

Chapter 3, Table T7. Summary of paleontological observations for various lithologies, Hole 1276A.

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbs)	Lithology	>63-µm sieve residue	Planktonic foraminifers	Calcareous benthic foraminifers	Agglutinated foraminifers	Larger benthic foraminifers	Radiolarians	Diatoms	Sponge spicules	Calcareous nanofossils	Polychaete	Ostracods	Echinoderm spines	Inoceramus	Megaspores	Wood/plant debris	Foraminifers age (Ma)		Planktonic foraminifer zone	Nannofossils age (Ma)		Calcareous nanofossil zone	Dinoflagellate cysts age (Ma)		Comments
																				Youngest	Oldest		Youngest	Oldest		Youngest	Oldest	
210-1276A-1W-1, 47-49	X	Y	753.47	Grainstone, laminated		C	F															Upper P12-P15?	32.3	34.2	CP16	32.00	33.70	Reworked foraminifer assemblage?
1W-CC			759.19	Sandstone, pinkish, brownish gray, laminated, hard		C	C															Unzoned						Redeposited neritic and bathyal calcareous benthics
2B-1, 73-75	X	Y	800.73	Mudstone, bioturbated		R	R															Unzoned	34.2	40.4	CP14b/CP15	33.50	36.50	Rare pyritized diatoms and rare radiolarian fragments; reworked early Paleogene calcareous nanofossils
2R-CC			803.51	Mudstone, pinkish yellow with lenses of dark red mudstone and greenish silty mudstone		A																Unzoned						Reworked Cretaceous (and Paleocene?) planktonic foraminifers
3K-4, 47-49	X	Y	813.15	Grainstone, partly silicified spicule-foraminifer		A																Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
3R-CC		N	819.26	Mudstone, brownish gray, moderately soft, blocky																		Unzoned	40.4	43.7	CP14a	33.60	36.40	Rare internal moulds of planktonic foraminifers; abundant pyritized radiolarian and diatom fragments in palynological preparations
4K-CC		N	825.90	Mudstone, brownish gray, moderately hard, moderately fissile with paler fine laminae																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
5R-CC		N	838.15	Mudstone, brownish gray, moderately soft, moderately fissile																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
6K-4, 60-62	X	N	843.50	Grainstone		A	C															Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
6R-CC		N	847.40	Mudstone, brownish gray, moderately hard, subfissile																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
7R-2, 35-39	X		849.85	Marlstone, bioturbated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
7R-3, 69-73	X		851.69	Marlstone, bioturbated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
7R-4, 94-98	X		853.44	Claystone, bioturbated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
7R-CC		N	857.68	Mudstone, brownish gray, moderately hard																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
8R-5, 110-112	X		864.70	Marlstone																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
8R-6, 69-71	X		865.79	Grainstone																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
8R-CC		Y	866.13	Sandstone, yellowish gray, moderately hard, darker gray fine laminae																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
9R-CC		Y	876.92	Siltstone, light gray, moderately hard with softer bands, finely laminated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
10R-CC		Y	885.37	Sandstone, greenish, yellowish gray, moderately hard mudstone, pale pinkish brown, moderately soft, silty																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
11R-2, 29-32	X		888.19	Grainstone, laminated to graded																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
11R-CC, 14-17	X		894.72	Grainstone, laminated; mudstone, calcareous																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
11R-CC		Y	894.58	Mudstone, yellowish gray, silty, moderately hard																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
12R-3, 93-97	X		899.93	Grainstone, laminated to sandstone, glauconitic																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
12R-3, 120-124	X		900.20	Marlstone, laminated to grainstone																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
12R-CC		N	902.69	Sandstone, whitish yellow with greenish laminae, hard																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
13R-2, 60-63	X		907.80	Grainstone, graded to laminated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
13R-CC		Y	910.39	Sandstone, light and darker gray fine grained																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
14R-CC		Y	920.64	Sandstone, pinkish gray laminated fine grained, moderately hard																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
15R-1, 124-126	X		926.24	Grainstone to marlstone, laminated and bioturbated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
15R-2, 25-27	X		926.75	Grainstone to marlstone, bioturbated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
15R-3, 122-124	X		929.22	Muddy sandstone																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
15R-CC		N	933.33	Mudstone, dark red, moderately soft, waxy, burrowed																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
16R-CC		Y	942.23	Mudstone, dark gray and lighter gray bands, finely laminated, moderately hard																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
17R-4, 98-99	X		948.89	Grainstone, laminated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
17R-7, bottom	X		953.66	Mudstone, dark gray, moderately hard, moderately fissile																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
18R-1, 134-138	X		955.14	Radiolarian claystone, laminated and bioturbated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
18R-6, 52-55	X		960.95	Chalk, nanofossil-foraminifer																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
18R-6, 88-90	X		961.31	Foraminifer grainstone, bioturbated																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
18R-CC		N	963.40	Mudstone, medium dark gray, blocky, minor laminae																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
19R-CC		N	970.55	Mudstone, dark red, burrowed, moderately soft																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
20R-5, 69	X		979.40	Grainstone, spicule-foraminifer																		Unzoned						Abundant pyritized radiolarian and diatom fragments in palynological preparations
20R-CC		Y	982.62	Mudstone, very dark gray, moderately soft, blocky																								

Table T7. Summary of paleontological observations for various lithologies, Hole 1276A. (See table notes. Continued on next 19 pages.)

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Lithology
210-1276A- 1W-1, 47–49 1W-CC 2R-1, 73–75 2R-CC 3R-4, 47–49	X X X	 Y Y	753.47 759.19 800.73 803.51 813.15	Grainstone, laminated Sandstone, pinkish, brownish gray, laminated, hard Mudstone, bioturbated Mudstone, pinkish yellow with lenses of dark red mudstone and greenish silty mudstone Grainstone, partly silicified spicule-foraminifer
3R-CC 4R-CC 5R-CC 6R-4, 60–62 6R-CC	 X 	Y N N N	819.26 825.90 838.15 843.50 847.40	Mudstone, brownish gray, moderately soft, blocky Mudstone, brownish gray, moderately hard, moderately fissile with paler fine laminae Mudstone, brownish gray, moderately soft, moderately fissile Grainstone Mudstone, brownish gray, moderately hard, subfissile
7R-2, 35–39 7R-3, 69–73 7R-4, 94–98 7R-CC 8R-5, 110–112	X X X	 N	849.85 851.69 853.44 857.68 864.70	Marlstone, bioturbated Marlstone, bioturbated Claystone, bioturbated Mudstone, brownish gray, moderately hard Marlstone
8R-6, 69–71 8R-CC 9R-CC 10R-CC 11R-2, 29–32	X X	 Y Y Y	865.79 866.13 876.92 885.37 888.19	Grainstone Sandstone, yellowish gray, moderately hard, darker gray fine laminae Siltstone, light gray, moderately hard with softer bands, finely laminated Sandstone, greenish, yellowish gray, moderately hard mudstone, pale pinkish brown, moderately soft, silty Grainstone, laminated to graded
11R-CC, 14–17 11R-CC 12R-3, 93–97 12R-3, 120–124 12R-CC	X X X 	 Y N	894.72 894.58 899.93 900.20 902.69	Grainstone, laminated; mudstone, calcareous Mudstone, yellowish gray, silty, moderately hard Grainstone, laminated to sandstone, glauconitic Marlstone, laminated to grainstone Sandstone, whitish yellow with greenish laminae, hard
13R-2, 60–63 13R-CC 14R-CC 15R-1, 124–126 15R-2, 25–27	X X X	 Y Y	907.80 910.39 920.64 926.24 926.75	Grainstone, graded to laminated Sandstone, light and darker gray fine grained Sandstone, pinkish gray laminated fine grained, moderately hard Grainstone to marlstone, laminated and bioturbated Grainstone to marlstone, bioturbated
15R-3, 122–124 15R-CC 16R-CC 17R-4, 98–99 17R-7, bottom	X X 	 N Y	929.22 933.33 942.23 948.89 953.66	Muddy sandstone Mudstone, dark red, moderately soft, waxy, burrowed Mudstone, dark gray and lighter gray bands, finely laminated, moderately hard Grainstone, laminated Mudstone, dark gray, moderately hard, moderately fissile
18R-1, 134–138 18R-6, 52–55 18R-6, 88–90 18R-CC 19R-CC	X X X 	 Y N	955.14 960.95 961.31 963.40 970.55	Radiolarian claystone, laminated and bioturbated Chalk, nannofossil-foraminifer Foraminifer grainstone, bioturbated Mudstone, medium dark gray, blocky, minor laminae Mudstone, dark red, burrowed, moderately soft

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)		Planktonic foraminifers	Calcareous benthic foraminifers	Agglutinated foraminifers	Larger benthic foraminifers	Radiolarians	Diatoms	Sponge spicules	Calcareous nannofossils	Palynomorphs	Ostracodes	Fish teeth/bone	Echinoderm spines	Inoceramus	Megaspores	Wood/plant debris
				>63-µm sieve residue															
210-1276A- 1W-1, 47-49	X	Y	753.47		C	F													
1W-CC			759.19		C	C						C	F	R					
2R-1, 73-75	X		800.73		R														
2R-CC		Y	803.51		R	R						C	F						
3R-4, 47-49	X		813.15		A				R		A								
3R-CC		Y	819.26									F	F						
4R-CC		N	825.90				R					B	F						
5R-CC		N	838.15	Quartz			R		C	R		B	F			R			
6R-4, 60-62	X		843.50		A	C													
6R-CC		N	847.40	Glaucinite			C					B	F						
7R-2, 35-39	X		849.85		F			F											
7R-3, 69-73	X		851.69		F	F		F											
7R-4, 94-98			853.44		F														
7R-CC		N	857.68	Glaucinite, pyrite, phosphate pellets			C					B	F						
8R-5, 110-112	X		864.70		F	F		F											
8R-6, 69-71	X		865.79		C	F		F											
8R-CC		Y	866.13	Glaucinite	R	C						C				R			
9R-CC		Y	876.92	Glaucinite	V + Rw	F						F?	R						
10R-CC		Y	885.37				C		A			R							
11R-2, 29-32	X		888.19		R			F	R	R?	C								
11R-CC, 14-17	X		894.72		F			F								R			
11R-CC		Y	894.58	Quartz, glauconite	R	R			C		C	F				C			C
12R-3, 93-97	X		899.93		R			F								R			
12R-3, 120-124	X		900.20		F											C			
12R-CC		N	902.69			F						B				R			
13R-2, 60-63	X		907.80		C			F											
13R-CC		Y	910.39		R	F	C		C			R							
14R-CC		Y	920.64		C + Rw	C			F		F	C							
15R-1, 124-126	X		926.24		F	R													
15R-2, 25-27	X		926.75		C	F													
15R-3, 122-124	X		929.22		R	R		R											
15R-CC		N	933.33					C				B				F			
16R-CC		Y	942.23					R				C	F			F			
17R-4, 98-99	X		948.89	Rare pyrite	A														
17R-7, bottom		Y	953.66				R					R	F			F			
18R-1, 134-138	X		955.14						C							R			
18R-6, 52-55	X		960.95		C	F													
18R-6, 88-90	X		961.31		A														
18R-CC		Y	963.40		C	C			C			R	F						
19R-CC		N	970.55				C					B							

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Epoch	Foraminifers age (Ma)		Planktonic foraminifer zone	Nannofossils age (Ma)		Calcareous nannofossil zone	Dinoflagellate cysts age (Ma)	
					Youngest	Oldest		Youngest	Oldest		Youngest	Oldest
210-1276A- 1W-1, 47–49 1W-CC 2R-1, 73–75 2R-CC 3R-4, 47–49	X X X	 Y Y	753.47 759.19 800.73 803.51 813.15	latest Eocene–early Oligocene (N, D) late middle–late Eocene (N, D)			Upper P12–P15? Unzoned Unzoned Unzoned	32.3 34.2	34.2	CP16 CP14b/CP15	32.00 33.50	33.70 36.50
3R-CC 4R-CC 5R-CC 6R-4, 60–62 6R-CC	 X 	Y N N N	819.26 825.90 838.15 843.50 847.40	middle Eocene (N) late middle–early late Eocene (D) middle Eocene (D)			Barren Barren Barren Unzoned Barren	40.4	43.7	CP14a Barren Barren Barren	33.60 36.50 38.50 39.00	36.40 38.00 40.00 41.00
7R-2, 35–39 7R-3, 69–73 7R-4, 94–98 7R-CC 8R-5, 110–112	X X X	 N	849.85 851.69 853.44 857.68 864.70	late early–early middle Eocene? (F) late early–early middle Eocene? (F) middle Eocene (D)	40.5 40.5	50.4 50.4	P9–P12? Unzoned P9–P12? Barren Unzoned			Barren	38.00	41.00
8R-6, 69–71 8R-CC 9R-CC 10R-CC 11R-2, 29–32	X X	Y Y Y	865.79 866.13 876.92 885.37 888.19	middle Eocene late early–early middle Eocene early Eocene			Unzoned Unzoned Unzoned Barren Unzoned	46.1 47.3 49.7	49.7 49.7 52.8	CP12b/CP13a? CP12 CP10/CP11	Barren Barren Barren	
11R-CC, 14–17 11R-CC 12R-3, 93–97 12R-3, 120–124 12R-CC	X X X 	Y N	894.72 894.58 899.93 900.20 902.69	early Eocene			Unzoned Unzoned Unzoned Unzoned Barren	49.7	52.8	CP10/CP11 Barren	Barren Barren	
13R-2, 60–63 13R-CC 14R-CC 15R-1, 124–126 15R-2, 25–27	X X X	Y Y	907.80 910.39 920.64 926.24 926.75	early Eocene late Paleocene late Paleocene	55.9 55.9	56.5 59.2	Unzoned Unzoned P4c P4 Unzoned	52.8 55.0	55.0 56.2	CP9 CP8	Not sampled Barren	
15R-3, 122–124 15R-CC 16R-CC 17R-4, 98–99 17R-7, bottom	X X 	N Y	929.22 933.33 942.23 948.89 953.66	early Paleocene early Paleocene early Paleocene	59.2	60.9	Unzoned Barren Barren P3 Barren	59.7 59.7	62.2 62.2	Barren CP3 CP3	Not sampled 61.37 60.33	62.50 61.70
18R-1, 134–138 18R-6, 52–55 18R-6, 88–90 18R-CC 19R-CC	X X X 	 Y N	955.14 960.95 961.31 963.40 970.55	early Paleocene early Paleocene early Paleocene	60.9 60.9	64.5 64.5	Barren P1–P2 P1–P2 Unzoned Barren	59.7	63.8	CP2/CP3 Barren	63.00 Not sampled	64.75

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Comments
210-1276A- 1W-1, 47-49 1W-CC 2R-1, 73-75 2R-CC 3R-4, 47-49	X X X	 Y Y	753.47 759.19 800.73 803.51 813.15	Reworked foraminifer assemblage? Redeposited neritic and bathyal calcareous benthics Rare pyritized diatoms and rare radiolarian fragments; reworked early Paleogene calcareous nannofossils Reworked Cretaceous (and Paleocene?) planktonic foraminifers
3R-CC 4R-CC 5R-CC 6R-4, 60-62 6R-CC	 X 	Y N N N	819.26 825.90 838.15 843.50 847.40	Reworked Ypresian/Lutetian dinocysts; common pyritized radiolarian fragments, some identifiable Abundant pyritized radiolarian and diatom fragments in palynological preparations Rare internal moulds of planktonic foraminifers; abundant pyritized radiolarian and diatom fragments in palynological preparations Abundant framboidal pyrite; rare pyritized radiolarian fragments
7R-2, 35-39 7R-3, 69-73 7R-4, 94-98 7R-CC 8R-5, 110-112	X X X	 N	849.85 851.69 853.44 857.68 864.70	 Lag at base of lithologic Unit 1
8R-6, 69-71 8R-CC 9R-CC 10R-CC 11R-2, 29-32	X X	 Y Y Y	865.79 866.13 876.92 885.37 888.19	Redeposited neritic calcareous benthics; reworked Cretaceous calcareous nannofossils Redeposited neritic calcareous benthics; reworked Late Cretaceous planktonics; reworked Cretaceous calcareous nannofossils Reworked Cretaceous nannofossils
11R-CC, 14-17 11R-CC 12R-3, 93-97 12R-3, 120-124 12R-CC	X X X 	Y N	894.72 894.58 899.93 900.20 902.69	Reworked early Paleogene calcareous nannofossils Redeposited neritic calcareous benthics
13R-2, 60-63 13R-CC 14R-CC 15R-1, 124-126 15R-2, 25-27	X X X	 Y Y	907.80 910.39 920.64 926.24 926.75	Redeposited neritic or upper bathyal calcareous benthic species; reworked Cretaceous calcareous nannofossils Reworked Late Cretaceous planktonics; redeposited neritic calcareous benthics; reworked Cretaceous calcareous nannofossils Reworked Late Cretaceous planktonic foraminifers
15R-3, 122-124 15R-CC 16R-CC 17R-4, 98-99 17R-7, bottom	X X 	 N Y	929.22 933.33 942.23 948.89 953.66	 Rare framboidal pyrite in palynological preparations; reworked Cretaceous calcareous nannofossils Abundant reworked Maastrichtian planktonic foraminifers Rare to common pyritized radiolarian and diatom fragments
18R-1, 134-138 18R-6, 52-55 18R-6, 88-90 18R-CC 19R-CC	X X X N	 Y N	955.14 960.95 961.31 963.40 970.55	Reworked late Maastrichtian planktonic foraminifers Size-sorted planktonic and calcareous benthic foraminifers; common pyritized radiolarian fragments and rare pyritized ?diatom fragments; Cretaceous calcareous nannofossils

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Lithology
20R-5, 69	X	N	979.40	Grainstone, spicule-foraminifer
20R-CC			982.82	Mudstone, very dark gray, moderately soft, blocky
21R-3, 4–6	X		985.50	Foraminifer grainstone, laminated
21R-4, 19–21	X		987.15	Foraminifer grainstone
21R-4, 127–129	X		988.23	Foraminifer grainstone
21R-CC		Y	988.32	Sandstone, light gray with green and darker gray very thin mudstone beds
22R-CC		Y	997.41	Mudstone, pinkish red, moderately hard, burrowed; white very fine-fine sandstone with clay seams
23R-CC		Y	1006.86	Mudstone, pinkish red, dark red lenses, moderately hard, blocky, burrowed
24R-5, 82–84	X		1018.42	Tuffaceous siltstone, altered, laminated
24R-CC		Y	1019.07	Mudstone, light pinkish gray, soft, blocky, burrowed
25R-CC		N	1030.41	Mudstone, medium dark red, moderately hard, blocky, burrowed
26R-CC		N	1034.04	Mudstone, medium dark red, moderately hard, blocky, burrowed
27R-CC		N	1050.18	Mudstone, dark red and greenish gray banded with fine laminae, moderately hard, red mudstone burrowed, some diagenetic carbonate alteration
28R-CC		N	1057.36	Mudstone, dark red with gray silty lenses, moderately hard, blocky, burrowed
29R-1, 35–39	X		1060.05	Quartz sandstone, bioturbated
29R-5, 104–109	X		1066.57	Sandstone, calcareous
29R-CC		Y	1067.61	Mudstone, medium dark brownish gray, soft, blocky
30R-5, 92–96	X		1076.05	Siltstone, laminated, micaceous
30R-CC		Y	1076.64	Mudstone, dark gray and greenish dark gray, silty, finely laminated, moderately hard, moderately fissile
31R-1, 81–84	X		1079.81	Siltstone, calcareous, micaceous
31R-5, 18–20	X		1085.07	Siltstone, calcareous, laminated
31R-CC		N	1086.88	Mudstone, dark brownish gray, blocky, moderately hard
32R-CC		N	1098.33	Mudstone, dark gray, moderately soft, slightly fissile
33R-CC		Y	1107.76	Mudstone, medium gray, very finely laminated, moderately hard
34R-CC		Y	1113.78	Mudstone, dark red and greenish gray banded with fine laminae, moderately hard, red mudstone burrowed
35R-3, 55–58	X		1120.95	Sandy siltstone, calcareous
35R-CC		Y	1126.87	Mudstone, dark red and greenish gray banded with fine laminae, moderately hard, red mudstone burrowed
36R-2, 123–127	X		1129.74	Silty sandstone, calcareous, laminated
36R-CC		Y	1135.63	Mudstone, medium gray moderately hard, blocky, burrowed
37R-3, 89–93	X		1140.05	Siltstone, calcareous
37R-CC		Y	1145.55	Mudstone, pinkish green, moderately hard
38R-6, 92–95	X		1153.74	Siltstone, calcareous, laminated
38R-CC		Y	1155.60	Mudstone, medium dark gray, subfissile, moderately soft
39R-CC		N	1164.26	Mudstone, medium dark gray, moderately soft, moderately fissile, burrowed
40R-3, 144–146	X		1169.31	Micritic limestone, bioturbated
40R-CC		Y	1174.29	Siltstone, light gray, moderately hard with softer bands, finely laminated, subfissile
41R-2, 88–91	X		1176.78	Silty grainstone, radiolarian-pelletal, graded
41R-3, 52–55	X		1177.96	Siltstone, calcareous, micaceous with plant debris
41R-CC		N	1183.96	Mudstone, dark gray, moderately soft, fissile
42R-CC		N	1194.25	Mudstone, dark gray, soft

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	>63-µm sieve residue	Planktonic foraminifers	Calcareous benthic foraminifers	Agglutinated foraminifers	Larger benthic foraminifers	Radiolarians	Diatoms	Sponge spicules	Calcareous nannofossils	Palynomorphs	Ostracodes	Fish teeth/bone	Echinoderm spines	Inoceramus	Megaspores	Wood/plant debris
20R-5, 69 20R-CC 21R-3, 4-6 21R-4, 19-21 21R-4, 127-129	X X X X	N 	979.40 982.82 985.50 987.15 988.23		A A A A					C		B	F						
21R-CC 22R-CC 23R-CC 24R-5, 82-84 24R-CC	 X 	Y Y Y Y Y	988.32 997.41 1006.86 1018.42 1019.07	Micaceous Rare glauconite, rare mica	A A R R A	A F R	A R		C			R F A		R		C			
25R-CC 26R-CC 27R-CC 28R-CC 29R-1, 35-39	 X	N N N N N	1030.41 1034.04 1050.18 1057.36 1060.05	Very fine sand; rare glauconite, phosphate pellets; common mica Rare glauconite, phosphate pellets; common mica Mica, glauconite, angular quartz Mica, glauconite		R R C R			R R			B B B C				R R			
29R-5, 104-109 29R-CC 30R-5, 92-96 30R-CC 31R-1, 81-84	X X X	Y Y 	1066.57 1067.61 1076.05 1076.64 1079.81	Very fine-fine sand; mica, glauconite Very fine sand	R R F R F		R R R					F F C F				R R R			
31R-5, 18-20 31R-CC 32R-CC 33R-CC 34R-CC	X 	N N Y Y	1085.07 1086.88 1098.33 1107.76 1113.78	Very fine-fine quartz sand; common mica and glauconite Common mica	F R	F F F C			C			B B C A	F F F			R R C			
35R-3, 55-58 35R-CC 36R-2, 123-127 36R-CC 37R-3, 89-93	X X X	Y Y 	1120.95 1126.87 1129.74 1135.63 1140.05	Mica	R C A	R F F R	R R C			R		C F					R		
37R-CC 38R-6, 92-95 38R-CC 39R-CC 40R-3, 144-146	 X X	Y Y N 	1145.55 1153.74 1155.60 1164.26 1169.31	Rare quartz and pyrite	C R	R R F						C B	F						
40R-CC 41R-2, 88-91 41R-3, 52-55 41R-CC 42R-CC	 X X 	Y N N	1174.29 1176.78 1177.96 1183.96 1194.25	Coarse silt/very fine sand, mica Rare wood	R C R	R R A C	R C		A C			F R						R R	F R

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Epoch	Foraminifers age (Ma)		Planktonic foraminifer zone	Nannofossils age (Ma)		Calcareous nannofossil zone	Dinoflagellate cysts age (Ma)	
					Youngest	Oldest		Youngest	Oldest		Youngest	Oldest
20R-5, 69 20R-CC 21R-3, 4–6 21R-4, 19–21 21R-4, 127–129	X X X X	N	979.40 982.82 985.50 987.15 988.23	early Paleocene earliest Paleocene latest Maastrichtian	61.2 64.7 65.0	64.5 64.9 68.6	P1? Barren Unzoned P α KS31			Barren	63.72	64.75
21R-CC 22R-CC 23R-CC 24R-5, 82–84 24R-CC		Y Y Y X Y	988.32 997.41 1006.86 1018.42 1019.07	latest Maastrichtian late Campanian (N) late Campanian late Campanian	65.0 69.6 72.8	68.6 71.3 75.2	KS31 Upper KS30? Unzoned Unzoned KS28/KS29	65.0 65.0 71.4 71.3	65.8 67.5 79.5 75.3	UC20 (CC26) UC16 UC15/UC16 UC15/UC16	Not sampled Barren Barren Barren	
25R-CC 26R-CC 27R-CC 28R-CC 29R-1, 35–39		N N N N X	1030.41 1034.04 1050.18 1057.36 1060.05	latest Turonian–early Coniacian			Barren Barren Barren Barren Barren	87.2	89.3	Barren Barren Barren UC9	Barren Barren Barren Barren	
29R-5, 104–109 29R-CC 30R-5, 92–96 30R-CC 31R-1, 81–84	X X X X	Y Y Y	1066.57 1067.61 1076.05 1076.64 1079.81	late early–early late Turonian earliest Turonian earliest Turonian late Cenomanian–early Turonian	90.7 93.0 93.0	93.0 94.0 94.0	Unzoned KS21 KS20 Unzoned KS20	89.3 91.0	91.0 93.2	UC8 UC7	88.70 92.50	92.50 93.50
31R-5, 18–20 31R-CC 32R-CC 33R-CC 34R-CC	X	N N Y Y	1085.07 1086.88 1098.33 1107.76 1113.78	latest Cenomanian latest Cenomanian Cenomanian late Cenomanian late Cenomanian	94.0	96.6	KS19 Barren Barren Barren Unzoned	93.4 94.1	96.8 96.8	Barren Barren UC3/UC5 UC3	92.50 92.50 95.84 Barren	96.00 100.50 100.00
35R-3, 55–58 35R-CC 36R-2, 123–127 36R-CC 37R-3, 89–93	X X X X	Y Y Y	1120.95 1126.87 1129.74 1135.63 1140.05	late Cenomanian early Cenomanian early Cenomanian	96.8	99.1	Unzoned Unzoned KS17 Barren Barren	94.1 97.0	96.8 97.6	UC3 UC1	Not sampled Not sampled	
37R-CC 38R-6, 92–95 38R-CC 39R-CC 40R-3, 144–146	X X X X	Y Y N	1145.55 1153.74 1155.60 1164.26 1169.31	late Albian/early Cenomanian late Albian/early Cenomanian early Cenomanian			Barren Unzoned Barren Barren Barren	97.0 97.6	101.7 101.7	UC1/NC10a NC10a Barren	Not sampled Not sampled 96.00	 98.90
40R-CC 41R-2, 88–91 41R-3, 52–55 41R-CC 42R-CC	X X X X	Y Y N N	1174.29 1176.78 1177.96 1183.96 1194.25	late Albian/early Cenomanian latest Albian latest Albian	99.1	100.4	Unzoned KS16 Unzoned Barren Barren	97.6	101.7	NC10a Barren Barren	Not sampled 98.90 Not sampled	 100.00

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Comments
20R-5, 69	X	N	979.40	Abundant reworked late Maastrichtian planktonic foraminifers
20R-CC			982.82	Rare pyritized radiolarian fragments and rare pyritized ?diatom fragments
21R-3, 4–6	X		985.50	Abundant reworked late Maastrichtian planktonic foraminifers
21R-4, 19–21	X		987.15	Abundant reworked late Maastrichtian planktonic foraminifers
21R-4, 127–129	X		988.23	
21R-CC		Y	988.32	Redeposited bathyal calcareous benthics; Tethyan biserial and multiserial taxa missing
22R-CC		Y	997.41	Size-sorted planktonic and calcareous benthic foraminifers; Tethyan biserial and multiserial taxa missing
23R-CC		Y	1006.86	
24R-5, 82–84	X		1018.42	
24R-CC		Y	1019.07	
25R-CC		N	1030.41	
26R-CC		N	1034.04	
27R-CC		N	1050.18	
28R-CC		N	1057.36	
29R-1, 35–39	X		1060.05	
29R-5, 104–109	X		1066.57	
29R-CC		Y	1067.61	
30R-5, 92–96	X		1076.05	
30R-CC		Y	1076.64	Size-sorted planktonic foraminifers in sandy lithology only
31R-1, 81–84	X		1079.81	
31R-5, 18–20	X		1085.07	
31R-CC		N	1086.88	
32R-CC		N	1098.33	Rare pyritized radiolarian fragments in palynological preparations
33R-CC		Y	1107.76	Rare pyritized radiolarian fragments in palynological preparations
34R-CC		Y	1113.78	Size-sorted planktonic foraminifers
35R-3, 55–58	X		1120.95	
35R-CC		Y	1126.87	Redeposited bathyal calcareous benthics; Tethyan taxa missing?
36R-2, 123–127	X		1129.74	
36R-CC		Y	1135.63	
37R-3, 89–93	X		1140.05	
37R-CC		Y	1145.55	
38R-6, 92–95	X		1153.74	Size-sorted planktonic foraminifers
38R-CC		Y	1155.60	Rare pyritized radiolarian fragments in palynological preparations
39R-CC		N	1164.26	
40R-3, 144–146	X		1169.31	
40R-CC		Y	1174.29	Size-sorted planktonic and calcareous benthic foraminifers
41R-2, 88–91	X		1176.78	
41R-3, 52–55	X		1177.96	Size-sorted planktonic foraminifers
41R-CC		N	1183.96	
42R-CC		N	1194.25	Common small pyritized radiolarians in palynological preparations

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Lithology
43R-3, 63–65	X		1197.18	Siltstone, calcareous, laminated
43R-CC		Y	1202.30	Mudstone, very dark gray, moderately soft and fissile with pinkish light gray beds, hard, blocky
44R-5, 51–53	X		1209.79	Radiolarian marlstone and siltstone, laminated
44R-CC		Y	1213.23	Mudstone, dark brownish gray to black, finely laminated, fissile, moderately soft
45R-2, 112–114	X		1215.45	Silty grainstone, laminated, intraclastic
45R-CC		Y	1221.73	Mudstone, dark gray, moderately hard, light pinkish gray silty mudstone, burrowed, moderately hard
46R-4, 85–87	X		1227.84	Siltstone, calcareous, laminated
46R-CC		Y	1231.74	Siltstone, dark gray and light gray laminated, moderately hard
47R-CC		Y	1241.61	Siltstone, light gray, hard and mudstone, very dark gray, silty, hard, fissile
48R-3, 69–71	X		1245.47	Grainstone, laminated, intraclastic
48R-CC		Y	1249.14	Mudstone, medium dark gray, moderately hard, blocky, disturbed, some diagenetic carbonate lenses
49R-CC		Y	1259.87	Sandstone, medium gray, hard, fine grained, some cross-bedding
50R-4, 56–58	X		1266.06	Sandy siltstone, laminated
50R-4, 105–107	X		1266.55	Shale to marlstone, laminated
50R-CC		N	1268.98	Mudstone, dark gray black, moderately hard, moderately fissile, burrowed
51R-1, 142–146	X		1272.12	Grainstone
51R-CC		Y	1279.06	Mudstone, dark gray, finely laminated, moderately hard, silty
52R-3, 90–91	X		1284.30	Siltstone, carbonate cemented, laminated
52R-4, 91–93	X		1285.81	Siltstone, carbonate cemented, micaceous, laminated
52R-CC		Y	1290.00	Shale, black
53R-4, 24–26	X		1294.68	Grainstone, intraclastic, micritic
53R-CC		Y	1298.19	Sandy mudstone, very dark gray, soft, blocky
54R-1, 63–66	X		1300.23	Silty sandstone, carbonate cemented
54R-CC		Y	1307.67	Mudstone, very dark gray, possibly drilling paste, lighter gray blocky interior processed
55R-1, 90–93	X		1310.10	Sandy siltstone, carbonate cemented, laminated
55R-CC		Y	1314.90	Sandstone, light gray with darker gray laminae and bands, hard
56R-CC		Y	1324.48	Mudstone, very dark gray, soft, blocky
57R-CC		Y	1331.42	Mudstone, very dark gray, moderately soft, fissile, with thin band of light pinkish brown silty mudstone
58R-CC		Y	1343.02	Shale, black
59R-CC		Y	1353.20	Shale, black; siltstone, white; claystone, dark gray
60R-2, 25–27	X		1355.45	Limestone, micritic, pelleted
60R-CC		Y	1362.02	Sandstone and muddy siltstone, light gray very fine; mudstone, dark olive gray, bioturbated
61RCC		N	1372.63	Mudstone, dark gray, moderately hard plus siltstone, medium dark gray, finely laminated, hard
62R-2, 110–112	X		1375.50	Siltstone and marlstone with radiolarians, laminated
62R-6, 36–38	X		1380.76	Limestone, micritic, pelleted
62R-CC		Y	1382.44	Mudstone, dark gray, soft, subfissile and siltstone, light gray, moderately hard, calcareous
63R-CC		Y	1392.07	Mudstone
64R-CC		Y	1401.74	Mudstone, dark gray to black, soft, subfissile
65R-CC		Y	1410.72	
66R-CC		N	1418.55	Mudstone, black

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)		Planktonic foraminifers	Calcareous benthic foraminifers	Agglutinated foraminifers	Larger benthic foraminifers	Radiolarians	Diatoms	Sponge spicules	Calcareous nannofossils	Palynomorphs	Ostracodes	Fish teeth/bone	Echinoderm spines	Inoceramus	Megaspores	Wood/plant debris
				>63-µm sieve residue															
43R-3, 63–65	X		1197.18		R														
43R-CC		Y	1202.30		R	R	C		R			R				R			R
44R-5, 51–53	X		1209.79		F				C										
44R-CC		Y	1213.23		A	R	F					A							
45R-2, 112–114	X		1215.45		C	F													
45R-CC		Y	1221.73		F	R	A					A	F						
46R-4, 85–87	X		1227.84		F														
46R-CC		Y	1231.74	Glauconite	C	R	C					C							
47R-CC		Y	1241.61		C	R	C		C			F							
48R-3, 69–71	X		1245.47		F	R			R										
48R-CC		Y	1249.14		A	A	A		A			C							
49R-CC		Y	1259.87	Micaceous	R	R						R					R		
50R-4, 56–58	X		1266.06		F	R													
50R-4, 105–107	X		1266.55		F														
50R-CC		N	1268.98	Wood		R	C					R							F
51R-1, 142–146	X		1272.12		F	R													
51R-CC		Y	1279.06	Abundant quartz and mica	F	F						A							F
52R-3, 90–91	X		1284.30		R														
52R-4, 91–93	X		1285.81																
52R-CC		Y	1290.00	Pyrite burrows	R	R	A		F			B			R				
53R-4, 24–26	X		1294.68		F	R	R												
53R-CC		Y	1298.19	Mica	R							F							C
54R-1, 63–66	X		1300.23			R													
54R-CC		Y	1307.67		A	R	F		A			A			R				
55R-1, 90–93	X		1310.10		R	R													F
55R-CC		Y	1314.90		R	F						F							
56R-CC		Y	1324.48				R					B							
57R-CC		Y	1331.42		R		R					B							
58R-CC		Y	1343.02	Very fine quartz sand; rare pyrite		R	A		R			B			F		R		R
59R-CC		Y	1353.20		C	F	F		R			A		R	R		R		R
60R-2, 25–27	X		1355.45						R										
60R-CC		Y	1362.02	Coarse silt, few mica			C					R			R				
61RCC		N	1372.63	Rare quartz, mica, wood, and pyrite			A		A			B							
62R-2, 110–112	X		1375.50		R				C?										
62R-6, 36–38	X		1380.76																F
62R-CC		Y	1382.44	Rare mica, micaceous sandstone fragments	R	R	R					C			R				
63R-CC		Y	1392.07		R	R	R				R	F			F		R		A
64R-CC		Y	1401.74			R	A					R			R				R
65R-CC		Y	1410.72				A					B				R			R
66R-CC		N	1418.55	Very fine sand, mica			A		R			B			F	R			F

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Epoch	Foraminifers age (Ma)		Planktonic foraminifer zone	Nannofossils age (Ma)		Calcareous nannofossil zone	Dinoflagellate cysts age (Ma)	
					Youngest	Oldest		Youngest	Oldest		Youngest	Oldest
43R-3, 63–65	X		1197.18	latest Albian	99.1	100.4	Unzoned	97.6	101.7	NC10a	Not sampled	
43R-CC		Y	1202.30				KS16					
44R-5, 51–53	X		1209.79				KS16					
44R-CC		Y	1213.23				KS16					
45R-2, 112–114	X		1215.45				KS15–KS16					
45R-CC		Y	1221.73	late Albian	100.4	101.7	KS15	101.7	105.0	NC9b	101.06	103.18
46R-4, 85–87	X		1227.84				Unzoned					
46R-CC		Y	1231.74				KS15					
47R-CC		Y	1241.61				Unzoned					
48R-3, 69–71	X		1245.47				Unzoned					
48R-CC		Y	1249.14	late Albian	100.4	101.7	KS15	101.7	105.0	NC9b	Not sampled	
49R-CC		Y	1259.87				Unzoned					
50R-4, 56–58	X		1266.06				Unzoned					
50R-4, 105–107	X		1266.55				Unzoned					
50R-CC		N	1268.98				Barren			Barren	Not sampled	
51R-1, 142–146	X		1272.12	late Albian	100.4	101.7	KS15	105.0	106.1	NC9a?	Not sampled	
51R-CC		Y	1279.06				Unzoned					
52R-3, 90–91	X		1284.30				Unzoned					
52R-4, 91–93	X		1285.81				Unzoned					
52R-CC		Y	1290.00				Lower KS14				Not sampled	
53R-4, 24–26	X		1294.68	middle—early late Albian	102.4	109.5	KS13–KS14	105.0	106.1	NC9a?	Not sampled	
53R-CC		Y	1298.19				KS13–KS15					
54R-1, 63–66	X		1300.23				Unzoned					
54R-CC		Y	1307.67				Lower KS14					
55R-1, 90–93	X		1310.10				KS14					
55R-CC		Y	1314.90	middle Albian/late Albian	105.0	109.5	Unzoned	105.0	106.1	NC9a	Not sampled	107.00
56R-CC		Y	1324.48				Barren					
57R-CC		Y	1331.42				Unzoned					
58R-CC		Y	1343.02				Barren					
59R-CC		Y	1353.20				KS13					
60R-2, 25–27	X		1355.45	middle Albian			Unzoned	105.0	106.1	NC9a	Not sampled	
60R-CC		Y	1362.02				Barren					
61RCC		N	1372.63				Barren					
62R-2, 110–112	X		1375.50				Unzoned					
62R-6, 36–38	X		1380.76				Unzoned					
62R-CC		Y	1382.44	middle Albian	105.0	109.5	Unzoned	105.0	106.1	NC9a	Not sampled	
63R-CC		Y	1392.07				KS13?					
64R-CC		Y	1401.74				Barren					
65R-CC		Y	1410.72				Barren					
66R-CC		N	1418.55				Barren					

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Comments
43R-3, 63–65	X		1197.18	Size-sorted planktonic foraminifers
43R-CC		Y	1202.30	Common pyritized radiolarian fragments in palynological preparations
44R-5, 51–53	X		1209.79	
44R-CC		Y	1213.23	Size-sorted planktonic and calcareous benthic foraminifers; early Cretaceous reworked calcareous nannofossils
45R-2, 112–114	X		1215.45	
45R-CC		Y	1221.73	Size-sorted planktonic and calcareous benthic foraminifers abundant pyritized radiolarian fragments in palynological preparations
46R-4, 85–87	X		1227.84	Size-sorted planktonic foraminifers
46R-CC		Y	1231.74	Reworked Early Cretaceous calcareous nannofossils
47R-CC		Y	1241.61	Abundant pyritized radiolarian fragments and rare sponge spicules in palynological preparations
48R-3, 69–71	X		1245.47	
48R-CC		Y	1249.14	
49R-CC		Y	1259.87	
50R-4, 56–58	X		1266.06	
50R-4, 105–107	X		1266.55	
50R-CC		N	1268.98	
51R-1, 142–146	X		1272.12	
51R-CC		Y	1279.06	Size-sorted planktonic and calcareous benthic foraminifers
52R-3, 90–91	X		1284.30	Size-sorted planktonic foraminifers
52R-4, 91–93	X		1285.81	
52R-CC		Y	1290.00	
53R-4, 24–26	X		1294.68	
53R-CC		Y	1298.19	Size-sorted planktonic foraminifers; reworked Early Cretaceous calcareous nannofossils
54R-1, 63–66	X		1300.23	
54R-CC		Y	1307.67	Reworked Early Cretaceous calcareous nannofossils
55R-1, 90–93	X		1310.10	
55R-CC		Y	1314.90	
56R-CC		Y	1324.48	Pyritized radiolarians
57R-CC		Y	1331.42	Pyritized radiolarians
58R-CC		Y	1343.02	Fragments of inoceramid shell; common pyritized radiolarian fragments in palynological preparations
59R-CC		Y	1353.20	Common pyritized radiolarian fragments in palynological preparations; reworked Early Cretaceous calcareous nannofossils
60R-2, 25–27	X		1355.45	
60R-CC		Y	1362.02	
61RCC		N	1372.63	
62R-2, 110–112	X		1375.50	
62R-6, 36–38	X		1380.76	
62R-CC		Y	1382.44	Size-sorted planktonic and calcareous benthic foraminifers?
63R-CC		Y	1392.07	Size-sorted planktonic and calcareous benthic foraminifers
64R-CC		Y	1401.74	Size-sorted calcareous benthic foraminifers
65R-CC		Y	1410.72	Size-sorted calcareous benthic foraminifers
66R-CC		N	1418.55	

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Lithology
67R-CC 68R-7, bottom 69R-2, 50–53 69R-CC 70R-CC	X	Y N Y N	1430.11 1440.23 1441.80 1447.96 1458.62	Mudstone, dark medium to dark gray Shale, black Sandy siltstone, intraclastic Shale, black with very fine sandstone laminae Shale, black, soft, fissile, silty, noncalcareous with calcareous silty nodule at base; two lithologies processed separately
71R-CC 72R-CC 73R-CC 74R-CC 75R-5, 64–67	X	N N Y Y	1468.59 1477.28 1487.08 1495.91 1504.34	Shale, black, fissile, pyrite on bedding planes Shale, black, noncalcareous, fissile, moderately soft Mudstone, black to dark gray with lighter gray siltstone interbeds; siltstone is calcareous Shale, black; sandstone, very fine, medium gray Muddy sandstone
75R-5, 147–150 75R-6, 37–40 75R-CC 76R-CC 77R-CC	X X	Y Y Y	1505.17 1505.57 1506.23 1517.57 1524.85	Silty sandstone, carbonate cemented, poorly sorted Tuff, cross laminated, altered, spiculitic? Mudstone, dark gray; shale, black Muddy sandstone, dark gray, friable (drilling paste?) Mudstone, medium dark gray, hard, calcareous, and siltstone, slightly lighter gray, calcareous, hard, fine laminae; both lithologies washed together as one sample
78R-CC 79R-2, 79–82 79R-4, 18–20 79R-CC 80R-3, 70–73	X X X	Y N N	1535.45 1538.49 1540.88 1544.42 1549.50	Mudstone, medium dark gray, hard, moderately fissile, calcareous; also dolomite/siderite bed at base of the core catcher—not yet processed Silty sandstone, quartzose Mudstone, calcareous, radiolarian-rich partings Shale/claystone, dark gray; dolomite/siderite bed at base of CC (78R-CC), yellowish gray Sandy siltstone
80R-CC 81R-3, 64–67 81R-CC 82R-CC 83R-CC	X	Y Y N Y	1553.73 1559.04 1563.01 1565.67 1579.66	Shale/claystone, dark gray Sandy siltstone Shale/claystone, dark gray Siltstone, medium light gray, hard, blocky Mudstone, medium dark gray and slightly lighter gray; probably drilling paste
84R-CC 85R-4, 107–110 85R-CC 86R-CC 87R-7* 90R-2, 115–117 88R-CC 89R-CC 90R-CC 91R-CC	X X X	N Y Y N N N Y N N N	1587.70 1592.52 1593.87 1602.70 1613.51 1635.95 1624.01 1631.64 1642.40 1649.77	Mudstone, medium dark gray, moderately hard, blocky, burrowed Marlstone to sandstone, carbonate cemented, laminated Mudstone, medium dark gray, moderately hard, blocky Sandstone, medium gray, poorly sorted with siltstone bed; bioturbated with abundant plant material; some pyrite Diabase sill Muddy sandstone Mudstone, dark gray; sandstone, very fine Sandstone, medium gray; minor mudstone, dark gray Mudstone, medium dark gray and dark gray, moderately hard, subfissile, silty horizons, minor bioturbation Mudstone, medium dark gray, fissile, moderately soft
92R-CC 93R-CC 94R-CC 95R-CC 96R-CC		N Y N Y Y	1661.48 1669.60 1679.90 1688.30 1698.49	Sandstone, medium gray; minor mudstone, dark gray, laminated Shale, black, with coarse silt laminae Mudstone, medium dark gray, moderately hard, subfissile Mudstone and clay, dark gray Clay, dark gray

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	>63-µm sieve residue	Planktonic foraminifers	Calcareous benthic foraminifers	Agglutinated foraminifers	Larger benthic foraminifers	Radiolarians	Diatoms	Sponge spicules	Calcareous nannofossils	Palynomorphs	Ostracodes	Fish teeth/bone	Echinoderm spines	Inoceramus	Megaspores	Wood/plant debris
67R-CC 68R-7, bottom 69R-2, 50-53 69R-CC 70R-CC	X	Y N Y N	1430.11 1440.23 1441.80 1447.96 1458.62	Abundant quartz; rare mica Few coarse silt/very fine quartz sand Nodule barren of microfauna	R		R A					F B				F			F F F
71R-CC 72R-CC 73R-CC 74R-CC 75R-5, 64-67		N N Y Y X	1468.59 1477.28 1487.08 1495.91 1504.34	Rare pyrite, rare wood, rare mica Rare mica Rare mica, pyrite, glauconite			R C R R C					B B C C R							R R R F F
75R-5, 147-150 75R-6, 37-40 75R-CC 76R-CC 77R-CC	X X		1505.17 1505.57 1506.23 1517.57 1524.85	Rare pyrite Few mica Residue consists mainly of cemented siltstone grains, common mica	R	R R													R F
78R-CC 79R-2, 79-82 79R-4, 18-20 79R-CC 80R-3, 70-73		Y X X N X	1535.45 1538.49 1540.88 1544.42 1549.50	Rare pyrite, dolomite/siderite chips; possible diatom or, more likely, a plant seed			R			?	F					R		?	R
80R-CC 81R-3, 64-67 81R-CC 82R-CC 83R-CC	X	Y Y N Y	1553.73 1559.04 1563.01 1565.67 1579.66	Rare mica Common pyrite Unsorted angular quartz, mica, rare pyrite	R	R		F	C R	?		C B F				R		R F	
84R-CC 85R-4, 107-110 85R-CC 86R-CC 87R-7* 90R-2, 115-117 88R-CC 89R-CC 90R-CC 91R-CC	X	N Y Y Y Y N N N N	1587.70 1592.52 1593.87 1602.70 1613.51 1635.95 1624.01 1631.64 1642.40 1649.77	Rare mica Rare mica, abundant organic material Rare-common mica, rare pink feldspar Mica Mica Mica Common pyrite	R		C					C R						R R F	
92R-CC 93R-CC 94R-CC 95R-CC 96R-CC		N Y N Y Y	1661.48 1669.60 1679.90 1688.30 1698.49	Rare mica, rare pink feldspar Mica, pyrite Pyrite common Mica, pyrite, coarse silt/very fine sand	R		F					B R R F C			R R R				C R R R F

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Epoch	Foraminifers age (Ma)		Planktonic foraminifer zone	Nannofossils age (Ma)		Calcareous nannofossil zone	Dinoflagellate cysts age (Ma)	
					Youngest	Oldest		Youngest	Oldest		Youngest	Oldest
67R-CC 68R-7, bottom 69R-2, 50–53 69R-CC 70R-CC	X	Y N Y N	1430.11 1440.23 1441.80 1447.96 1458.62	middle Albian middle Albian			Unzoned Barren Unzoned Barren Barren	105.0 106.1	106.1 107.3	NC9a Barren NC8c? Barren	Not sampled Not sampled Not sampled Not sampled	
71R-CC 72R-CC 73R-CC 74R-CC 75R-5, 64–67	X	N N Y Y	1468.59 1477.28 1487.08 1495.91 1504.34	 middle Albian middle Albian			Barren Barren Barren Barren Unzoned	 106.1 106.1	 107.3 107.3	Barren Barren NC8c? NC8c?	Not sampled Not sampled Not sampled Not sampled	
75R-5, 147–150 75R-6, 37–40 75R-CC 76R-CC 77R-CC	X X	 Y Y Y	1505.17 1505.57 1506.23 1517.57 1524.85	 middle Albian middle Albian middle Albian			Unzoned Unzoned Unzoned Barren Barren	 106.1 106.1 106.1	 107.3 107.3	NC8c? NC8c NC8c?	Not sampled Not sampled Not sampled	
78R-CC 79R-2, 79–82 79R-4, 18–20 79R-CC 80R-3, 70–73	X X X	Y N	1535.45 1538.49 1540.88 1544.42 1549.50	early–middle Albian			Barren Unzoned Unzoned Barren Unzoned	106.1	112.6	NC8 Unzoned	Not sampled Not sampled	
80R-CC 81R-3, 64–67 81R-CC 82R-CC 83R-CC	X	Y Y N Y	1553.73 1559.04 1563.01 1565.67 1579.66	early–middle Albian early–middle Albian early–middle Albian			Barren Unzoned Barren Barren Barren	106.1 106.1 106.1	112.6 112.6	NC8 NC8 Barren NC8	Not sampled Not sampled Not sampled Not sampled	
84R-CC 85R-4, 107–110 85R-CC 86R-CC 87R-7* 90R-2, 115–117 88R-CC 89R-CC 90R-CC 91R-CC	X X	N Y Y	1587.70 1592.52 1593.87 1602.70 1613.51 1635.95 1624.01 1631.64 1642.40 1649.77	 early–middle Albian early–middle Albian			Barren Unzoned Barren Unzoned	 106.1 106.1	 112.6 112.6	Barren NC8 NC8	Not sampled Not sampled Not sampled	
92R-CC 93R-CC 94R-CC 95R-CC 96R-CC		Y N Y Y	1635.95 1624.01 1631.64 1642.40 1649.77 1661.48 1669.60 1679.90 1688.30 1698.49	early–middle Albian latest Aptian–early Albian			Unzoned Barren Barren Barren Barren	106.1 110.9	112.6 112.6	NC8 Barren Barren NC8a	Not sampled Not sampled Not sampled Not sampled	
92R-CC 93R-CC 94R-CC 95R-CC 96R-CC		N Y N Y Y	1661.48 1669.60 1679.90 1688.30 1698.49	latest Aptian–early Albian latest Aptian–early Albian latest Aptian–early Albian latest Aptian–early Albian			Unzoned Unzoned Unzoned Barren	110.9 110.9 110.9 110.9	112.6 112.6 112.6 112.6	Barren NC8a NC8a NC8a NC8a	Not sampled Not sampled Not sampled Not sampled	

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Comments
67R-CC 68R-7, bottom 69R-2, 50–53 69R-CC 70R-CC	X	Y N Y N	1430.11 1440.23 1441.80 1447.96 1458.62	Size-sorted planktonic foraminifers; reworked Early Cretaceous calcareous nannofossils Small, spherical pyritized radiolarians; low-diversity, small agglutinated foraminifers
71R-CC 72R-CC 73R-CC 74R-CC 75R-5, 64–67	X	N N Y Y X	1468.59 1477.28 1487.08 1495.91 1504.34	
75R-5, 147–150 75R-6, 37–40 75R-CC 76R-CC 77R-CC	X X	Y Y Y Y	1505.17 1505.57 1506.23 1517.57 1524.85	Rare bryozoans, mollusk fragments, and calcareous algae? Reworked bathyal calcareous benthics; reworked Early Cretaceous calcareous nannofossils Reworked bathyal calcareous benthics
78R-CC 79R-2, 79–82 79R-4, 18–20 79R-CC 80R-3, 70–73	X X X X	Y Y N Y	1535.45 1538.49 1540.88 1544.42 1549.50	Rare calcareous algae?
80R-CC 81R-3, 64–67 81R-CC 82R-CC 83R-CC	X	Y Y N Y	1553.73 1559.04 1563.01 1565.67 1579.66	Pyritized radiolarians Rare calcareous algae?
84R-CC 85R-4, 107–110 85R-CC 86R-CC 87R-7* 90R-2, 115–117 88R-CC 89R-CC 90R-CC 91R-CC	X X X	N Y Y Y N N N N	1587.70 1592.52 1593.87 1602.70 1613.51 1635.95 1624.01 1631.64 1642.40 1649.77	Barren Dolerite sill Rare calcareous algae? Rare reworked Jurassic calcareous nannofossils Rare reworked Jurassic calcareous nannofossils Rare calcareous benthic foraminifers are very poorly preserved and tiny, rare framboidal pyrite
92R-CC 93R-CC 94R-CC 95R-CC 96R-CC		N Y N Y Y	1661.48 1669.60 1679.90 1688.30 1698.49	Rare reworked Jurassic calcareous nannofossils Rare shell fragments; rare reworked Jurassic calcareous nannofossils

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Lithology
97R-CC 98R-CC* 99R-CC*		N	1706.57 1714.18 1725.16	Clay, dark gray Diabase sill Diabase sill

Notes: * = igneous core catchers. Y = yes, N = no. N = calcareous nannofossils, D = dinoflagellates, F = foraminifers. Abundance: A = abundant, C = common, F = few, R = rare, B = barren.

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Epoch	Foraminifers age (Ma)		Planktonic foraminifer zone	Nannofossils age (Ma)		Calcareous nannofossil zone	Dinoflagellate cysts age (Ma)	
					Youngest	Oldest		Youngest	Oldest		Youngest	Oldest
97R-CC 98R-CC* 99R-CC*		N	1706.57 1714.18 1725.16				Barren			Barren	Not sampled	

Table T7 (continued).

Core, section, interval (cm)	Thin section	Calcareous	Depth (mbsf)	Comments
97R-CC 98R-CC* 99R-CC*		N	1706.57 1714.18 1725.16	Dolerite sill Dolerite sill