

Ms 191SR-009, Table T2. Stratigraphic occurrence of diatoms, Hole 1179C.

Notes: Abundance: A = abundant, C = common, F = few, R = rare, X = present. Preservation: M = moderate, P = poor. + = presence of silicoflagellate species.

UPPER MIocene-PIlestocene DIATOM BIOSTRATIGRAPHY

Table T2. Stratigraphic occurrence of diatoms, Hole 1179C. (See table notes. Continued on next 11 pages.)

Table T2 (continued).

Pliocene	Pleistocene	Neodenticula koizumii Zone	A. oculatus Zone	Yanagisawa and Akiba, 1998
Rhizosolenia praeburgonii Subzone C	Nitzschia reinholdii Zone	Barron, 1985a		
		Core, section, interval (cm)	Depth (mbsf)	Abundance
				Preservation
191-1179C-2H-1, 75-77		49.55 A M	R F	<i>Neodenticula kamtschatatica</i> (Zabelina) Akiba and Yanagisawa
2H-2, 75-77		51.05 A M	R F R	<i>Neodenticula koizumi</i> Akiba and Yanagisawa
2H-3, 75-77		52.55 A M	F R R	<i>Neodenticula seminæ</i> (Simonsen and Kanaya) Akiba and Yanagisawa
2H-4, 75-77		54.05 A M	F R R	<i>Nitzschia cf. extincta</i>
2H-5, 75-77		55.55 A P	F R X	<i>Nitzschia cf. interruptostriata</i> Simonsen
2H-6, 75-77		57.05 A P	F R R	<i>Nitzschia fossilis</i>
2H-7, 71-73		58.51 A M	F R X	<i>Nitzschia jouseae</i>
3H-1, 75-77		59.05 A P	F R X	<i>Nitzschia miocenica</i>
3H-2, 75-77		60.55 A M	F R X	<i>Nitzschia praeleinholdii</i>
3H-3, 75-77		62.05 C P	F R X	<i>Nitzschia reinholdii</i>
3H-4, 75-77		63.55 A M	F R X	<i>Nitzschia rolandii</i>
3H-5, 75-77		65.05 A M	F R X	<i>Nitzschia sicula</i> var.
3H-6, 75-77		66.55 A M	R X	<i>Paralia sulcata</i>
3H-7, 37-39		67.67 A M	R R X	<i>Planktoniella sol</i>
4H-1, 75-77		68.55 C P	F R X	<i>Pleurosigma</i> spp.
4H-2, 75-77		70.05 F P	R X	<i>Proboscia barbata</i>
4H-3, 75-77		71.55 A M	F R X	<i>Proboscia curvirostris</i>
4H-4, 75-77		73.05 A M	R R X	<i>Pseudoeucyonia dolioius</i>
4H-5, 75-77		74.55 A M	C F X	<i>Rhizosolenia</i> spp.
4H-6, 75-77		76.05 A P	R R X	<i>Rossiella elongata</i>
4H-7, 75-77		77.55 A P	R F X	<i>Rouxia</i> spp.
5H-1, 75-77		78.05 A P	R R X	<i>Stellarina</i> spp.
5H-2, 75-77		79.55 A M	R R X	<i>Stephanopyxis turris</i>
5H-3, 75-77		81.05 A P	X X X	<i>Thalassiosira antiqua</i>
5H-4, 75-77		82.55 A P	R X X	<i>Thalassiosira cf. complicata</i>
5H-5, 75-77		84.05 A M	F X R	<i>Thalassiosira cf. T. decipiens</i>
5H-6, 75-77		85.55 A M	F X X	<i>Thalassiosira cf. inura</i>

Table T2 (continued).

Pliocene	Pleistocene	Neodenticula koizumii Zone	A. oculatus Zone	Yanagisawa and Akiba, 1998
Rhizosolenia praebergonii Subzone C	Nitzschia reinholdii Zone	Barron, 1985a		
		Core, section, interval (cm)	Depth (mbst)	Abundance
				Preservation
191-1179C-2H-1, 75-77		49.55	A M	<i>Thalassiosira</i> sp. D Akiba 1985
2H-2, 75-77		51.05	A M	<i>Thalassiosira symmetrica</i>
2H-3, 75-77		52.55	A M	<i>Thalassiothrix/Thalassionema</i> fragments
2H-4, 75-77		54.05	A M	<i>Trachytes aspera</i>
2H-5, 75-77		55.55	A P	<i>Triceratium</i> sp. 1
2H-6, 75-77		57.05	A P	
2H-7, 71-73		58.51	A M	
3H-1, 75-77		59.05	A P	
3H-2, 75-77		60.55	A M	
3H-3, 75-77		62.05	C P	
3H-4, 75-77		63.55	A M	<i>Corbisema</i> spp.
3H-5, 75-77		65.05	A M	<i>Dictyocha</i> cf. <i>aspera</i>
3H-6, 75-77		66.55	A M	<i>Dictyocha brevispina</i>
3H-7, 37-39		67.67	A M	<i>Dictyocha brevispina brevispina</i>
4H-1, 75-77		68.55	C P	<i>Dictyocha</i> spp.
4H-2, 75-77		70.05	F P	<i>Dictyocha fibula</i> sp.
4H-3, 75-77		71.55	A M	<i>Dictyocha cf. neonautica</i>
4H-4, 75-77		73.05	A M	<i>Dictyocha ornata</i>
4H-5, 75-77		74.55	A M	<i>Dictyocha pulchella</i>
4H-6, 75-77		76.05	A P	<i>Dictyocha cf. rhombica</i>
4H-7, 75-77		77.55	A P	<i>Distephanus boliviensis binoculus</i>
5H-1, 75-77		78.05	A P	<i>Distephanus crux crux</i>
5H-2, 75-77		79.55	A M	<i>Distephanus speculum pentagonus</i>
5H-3, 75-77		81.05	A P	<i>Distephanus speculum f. pentagonus geminum</i>
5H-4, 75-77		82.55	A P	<i>Distephanus polyactis</i>
5H-5, 75-77		84.05	A M	<i>Distephanus pseudofibula</i>
5H-6, 75-77		85.55	A M	<i>Distephanus speculum</i> spp.

UPPER Miocene-Pleistocene Diatom Biostratigraphy

Table T2 (continued).

Table T2 (continued).

Pliocene				Yanagisawa and Akiba, 1998			
Neodenticula kamtschatica Zone	N. kamtschatica Zone	Neodenticula koizumii Zone					
Nitzschia joussea Zone				Barron, 1985a			
Rhizosolenia praebengonii Subzone B				Core, section, interval (cm)	Depth (mbsf)	Abundance	
5H-7, 61–63				86.91	A	M	Preservation
6H-1, 75–77				87.55	A	M	Neodenticula kamtschatica (Zabelina) Akiba and Yanagisawa
6H-2, 75–77				89.05	C	M	Neodenticula koizumii Akiba and Yanagisawa
6H-3, 75–77				90.55	A	P	Neodenticula seminae (Simonsen and Kanaya) Akiba and Yanagisawa
6H-4, 75–77				92.05	A	M	Nitzschia cf. extincta
6H-5, 75–77				93.55	C	M	Nitzschia cf. interruptestriata Simonsen
6H-6, 75–77				95.05	A	M	Nitzschia fossilis
6H-7, 60–62				96.4	A	M	Nitzschia jouseae
7H-1, 75–77				97.05	C	M	Nitzschia miocenica
7H-2, 75–77				98.55	A	M	Nitzschia praeireinholdii
7H-3, 75–77				100.05	A	M	Nitzschia reinholdii
7H-4, 75–77				101.55	F	P	Nitzschia rolandii
7H-5, 75–77				103.05	F	M	Nitzschia sicula var.
7H-6, 75–77				104.55	F	P	Paralia sulcata
7H-7, 53–55				105.83	F	P	Planktoniella sol
8H-1, 75–77				106.55	C	P	Pleurosigma spp.
8H-2, 75–77				108.05	C	P	Proboscia barbata
8H-3, 75–77				109.55	A	M	Proboscia curvirostris
8H-4, 75–77				111.05	C	P	Pseudoeucnotta dolioius
8H-5, 75–77				112.55	C	M	Rhizosolenia spp.
8H-6, 75–77				114.05	C	M	Rossiella elongata
8H-7, 75–77				115.55	A	M	Rouxia californica
9H-1, 75–77				116.05	F	M	Rouxia spp.
9H-2, 75–77				117.55	C	M	Stellarina spp.
9H-3, 75–77				119.05	F	P	Stephanopyxis turris
9H-4, 75–77				120.55	A	M	Thalassiosira antiqua
9H-5, 75–77				122.05	C	M	Thalassiosira cf. complicata
9H-6, 75–77				123.55	A	M	Thalassiosira cf. T. decipiens

Table T2 (continued).

Pliocene				Yanagisawa and Akiba, 1998
Neodenticula kamtschatica Zone	N. koizumii– kamtschatica Zone	Neodenticula koizumii Zone		
			Barron, 1985a	
			Core, section, interval (cm)	Depth (mbsf)
				Abundance
				Preservation
				<i>Thalassiosira</i> sp. D Akiba 1985
				<i>Thalassiosira symmetrica</i>
				<i>Thalassiothrix/Thalassionema</i> fragments
				<i>Trachyretis aspera</i>
				<i>Triceratium</i> sp. 1
				<i>Corbicella</i> spp.
				<i>Dictyocha</i> cf. <i>aspera</i>
				<i>Dictyocha brevispina</i>
				<i>Dictyocha brevispina brevispina</i>
				<i>Dictyocha</i> spp.
				<i>Dictyocha fibula</i> sp.
				<i>Dictyocha</i> cf. <i>neonautica</i>
				<i>Dictyocha ornata</i>
				<i>Dictyocha pulchella</i>
				<i>Dictyocha</i> cf. <i>rhombica</i>
				<i>Distephanus boliviensis binoculus</i>
				<i>Distephanus crux crux</i>
				<i>Distephanus speculum pentagonus</i>
				<i>Distephanus speculum</i> f. <i>pentagonus geminum</i>
				<i>Distephanus polyactis</i>
				<i>Distephanus pseudofibula</i>
				<i>Distephanus speculum</i> spp.
				<i>Mesocena circulus</i>
				<i>Mesocena diodon</i> spp. <i>nodosa</i>
				<i>Mesocena</i> sp. 1
				+

UPPER MIocene–Pleistocene Diatom Biostratigraphy

Table T2 (continued).

		Yanagisawa and Akiba, 1998			
		Barron, 1985a			
Pliocene		Core, section, interval (cm)	Depth (mbsf)	Abundance	Preservation
Neodenticula kamtschatica Zone	Nitzschia joussea Zone	9H-7, 15–17	124.45	A M	<i>Achnanthes</i> spp.
		10H-1, 75–77	125.55	A M	<i>Actinocyclus curvatus</i>
		10H-2, 75–77	127.05	A M	<i>Actinocyclus ehrenbergii</i>
		10H-3, 75–77	128.55	C M	<i>Actinocyclus ellipticus</i>
		10H-4, 75–77	130.05	C M	<i>Actinocyclus ellipticus</i> var. <i>elongatus</i>
		10H-5, 75–77	131.55	C M	<i>Actinocyclus octonarius</i>
		10H-6, 75–77	133.05	C M	<i>Actinocyclus oculatus</i> , <i>louise</i>
		10H-7, 50–52	134.3	A M	<i>Actinocyclus tenellus</i>
		11H-1, 75–77	135.05	A M	<i>Actinopytchus</i> spp.
		11H-2, 75–77	136.55	A M	<i>Alveus marina</i>
		11H-3, 75–77	138.05	C M	<i>Asterolampra acutiloba</i>
		11H-4, 75–77	139.55	A M	<i>Asterolampra greville</i>
		11H-5, 75–77	141.05	C M	<i>Asteromphalus arachne</i>
		11H-6, 75–77	142.55	C M	<i>Asteromphalus elegans</i>
		11H-7, 35–37	143.65	A M	<i>Asteromphalus hookeri</i>
		12H-1, 75–77	144.55	A M	<i>Asteromphalus oligocenicus</i>
		12H-2, 75–77	146.05	A M	<i>Asteromphalus parvulus</i>
		12H-3, 75–77	147.55	A M	<i>Asteromphalus symmetricus</i>
		12H-4, 75–77	149.05	A M	<i>Aulacoseira granulata</i>
		12H-5, 75–77	150.55	A M	<i>Azeptia neorenulata</i>
		12H-6, 75–77	152.05	A M	<i>Azeptia nodulifer</i>
		12H-7, 75–77	153.55	C M	<i>Azeptia tabularis</i>
		13H-1, 75–77	154.05	F P	<i>Bacteriosium hyalinum</i>
		13H-2, 75–77	155.55	F P	<i>Bogorovia lancettula</i>
		13H-3, 75–77	157.05	F P	<i>Cocconeis pinnata</i>
		13H-4, 75–77	158.55	F P	<i>Coscinodiscus asteromphalus</i>
		13H-5, 75–77	160.05	F M	<i>Coscinodiscus lewisianus</i>
		13H-6, 75–77	161.55	F M	<i>Coscinodiscus marginatus</i>
		14H-4, 73–75	168.03	F M	<i>Coscinodiscus oculus-iridus</i>
		14H-5, 73–75	169.53	C M	<i>Coscinodiscus radiatus</i>
					<i>Dactyliosolen</i> spp.
					<i>Delphinis surella</i>
					<i>Denticulopsis lauta</i>
					<i>Diploneis</i> cf. <i>bombus</i>
					<i>Eunotia</i> spp.
					<i>Hemiaulus</i> sp. 1
					<i>Hemiaulus</i> sp. 2
					<i>Hemidiscus cuneiformis</i>
					<i>Koizumiata sunokuchensis</i>
					<i>Lithodesmium reynoldsi</i>

Table T2 (continued).

Neodenticula kamtschatatica Zone		Barron, 1985a		Yanagisawa and Akiba, 1998	
Thalassiosira convexa Zone	Nitzschia jouseae Zone	Core, section, interval (cm)	Depth (mbsf)	Abundance	Preservation
9H-7, 15-17	124.45	A M	F	X	<i>Neodenticula kamtschatatica</i> (Zabelina) Akiba and Yanagisawa
10H-1, 75-77	125.55	A M	R R	R X	<i>Neodenticula kozumii</i> Akiba and Yanagisawa
10H-2, 75-77	127.05	A M	X	X X	<i>Neodenticula seminae</i> (Simonsen and Kanaya) Akiba and Yanagisawa
10H-3, 75-77	128.55	C M	M X	X X	<i>Nitzschia cf. extincta</i>
10H-4, 75-77	130.05	C M	M R	R R R	<i>Nitzschia fossilis</i>
10H-5, 75-77	131.55	C M	X	X R	<i>Nitzschia jouseae</i>
10H-6, 75-77	133.05	C M	X	R X	<i>Nitzschia miocenica</i>
10H-7, 50-52	134.3	A M	R	R X	<i>Nitzschia praereinholdii</i>
11H-1, 75-77	135.05	A M	X	R X	<i>Nitzschia reinholdii</i>
11H-2, 75-77	136.55	A M	R	F	<i>Nitzschia rolandii</i>
11H-3, 75-77	138.05	C M	R	X X	<i>Nitzschia sicula</i> var.
11H-4, 75-77	139.55	A M	R	X X	<i>Pandalia sulcata</i>
11H-5, 75-77	141.05	C M	M X	R X	<i>Planktoniella sol</i>
11H-6, 75-77	142.55	C M	X	X X	<i>Pleuroigma</i> spp.
11H-7, 35-37	143.65	A M	R	X X	<i>Proboscia barbata</i>
12H-1, 75-77	144.55	A M	X	X X	<i>Proboscia curvirostris</i>
12H-2, 75-77	146.05	A M	X	R R	<i>Pseudoeunotia doliolus</i>
12H-3, 75-77	147.55	A M	X	R R	<i>Rhizosolenia</i> spp.
12H-4, 75-77	149.05	A M	R	X R F	<i>Rossiella elongata</i>
12H-5, 75-77	150.55	A M	R	R R	<i>Rouxia californica</i>
12H-6, 75-77	152.05	A M	F	X ?	<i>Rouxia</i> spp.
12H-7, 75-77	153.55	C M	X	X X	<i>Stellarima</i> spp.
13H-1, 75-77	154.05	F P	?	X X	<i>Stephanopyxis turris</i>
13H-2, 75-77	155.55	F P		X X	<i>Thalassiosira antiqua</i>
13H-3, 75-77	157.05	F P		X X	<i>Thalassiosira cf. complicata</i>
13H-4, 75-77	158.55	F P		X X	<i>Thalassiosira cf. T. decipiens</i>
13H-5, 75-77	160.05	F M		X X	<i>Thalassiosira cf. inura</i>
13H-6, 75-77	161.55	F M		X X	<i>Thalassiosira cf. kolbei</i>
14H-4, 73-75	168.03	F M		X X	<i>Thalassiosira convexa</i>
14H-5, 73-75	169.53	C M		X X	<i>Thalassiosira eccentrica</i>

Table T2 (continued).

		Yanagisawa and Akiba, 1998			
		Barron, 1985a			
Pliocene	Neodenticula karntschatica Zone	Core, section, interval (cm)	Depth (mbsf)	Abundance	Preservation
		9H-7, 15–17	124.45	A M	<i>Thalassiosira</i> sp. D Akiba 1985
		10H-1, 75–77	125.55	A M	<i>Thalassiosira symmetrica</i>
		10H-2, 75–77	127.05	A M	<i>Thalassiosira/Thalassionema</i> fragments
		10H-3, 75–77	128.55	C M	
		10H-4, 75–77	130.05	C M	<i>Trachytes aspera</i>
		10H-5, 75–77	131.55	C M	
		10H-6, 75–77	133.05	C M	
		10H-7, 50–52	134.3	A M	
		11H-1, 75–77	135.05	A M	
		11H-2, 75–77	136.55	A M	
		11H-3, 75–77	138.05	C M	
		11H-4, 75–77	139.55	A M	
		11H-5, 75–77	141.05	C M	
		11H-6, 75–77	142.55	C M	
		11H-7, 35–37	143.65	A M	
		12H-1, 75–77	144.55	A M	
		12H-2, 75–77	146.05	A M	
		12H-3, 75–77	147.55	A M	
		12H-4, 75–77	149.05	A M	
		12H-5, 75–77	150.55	A M	
		12H-6, 75–77	152.05	A M	
		12H-7, 75–77	153.55	C M	
		13H-1, 75–77	154.05	F P	
		13H-2, 75–77	155.55	F P	
		13H-3, 75–77	157.05	F P	
		13H-4, 75–77	158.55	F P	
		13H-5, 75–77	160.05	F M	
		13H-6, 75–77	161.55	F M	
		14H-4, 73–75	168.03	F M	
		14H-5, 73–75	169.53	C M	

UPPER Miocene-Pleistocene Diatom Biostratigraphy

Table T2 (continued).

Notes: Abundance: A = abundant, C = common, F = few, R = rare, X = present. Preservation: M = moderate, P = poor. + = presence of silicoflagellate species.

Table T2 (continued).

Miocene	Rouxia californica Zone	Neodenticula kamtschatcica Zone	Yanagisawa and Akiba, 1998
	Nitzschia miocenica Zone	Thalassiosira convexa Zone	Barron, 1985a
		Core, section, interval (cm)	Depth (mbsf)
			Abundance
			Preservation
14H-6, 75-77	14H-7, 75-77	171.05	F P
14H-7, 75-77	172.57	C M	Neodenticula kamtschatcica (Zabelina) Akiba and Yanagisawa
16H-4, 75-77	187.05	F P	Neodenticula koizumi Akiba and Yanagisawa
16H-5, 75-77	188.55	F M	Neodenticula seminæ (Simonsen and Kanaya) Akiba and Yanagisawa
16H-6, 75-77	190.05	C M	Nitzschia cf. extincta
16H-7, 72-74	191.52	F M	Nitzschia cf. interruptestriata Simonsen
17H-1, 75-77	192.05	F P	Nitzschia fossilis
17H-2, 75-77	193.55	F P	Nitzschia jouseae
17H-3, 75-77	195.05	A M	Nitzschia miocenica
17H-4, 75-77	196.55	F P	Nitzschia praeireinholdii
17H-5, 75-77	198.05	C M	Nitzschia reinholdii
17H-6, 75-77	199.55	F M	Nitzschia rolandii
17H-7, 57-59	200.87	F M	Nitzschia sicula var.
18H-1, 75-77	201.55	C M	Paralia sulcata
18H-2, 75-77	203.05	C M	Planktoniella sol
18H-3, 75-77	204.55	A M	Pleurosigma spp.
18H-4, 75-77	206.05	C M	Proboscia barbata
18H-5, 75-77	207.55	C M	Proboscia curvirostris
18H-6, 75-77	209.05	C M	Pseudoeucnotta dolioius
18H-7, 74-76	210.54	C M	Rhizosolenia spp.
19H-1, 72-74	211.02	A M	Rossiella elongata
19H-2, 75-77	212.55	F M	Rouxia californica
19H-3, 75-77	214.05	C M	Rouxia spp.
19H-4, 75-77	215.55	C M	Stellarina spp.
19H-5, 75-77	217.05	C M	Stephanopyxis turris
19H-6, 75-77	218.55	F M	Thalassiosira antiqua

Table T2 (continued).