

APPENDICES

Table 2

DSDP Site 263, NW Shelf Australia

Quantitative distribution chart of dinoflagellate cysts

Core	Depth (mbsf)	Taxonomic reference no																											
		91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	
5	129.67	5	1	4	23	2	4	28	2	1	1	17	86	4	p	2	p	p	p	p	3	5	p	p	p	p	p	p	2
6	148.70	1	4	11	27	p	4	29	1	4	2	4	42	5	4	p	p	3		p	1	11	4	1	p	p			
7	177.33	4	3	7	53	1	6	30	p	p	3	4	47	3	5	p	l	l		p	2	1	2	p	p	p	p	4	
8	205.69	p	5	7	40	5	4	41	p	p	p	4	51	1	3			p	1	4	1	13	p	p	1	p		p	
9	224.69	p	14	26	38	7	3	28	6	3	2	4	37	6	1	p	p	p	p	1	2	1	3	p		p	p	1	
10	243.69	p	9	11	34	5	7	33	11	2	1	3	62	4	1	p	p	p		5	4	3	1	p	p	p	p	1	
11	262.80	p	4	22	20	p	11	41	1	2	8	p	74	8	1	p		p		p	1	9	p	p	1	p	p	1	
12	281.67	2	2	11	17	p	4	28	5	2	14	1	79	6	p	1	p				5	17	1	p	p	p	p		
13	300.53	5	3	6	12	4	21	15	1	3	6	p	101	1	p	3	1	p	p		3	2	p	p	1		1		
14	319.70	p	5	5	17	2	6	17	1	5	1	5	97	4	1	p	12	1	1	1	1	3	p	p	19	p		3	
15	338.70	1	1	4	9	2	p	24	4	4	29	1	50	3	p	41	2	p	p	1									
16	357.26	1	8	4	14	2	6	26	4	6	4	p	90	4	p	p	p	1	p	1	4	8		p	p	1	p	p	
17	386.74	1	2	4	30	4	26	7	3	1	17	4	52	5	2	6	6	1	p	2	9	5	p	p	1	p	p	1	
18	414.21	2	19	5	12	10	18	14	2	3	6	2	73	2	1	1	6	p	1	1	3	2	p	1	2	p	p	5	

Core	Depth (mbsf)	Taxonomic reference no																											
		145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	
5	129.67					2	1	p	p	p	p	p							p					p				p	
6	148.70	2				8	3	3	p	2			p	p					p	r	p	p	3	p				p	
7	177.33		1			6			p		p	1							p		p	p						p	
8	205.69		1			2	p		p	p	p				p				p		p		p					p	
9	224.69	p	1	p		12	1	p	p	p	p	p							p		p							p	
10	243.69		1			1	2		p				1	p					p		p							p	
11	262.80					p	2	1	p		p			p	p	1					p	p						p	
12	281.67					4	p	p	p		p		p								2							p	
13	300.53		p			2		3			p	3	p							p			p	2	1	1	p		
14	319.70					2		1	p	p			13						1	p	1	p							
15	338.70		1			14	1								1	1			p	1									
16	357.26					2	1	5	p	p	p	p	1	p	p	2	4	p											
17	386.74	1	1	1	1																								
18	414.21																												

Table 2 (cont.)
DSDP Site 263, NW Shelf Australia
Quantitative distribution chart of dinoflagellate cysts

Core	Depth (mbsf)	Taxonomic reference no																												
		118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144		
		<i>Valensiella pygmaea</i> <i>Pervosphaeridium truncatum</i> <i>Protoellipsoidinium spinosum</i> <i>Pterodinium</i> spp <i>Kiokansium unituberculatum</i> <i>Protoellipsoidinium</i> spp <i>Fromea monilifera</i> <i>Valensiella</i> spp <i>Batioladinium micropodum</i> <i>Endoserinium campanula</i> <i>Pentafidia punctata</i> <i>Herendeenia postprojecta</i> <i>Subtilisphaera</i> spp <i>Avellodinium lepidum</i> <i>Rhombodella natans</i> <i>Parcodinia</i> spp <i>Aprobolocysta</i> sp. A (Stover & Helby) <i>Aprobolocysta</i> spp <i>Lithodinia</i> spp <i>Muderongia crasis</i> <i>Muderongia staurota</i> <i>Lithodinia</i> sp. cf. <i>L. bulloidea</i> <i>Scriniodinium attadalense</i> <i>Microdinium</i> spp <i>Prolixosphaeridium parvispinum</i> <i>Platycystidia eisenackii</i> <i>Heterosphaeridium</i> spp																												
5	129.67	2	p	3	p	2																								
6	148.70	2	p	2	l	3	11	p	2	p	p	p	p													p	6	p	p	
7	177.33	l	p	6	l	3		p	l			p	p	p													l	p	p	
8	205.69	p	l	2	p	8	l			p	p		p	p	l	p	p									p	p	p		
9	224.69	l	p	p	p	3			l	p	p		p													p	4	p		
10	243.69	p		3	p	3		p	l	p	p		p	p		l				p						p	p	p	l	
11	262.80	p	p		p	4		p		p	p		l							p	p					p	p	p	p	
12	281.67	p	l		p	p		p	2	p			p	p			l			p						p	p	p		
13	300.53						l		2	p	p		p	p												p	l			
14	319.70	p	2		p	p		p				p		p			l	p		p	l	4			p	l	l			
15	338.70	p	4	l					2	p			l								2	l			p	l	2			
16	357.26	p	3	p	p		l		2	p	p		p	p		p					3				p	p	p	l		
17	386.74						l			p			p	p						p		l	l	5	2	p	p	l	l	
18	414.21	p	p	l	p	l	4	l	p	p	p	p	p	p	p	l	l	p	p	p	9	l	p	p						

Core	Depth (mbsf)	Taxonomic reference no																											
		172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193						
		<i>Tehamadinium</i> sp. cf. <i>T. tenuiceras</i> <i>Tehamadinium tenuiceras</i> <i>Apteodinium maculatum</i> <i>Walloidinium luna</i> <i>Lithodinia psora</i> <i>Odontochitina operculata</i> <i>Druggidium deflandrei rhadoreticulatum</i> <i>Carpodinium</i> spp <i>Systematophora areolata</i> <i>Cernicysta</i> spp <i>Diconodinium micropunctatum</i> <i>Escharisphaeridea</i> spp <i>Heterosphaeridium heteracanthum</i> <i>Muderongia mcwhaei</i> <i>Batioladinium jaegeri</i> <i>Heslertonia</i> spp <i>Cernicysta helbyi</i> <i>Florentinia rexex</i> <i>Cerbia</i> cf. <i>tabulata</i> <i>Alterbidinium</i> spp. <i>Florentinia</i> spp <i>Lithodinia</i> sp. cf. <i>Helbyi</i>																											
5	129.67	p				l	p													2									
6	148.70		p				l						p	p	l					p	p	p							
7	177.33	p	p			p	p						p	p	l	p				p									
8	205.69	p	p			p	p						p	p	l	p	p												
9	224.69	p				p		p					l																
10	243.69					p						p	l	p															
11	262.80		p	p		p	p	p	p	p																			
12	281.67	p	p	p	p																								
13	300.53																												
14	319.70																												
15	338.70																												
16	357.26																												
17	386.74																												
18	414.21																												

Table 3

BMR Mossman-1, NW Shelf Australia

Quantitative distribution chart of dinoflagellate cysts

Depth (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	<i>Dingodinium cerviculum</i>	<i>Sentusidinium</i> spp	<i>Cleistosphaeridium</i> spp	<i>Oligosphaeridium</i> spp.	<i>Exocho-/Pervosphaeridium</i> spp	<i>Cribroperidinium</i> spp	<i>Kallosphaeridium</i> spp	<i>Spiniferites</i> spp	<i>Trichodinium</i> spp	<i>Chlamydomphorella</i> spp	<i>Rhombodella natans</i>	<i>Tanyosphaeridium</i> spp	<i>Walloodinium lunum</i>	<i>Cyclonephelium</i> spp	<i>Pareodinia ceratophora</i>	<i>Cassiculosphaeridia reticulata</i>	<i>Apteodinium granulatum</i>	<i>Dapsilidinium</i> spp	<i>Leiasphaera</i> spp	<i>Siphrosphaeridium anthophorum</i>	<i>Muderongia australis</i>	<i>Kleithrisphaeridium eoinodes</i>	<i>Florentinia</i> spp	<i>Canningia transitoria</i>	<i>Rigaudella/Adhatosphaeridium?</i>	<i>Circulodinium colliveri</i>	<i>Coronifera oceanica</i>	<i>Elyrocysta circulata</i>	<i>Muderongia</i> spp
15,32	2	10	19	2	3	4	1	18	3	25	2	1	p	2	p	2										7	1		
17,39	8	21	37	4	4	4	19	16		53	4					3	p									17			
36,63	16	49		1	p	1	46	9	20	7	3	1	17													4	1	8	
37,81	12	43	22	1	1	?	55	10		22	1	1	7					10								8	?		
39,30	28	65	23	2	p	1	24	20		37	1	p	p		p			p		1						1			2
59,47	14	38	28	p	p	p	53	1		24	3	p	5		p	6				p						10		p	
60,36	17	50	15	p			62	1		27	4	p	p		p	9	1			1						8	1	2	
65,86	13	43	34	1		2	30	14		41		2	3													10	4	1	
70,11	24	41	7	3		2	51	10	p	25	2	p			p	1		2								6	3	p	
73,27	37	40	12	1		1	46	14	5	23	p	5	4		2	?										4	p		
73,90	23	24	36	3	2		12	10		70		p	p	1	p				4	?						4			
74,16	8	24	20		1	1	1	9		23	3				2					2						22		10	
76,26	6	26	6		2		2	2		18		1				1										9		6	
78,38	4	17	6				3	3		12		p	1		2				p								7	4	
80,49	6	40	9		1	2	22	9		31			1			1				1						4		6	
82,63	10	29	9			1	11	1		19	2	p	p		p		1			1						8		7	2
84,73	17	30	2	1	p	1	29	5	p	20	1	p	p	11	5	3										4	3	13	
89,04	26	36	26	5	2	2	15	2		31	p	p		3	1				3							5		5	2
93,28	45	52	11	3		14	18			36					3	11											1	4	
96,09	41	66		2		14	5	2		26		p			2		4									13		p	
99,89	37	53	9	2		8	41	3		11					6	3										16	2		
102,93	20	86	14			21	18	1		14	4		p		3											7			2
106,22	32	46	25	p	1	13	19	1		7					1	5					2					15	p	14	
110,88	29	45	43	p	p	12	26		p	8			p		2	2										23	3	1	
114,45	76	19	34	p		7		13	1	15	1	p	1		3	1	1			p	5	3			10	2	p		
114,46	70	69	27		2	5	1	3		29	3		p		3	9	?			1		1				5	3	11	2
114,69	62	27	39	1	p	9	1	7	p	19	3	1	p		3	2	1			p	1	1				1	3	8	2
115,47	88	10	24	2	p	14	?	7		27	1		2	2	p		3				2					13	p		
117,01	43	28	39	2	2	6	32	9			1	p	2		p	?	2				1	1				3	6	2	
118,99	9	36	9	3	1	12	29	6		7	2	2	2	27	2					7	3	3	3			1	1		
121,96	21	8	16	13	p	6		1				2		20	2						2	2		1			p	p	
125,49	3	7	3	3		1	19	1		3		p		9	p	1				6	1	1				1	p		
127,27	4	20	4	8	p	3	2	3		4		p	2	17		1		1		p	2	1	p						
132,52	3	11	3	5	1							1		25	p	1					4	1				2	p		1
137,06	2	14	10	9	p	6	1	1				p	p	12		2				1	p	p	2					p	
142,95	7	28	23	26	5	42	13	3	6			p		34		p	p	1		2	3			p		4	2		1
151,08	1	13	25	11	2	106	7	1	1	2	3			16		1			5	1				2		6	1		
155,52	5	13	32	18	1	44	12	6	3	2	4	2	1	21	1		2			6	2			10		5	3	5	2
159,05	5	35	19	15	4	42	14	7	1	5	2	3	1	23	1?	1	2	p	2	13	2	3	p	4	1				

Table 3 (cont.)
BMR Mossman-1, NW Shelf Australia
Quantitative distribution chart of dinoflagellate cysts

Depth (m)	<i>Prolixosphaeridium parvispinum</i>	<i>Apteodinium maculatum</i>	<i>Tehamadinium sousensis</i>	<i>Kleithriasphaeridium</i> spp	<i>Muderongia</i> sp. cf. <i>M. staurota</i>	<i>Scriniodinium attadalense</i>	<i>Canningia</i> cf. sp. <i>C. transitoria</i>	<i>Hystrihodinium pulehrum/voigtii</i>	<i>Batioladinium micropodium</i>	<i>Muderongia crucis</i>	<i>Ovoidinium cinctum</i>	<i>Discordia nanna</i>	<i>Muderongia tetracantha</i>	<i>Batioladinium jaegeri</i>	<i>Lithodinia helbyi</i>	<i>Fromea monolifera</i>	<i>Platycystidia eisenackii</i>	<i>Eptiricysta vincensis</i>	<i>Gonyaulacysta</i> spp	<i>Oeciscycta</i> spp	<i>Canningia reticulata</i>	<i>Tetrachacysta allenii</i>	<i>Paleoperidinium cretaceum</i>	<i>Tehamadinium tenuiceras</i>	<i>Valensitella magna</i>	<i>Cometodinium</i> spp	<i>Hystrihodinium</i> spp	<i>Achomosphaera</i> spp	<i>Apteodinium</i> spp	
	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	
15,32								1				1	5						2	2			2			7	2			
17,39								1				5	2	1						p			p			1			3	
36,63								1	1			p	5	1						1						3	2			
37,81								2				3	6	6						5						2				
39,30								4	1			p	10	1					1		1					7				
59,47									1	1		1	8		p				4											
60,36										1		1	16	2	1				p	p			2			9				
65,86												1	6		p				3							3			3	
70,11	1											2	12	3					5				p			7	2			
73,27		2?						1	p			1	13							p			1			7				
73,90												2	20	p						5						21	p			
74,16								1		2			25	p						18			1			7				
76,26								1					12	1						8						2				
78,38								2	p			1	14						1				p			2				
80,49									2			3	23	1		?			6				1		2	2				
82,63									p			p	35						2				2							
84,73	p							1				3	25	3					9				6			4				
89,04								2	2			3	27						18				5			7				
93,28		18						1	1				8	1												1				
96,09									1			2	22				p		p							2				
99,89		7						1	p			1	14																	
102,93								1	1			1	8						1	2			2			1				
106,22		7						1				7	1						1				p			1				
110,88		4	p	1				1	p			1	5	1			p		p				3	1	p					
114,45		4	p						1			p	2	1			p		1		p		31	p	5					
114,46								4	2		p	1	5						5		p		21	p	1	3				
114,69								3	2		4	1	1			1			3	p	2	13			2					
115,47		4						3	2	3	1	p	8				2			2	p		11	p	2	p				
117,01		2						5	p	1	p	1	3	p			1		3		p		4	3						
118,99			1		2			4		3	5	1		1	1	1	1	1	1			7		1	1				1	
121,96				p	2			5	1		126	1	1	p		p		p	p	p		p		p						
125,49					3			2	1		164	p	p	p			p	p	p				?	p	1	1	p	p	p	
127,27	1	p		1				2	p	p	162	1	p					1				p	1	1						
132,52		1	p		4			p	1		155	p					1		1	p	p	p								
137,06		1			1			4		1	211	p	2	p	p	1	p	p												
142,95		13				p		3	p	p	1																			
151,08		1	1				p																							
155,52	2	2	p	2	2	p																								
159,05																														

Table 4
BMR Mossman-1, NW Shelf Australia
Quantitative spore and pollen groups data

Sample depth (m)	Upland	Lowland/River	Lowland, warm/temperate and humid	Lowland, warm/temperate and less humid	Coastal cool/temperate and relatively dry	Coastal warm/temperate and dry	Total spore-pollen within assemblage
15.32	16	34	11	68	35	7	208
17.39	18	17	45	74	33	3	216
36.63	37	15	17	69	40	4	204
37.81	34	23	21	46	47	11	209
39.30	56	15	9	59	37	9	204
59.47	40	24	7	57	27	13	209
60.36	37	17	2	71	39	9	207
65.86	35	43	19	87	26	7	261
70.11	45	21	9	93	22	7	241
73.27	40	21	14	83	29	4	224
73.90	37	27	16	80	24	7	225
74.16	34	27	16	85	23	6	235
76.26	51	10	13	70	17	1	208
78.38	28	20	26	62	28	2	209
80.49	39	15	18	86	19	3	214
82.63	27	12	19	100	17	5	217
84.73	44	35	10	73	19	5	211
89.04	30	25	28	72	28	6	225
93.28	45	29	11	57	30	6	212
96.09	28	31	11	74	16	22	215
99.89	45	25	8	59	26	7	202
102.93	34	30	3	71	24	25	220
106.22	33	11	5	103	19	9	205
110.88	16	21	4	100	47	8	219
114.45	27	14	2	79	33	24	205
114.46	37	11	3	102	25	15	216
114.69	37	9	0	101	21	9	208
115.47	29	14	2	106	20	15	205
117.01	43	15	7	94	17	15	209
118.99	52	24	22	44	26	13	234
121.96	61	13	18	40	26	11	217
125.49	55	26	28	63	29	12	248
127.27	48	16	33	45	23	9	202
132.52	39	26	34	44	24	12	212
137.06	37	10	20	50	22	26	210
142.95	29	5	17	63	25	34	202
151.08	27	11	29	55	40	24	207
155.52	39	5	55	47	19	19	206
159.05	37	5	20	60	48	22	204

Table 5
BMR Mossman-1, NW Shelf Australia
Organic carbon isotope and total organic carbon

Sample depth (m)	$\delta^{13}C_{org}$	Sample depth (m)	TOC (%)
15.32	-24.70	15.32	0.73
17.39	-25.00	17.39	0.60
36.63	-24.71	36.63	1.28
37.81	-24.75	37.81	1.40
39.30	-24.73	39.30	1.12
59.47	-24.75	59.47	0.93
60.36	-24.36	60.36	1.02
63.89	-24.57	63.89	0.81
65.86	-24.25	65.86	0.65
67.89	-24.36	67.89	0.76
70.11	-24.23	70.11	0.91
72.23	-24.56	72.23	1.04
73.27	-26.03	73.27	1.08
73.90	-24.09	73.90	1.42
74.16	-24.51	74.16	0.05
76.26	-24.49	76.26	0.03
78.38	-26.06	78.38	0.06
80.49	-25.66	80.49	0.08
82.63	-24.47	82.63	0.12
84.73	-24.19	84.73	0.07
86.88	-24.38	86.88	0.10
89.04	-24.91	89.04	0.12
93.28	-22.66	93.28	0.14
96.09	-23.07	96.09	1.88
99.89	-23.50	99.89	0.79
102.93	-23.08	102.93	0.37
106.22	-23.66	106.22	0.13
110.88	-23.02	110.88	0.39
114.45	-23.59	114.45	1.15
114.46	-23.65	114.46	1.04
114.69	-23.62	114.69	0.61
115.47	-23.66	115.47	1.25
118.99	-25.00	118.99	0.69
121.96	-24.47	121.96	0.67
125.49	-24.58	125.49	1.60
127.27	-24.74	127.27	1.17
132.52	-24.61	132.52	1.03

Table 6
BMR Mossman-1, NW Shelf Australia
Rock Eval with hydrogen and oxygen results

Depth (m)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	HI	OI
37.81	0.02	0.68	0.25	49	18
73.90	0.01	0.75	0.32	52	22
96.09	0.01	0.41	0.35	27	23
115.47	0.03	0.85	0.33	66	25
125.49	0.06	1.32	0.22	176	29