	R				R			A	D				A														
24H-CC	226.24	226.67	M	C	R	R	R	R		R	C	R	R				R		R	A	D				R			R											
26H-CC	245.00	245.49	M	C	R	C	R			C	C	F		F			R		R	A	D				D										R				
28X-CC	263.51	263.83	M	C	R	C				C	C	C	R	R			R		R	A	D				A														
30X-CC	280.01	280.31	M	C	C	F				F	F	R	R	R						R	D				D														
32X-CC	298.35	299.17	G	A	R	R			R	R	F	R		C					R	F	D				A	R		F									R		R
34X-CC	318.09	318.41	M	A	R	F	R		R	F	C	F	R	R			R		R	A	D				A	R													
36X-CC	338.59	338.89	M	A	R	C	R	R		C	C	R	R	F			R		R	A	D																		
38X-CC	356.47	357.08	M	A	R	C	R	R		C	C	F	C	F		R	R			F	D				D					R									
40X-CC	372.96	373.19	M	F	R	C				C	C	F	C	R			C			P	P																		
42X-CC	397.19	397.51	P	C	R	R	R	R	R	R	F	R	R	R			C		A	A	D																		
44X-CC	414.48	414.98	M	C	C	F	F		R	C	C	F	R	C		R	C			A	D				R			A		R									
46X-CC	433.40	434.10	M	C	R	C	R		R	C	C	R	F	R			F			A	D			R															
48X-CC	451.59	451.69	M	C	R	C	R		R	C	C	F	R	F			F		A	A	D				F										R				
49X-CC	461.10	461.85	M	C	R	F	R			C	C			R			C		F	A	D							R											
50X-CC	473.28	473.49	G	C	R	C	R	R	R	C	C	C	R	F			F		F	A	D	F			F														
51X-CC	482.25	482.67	M	C	R	F				F	F	R	R				R				D	F													R				

Table T17 (continued). (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 (herbs)	Pollen and spores: Pollen (shrubs)	Pollen and spores: Pollen (trees)	Pollen and spores: Total pollen	Pollen and spores: Spores of *Sphagnum*	Pollen and spores: Spores of pteridophytes	Freshwater: *Botryococcus* + *Pediastrum*	Freshwater: *Hallodinium*	Freshwater: Tintinnids	Reworked palynomorphs	Dinoflagellate cyst assemblages: *Bitectatodinium tepikiense*	*Brigantedinium cariacoense*	*Brigantedinium simplex*	*Brigantedinium* spp.	*Filisphaera filifera*	*Impagidinium* spp.	*Islandinium* cf. *brevispinosum*	*Islandinium immutum*	*Islandinium* morphotype *cesare*	*Lejeunecysta* spp.	*Operculodinium centrocarpum*	*Operculodinium centrocarpum* - Arctic morphotype	*Operculodinium centrocarpum* var. short processes	*Pentapharsodinium dalei*	*Polykrikos* - Arctic morphotype	*Polykrikos schwartzii*	*Protoperidinium americanum*	*Quinquecuspis concreta*	*Selenopemphix nephroides*	*Spiniferites elongatus*	*Spiniferites frigidus*	*Spiniferites ramosus*	*Trinovantedinium variabile*
52X-CC	492.72	493.20	G	A	F	C	F	F		C	C	C	C				R		R	R	F	D			R															
53X-CC	501.70	502.13	M	C	F	F				F	F	F	F	R				R		F	D	D			R															
54X-CC	511.57	511.96	M	C	C	C	R	R	R	C	C	C	R	R			R		F	F	D	F			F										R					R
56X-CC	529.96	530.31	P	C	R	C	R			C	C	F	R	C			C			A	D	D																		
58X-CC	549.10	549.57	G	A	R	C	R	R	R	C	C	C	F	C		R	C		R	R	F	D			R															
60X-CC	567.17	567.42	M	A	R	R	R			C	C	F	R	C			R				F	D																		
62X-CC	587.21	587.61	M	C		C	R			C	C	C	R	R			R		R	A	D	A			R															
64X-CC	607.34	607.73	P	F	C	C	R			C	C	F	F				F			P	P	P					P													
65X-CC	617.66	618.08	P	F	R	F				F	F	R	R	R			R				P																			
68X-CC	645.53	646.00	M	F		C	R			C	C		F				R			F	D	A																	
70X-CC	666.07	666.45	P	R		F				F	F	C	F				C				P																			
72X-CC	683.22	683.55	M	F	R	F			R	F	C	R	F	R			R			P	P																			
74X-CC	703.36	703.69	M	C	R	C				C	C		R	C			R		R	A	D	R			R															
76X-CC	722.78	723.11	M	C	F	C				C	C	R	R	R			R			A	D																			
78X-CC	739.55	739.75	M	C	R	C	R		R	C	C	F	R				C			A	D	A																		R
79X-CC	746.28	746.59	M	F	R	C				C	C	F	F	R			F				P	P																		P
323-U1344E-																																								
1H-CC	5.08	5.34	G	C	F	F	R	R	F	C	C	F	C	C	F	R	F		R	A	A		R		A			A		R				R			R	R		
2H-CC	14.81	15.02	G	C	R	R			R	R	R		R	C		R	R		R	A	D				A			R							R					
3H-CC	24.61	24.85	G	A	F	F			R	F	F	R	R	F					R	A	D				A			R		R					R					
4H-CC	34.38	34.68	G	C	R	C	R	R		C	C		R				R	R	R	A	D				A															
5H-CC	43.43	43.82	G	C	R	F		R	R	F	F	R	F					R	R	A	D				A			R		R										
6H-CC	52.98	53.38	G	A	R		R		R	R	R	F							F	A	D				A			R							R		R			
7H-CC	61.65	62.10	G	C	R		R			R	R	R	F						R	A	D				D															
8H-CC	71.71	72.05	M	A	C	C		R	R	C	C	C	C				F		R	A	D				A			A		F					R		F			
9H-CC	80.97	81.37	M	C		C				C	C	R	R	R			R			A	D				A					F										
10H-CC	90.36	90.85	G	A	F	F	R		R	C	C	R	R	F					R	A	D				A			F		F							R			
12H-CC	102.61	103.05	G	C	F	F	R	R	R	C	C	F	R	R			R	R		F	D				D					R	R				R		F			
13H-CC	112.55	112.90	M	F	R	C				C	C	C	C	C			R			P	P							A												
14H-CC	122.12	122.46	M	C		F				F	F	F	F	F					R	A	D				A															
15H-CC	126.80	127.10	M	C	R	C				C	C	R	R	R			R	R		A	D				F										R					
16H-CC	136.15	136.51	M	C	R	C	R			C	C	F					R			F	D				D															
17H-CC	144.75	145.03	G	A	F	R				R	R			C			R		F	A	D				R															
18H-CC	155.04	155.49	G	A	F	R	R			R	C	R		F			F		R	D	D				R															

Table T17 (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 (herbs)	Pollen and spores: Pollen (shrubs)	Pollen and spores: Pollen (trees)	Pollen and spores: Total pollen	Pollen and spores: Spores of *Sphagnum*	Pollen and spores: Spores of pteridophytes	Freshwater: *Botryococcus* + *Pediastrum*	Freshwater: *Hallodinium*	Freshwater: Tintinnids	Reworked palynomorphs	Dinoflagellate cyst assemblages: *Bitectatodinium tepikiense*	*Brigantedinium cariacoense*	*Brigantedinium simplex*	*Brigantedinium* spp.	*Filisphaera filifera*	*Impagidinium* spp.	*Islandinium* cf. *brevispinosum*	*Islandinium immutum*	*Islandinium* morphotype *cesare*	*Lejeunecysta* spp.	*Operculodinium centrocarpum*	*Operculodinium centrocarpum* - Arctic morphotype	*Operculodinium centrocarpum* var. short processes	*Pentapharsodinium dalei*	*Polykrikos* - Arctic morphotype	*Polykrikos schwartzii*	*Protoperidinium americanum*	*Quinquecuspis concreta*	*Selenopemphix nephroides*	*Spiniferites elongatus*	*Spiniferites frigidus*	*Spiniferites ramosus*	*Trinovantedinium variable*
19H-CC	165.04	165.44	G	A		C	R			C	C		R	C			F		R	A	D				R			R												
20H-CC	173.85	174.28	M	C		C	R			C	C	C	C	R			R			A	D							A												
21H-CC	182.30	182.62	G	C	R	C	R			C	C	F	F	R			R			A	D				A			R												
22H-CC	193.59	193.85	G	C	R	C	R	R		C	C	C	C	C			R		F	A	D				F					R										
23H-CC	202.41	202.79	G	C	R	C		R	R	C	C	R	F	F			R			A	D				F															

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.