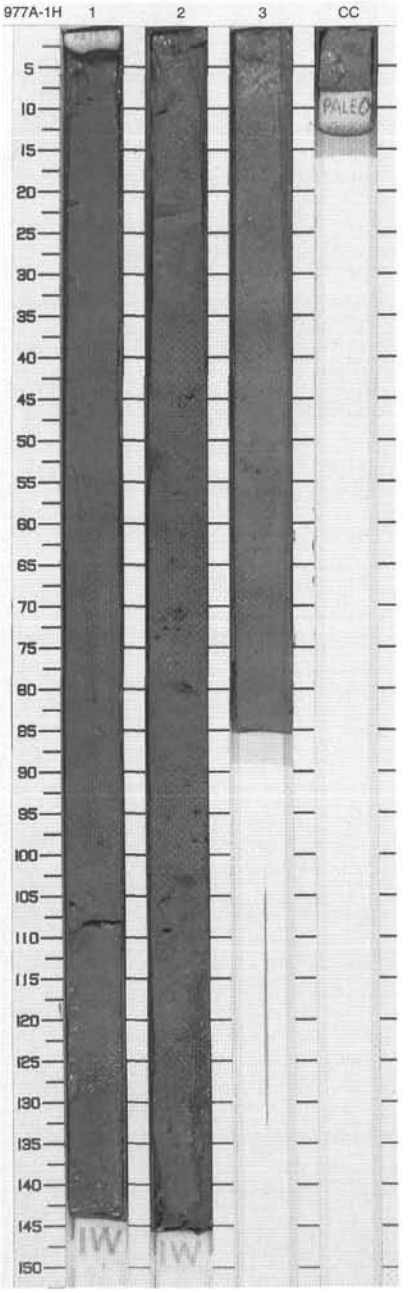
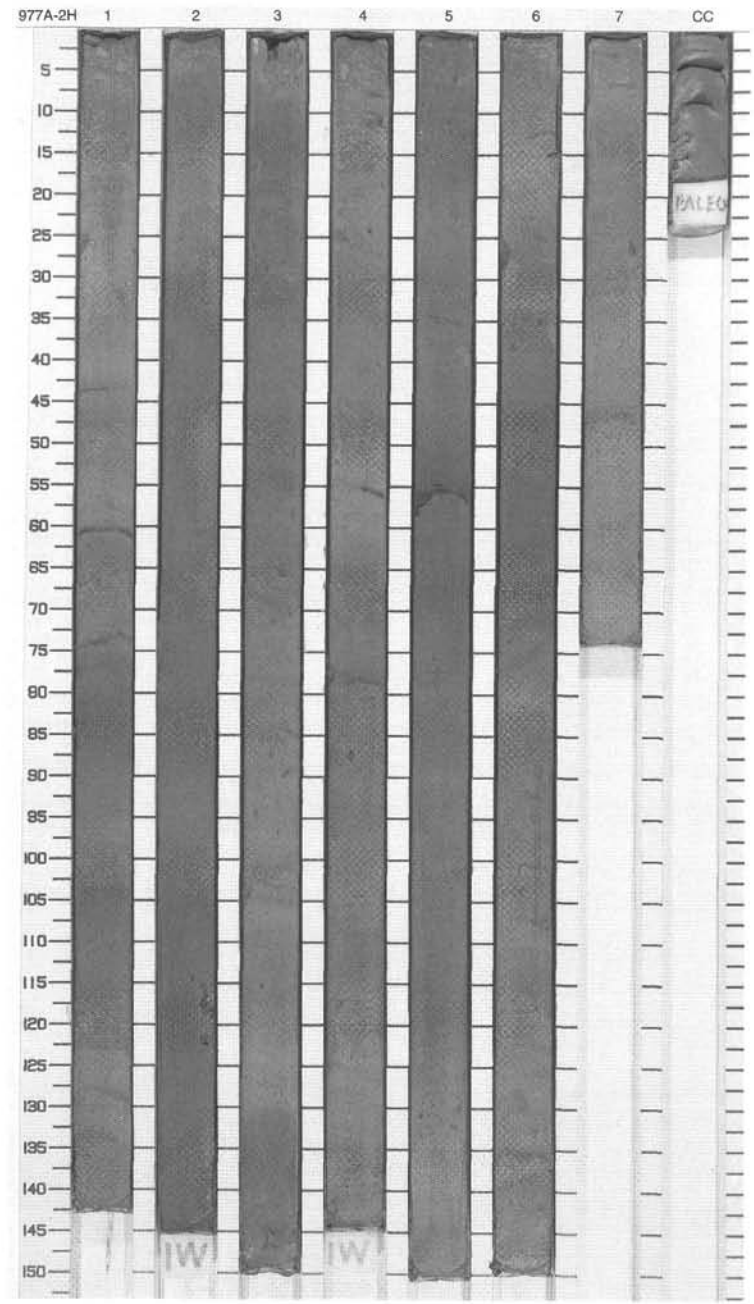
SITE 977 HOLE A CORE 1H CORED 0.0 - 4.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene			S M	10YR 4/2	NANNOFOSSIL CLAY and CALCAREOUS CLAY Major Lithologies: The major lithologies are light olive gray (5Y 5/2), olive gray (5Y 4/1) to grayish olive (10Y 4/2) NANNOFOSSIL CLAY, and light olive gray (5Y 5/2) CALCAREOUS CLAY. General Description: Grayish olive (5Y 3/2) organic-rich layer occurs at 43–72 cm in Section 2.
						S	5Y 5/2	
						I	5Y 4/1	
2		2				S	10Y 4/2	
						S S	5GY 5/2	
3						I		
		3		P P P		S	5Y 5/2	
		CC				M		



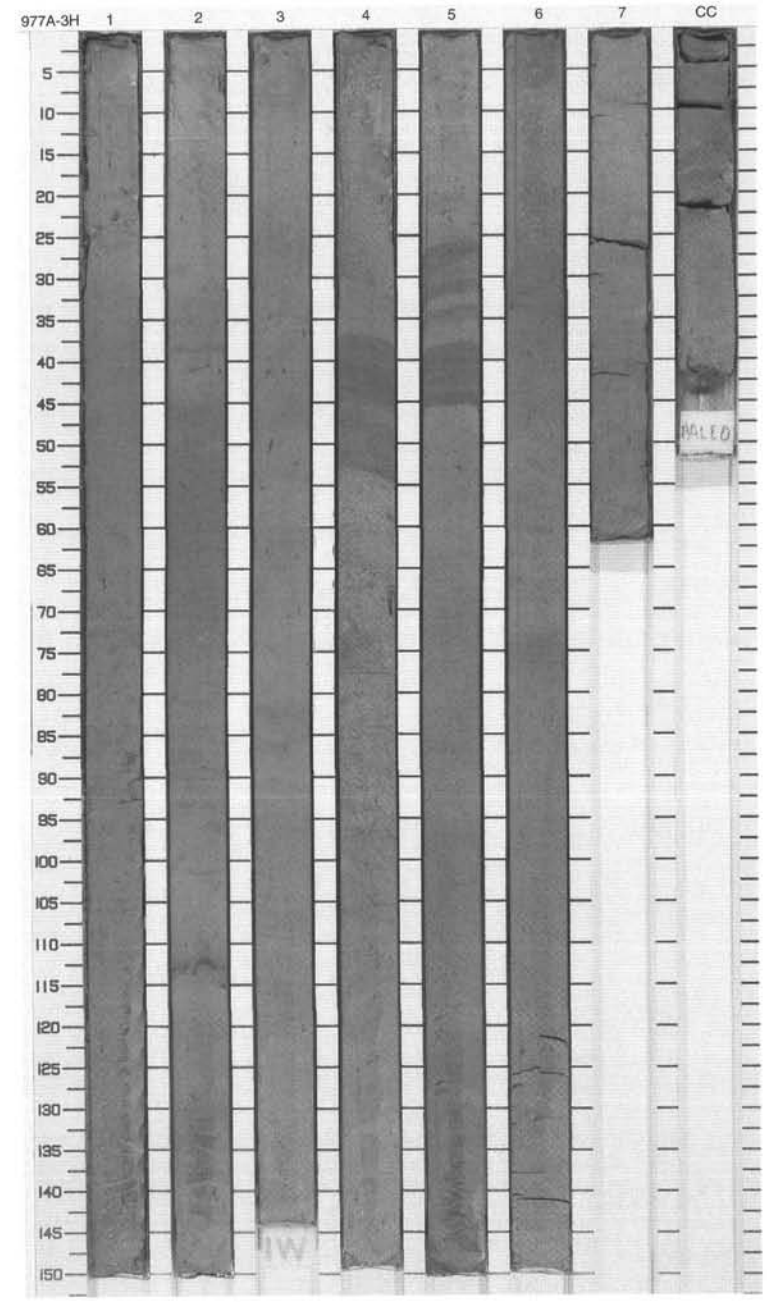
SITE 977 HOLE A CORE 2H CORED 4.0 - 13.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene				5Y 4/1	NANNOFOSSIL CLAY and NANNOFOSSIL-RICH CLAY Major Lithologies: The major lithologies are light olive gray (5Y 6/1), dark greenish gray (5GY 4/1), and olive gray (5Y 4/1) NANNOFOSSIL CLAY and NANNOFOSSIL-RICH CLAY. Minor Lithologies: Olive gray (5Y 4/1) SILTY SAND layer with normal grading occurs at 53–56 cm in Section 5. Light olive gray (5Y 6/1) CALCAREOUS SILTY CLAY layer occurs at 25–52 cm in Section 7. General Description: Grayish olive (10Y 4/2) to dark greenish gray (5GY 4/1) organic-rich layers are present from Section 2, 30 cm to Section 3, 85 cm and in Section 4, 62–75 cm.
							5Y 6/1	
							10Y 4/2	
		2			S	S	10Y 4/2 To 5Y 4/1	
		3			S	I S	10Y 4/2 To 5GY 4/1	
							5Y 4/1	
		4					5Y 4/1 To 10Y 4/2	
		5		P P		I S		
		6		P P P			5Y 4/1	
		7		P		S		
		CC				M	5Y 6/1	



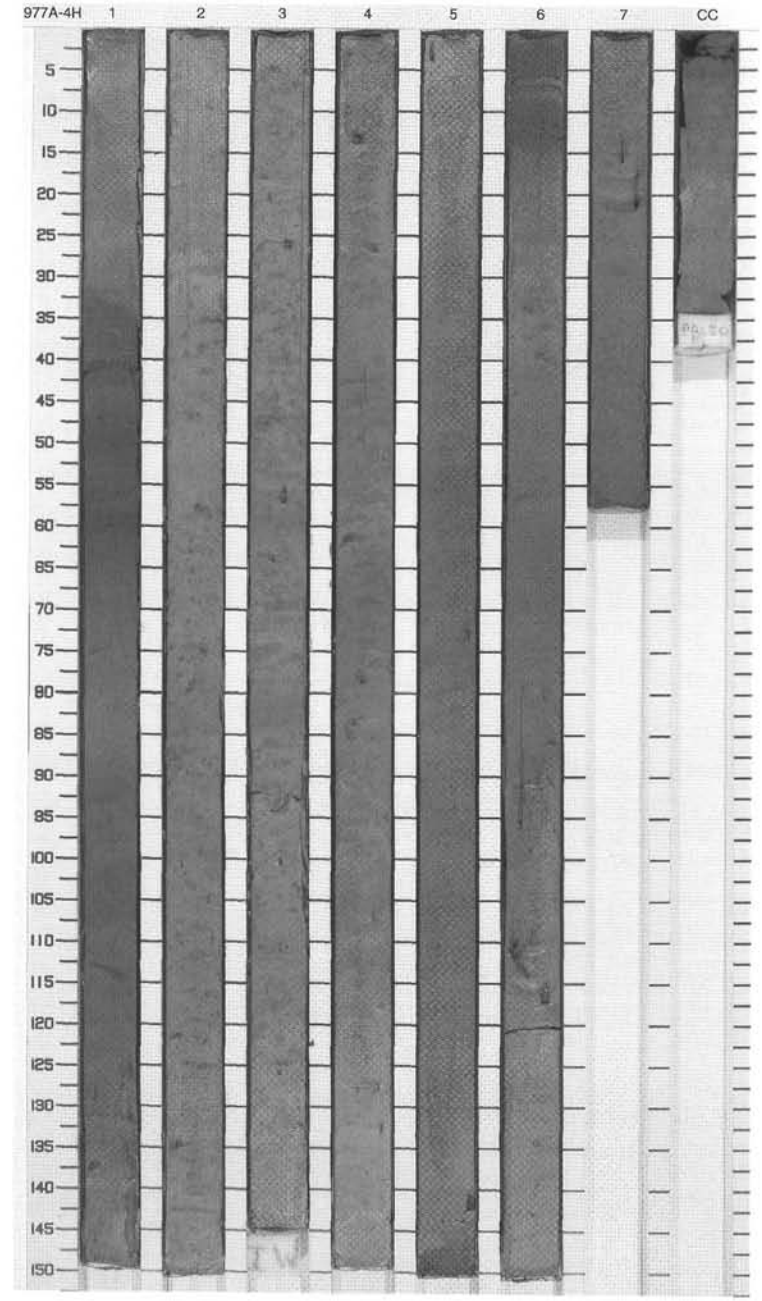
SITE 977 HOLE A CORE 3H CORED 13.5 - 23.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1	Pleistocene			S	5Y 5/2	NANNOFOSSIL CLAY Major Lithology: The major lithology is light olive gray (5Y 5/2) to olive gray (5Y 4/1) NANNOFOSSIL CLAY. Minor Lithologies: A medium dark gray (N4) SANDY SILT layer with foraminifers, nannofossils, and bioclasts occurs at 114–116 cm in Section 2. General Description: Light olive gray (5Y 5/2) organic-rich layers occur at 37–54 cm in Section 4, 26–45 cm in Section 5, and from Section 5, 121 cm to Section 6, 8 cm. A zone of soft sedimentary deformation (slump?) occurs in Section 4.
		2				S	5Y 4/1	
		3					5Y 5/2	
		4		P P (P)		I	5Y 4/1 5Y 5/2	
		5		P P		S S	5Y 4/1	
		6		P		S	5Y 5/2	
		7		P				
		CC				M		



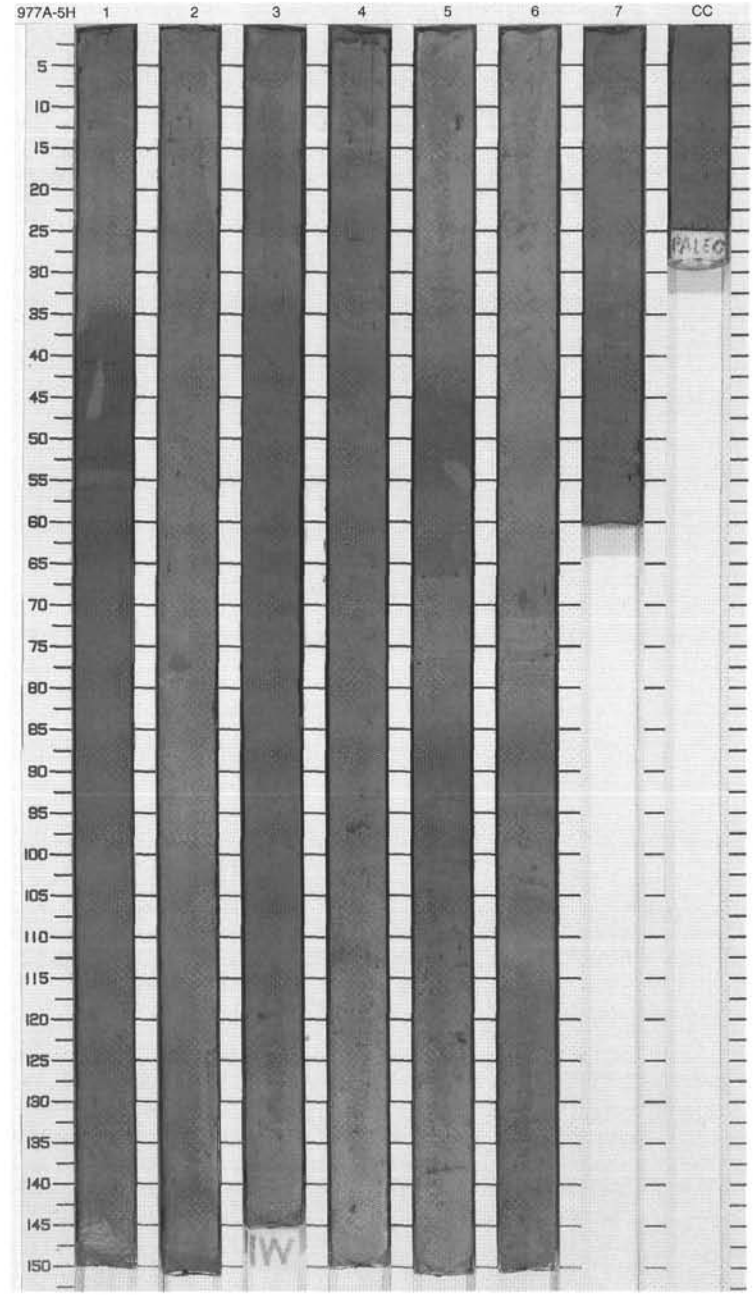
SITE 977 HOLE A CORE 4H CORED 23.0 - 32.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	Pleistocene			S, I, M	5Y 5/2; 5Y 4/1; 10Y 4/2; 5Y 5/2 To 5Y 6/1; 5Y 6/1; 5Y 4/1	NANNOFOSSIL CLAY and CALCAREOUS CLAY Major Lithologies: The major lithology is light olive gray (5Y 6/1), grayish olive (10Y 4/2), olive gray (5Y 4/1), to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY and CALCAREOUS CLAY with scattered grayish black (N2) minerals (pyrite?). Minor Lithologies: Olive gray (5Y 4/1; 5Y 3/2) CALCAREOUS SANDY SILTY CLAY layers occur throughout the core. A dark gray (N3) SANDY SILTY CLAY layer occurs at 74–75 cm in Section 1. General Description: Olive gray (5Y 3/2) organic-rich layers occur at 33–64 cm and 89–136 cm in Section 1, and from Section 5, 147 cm to Section 6, 14 cm.



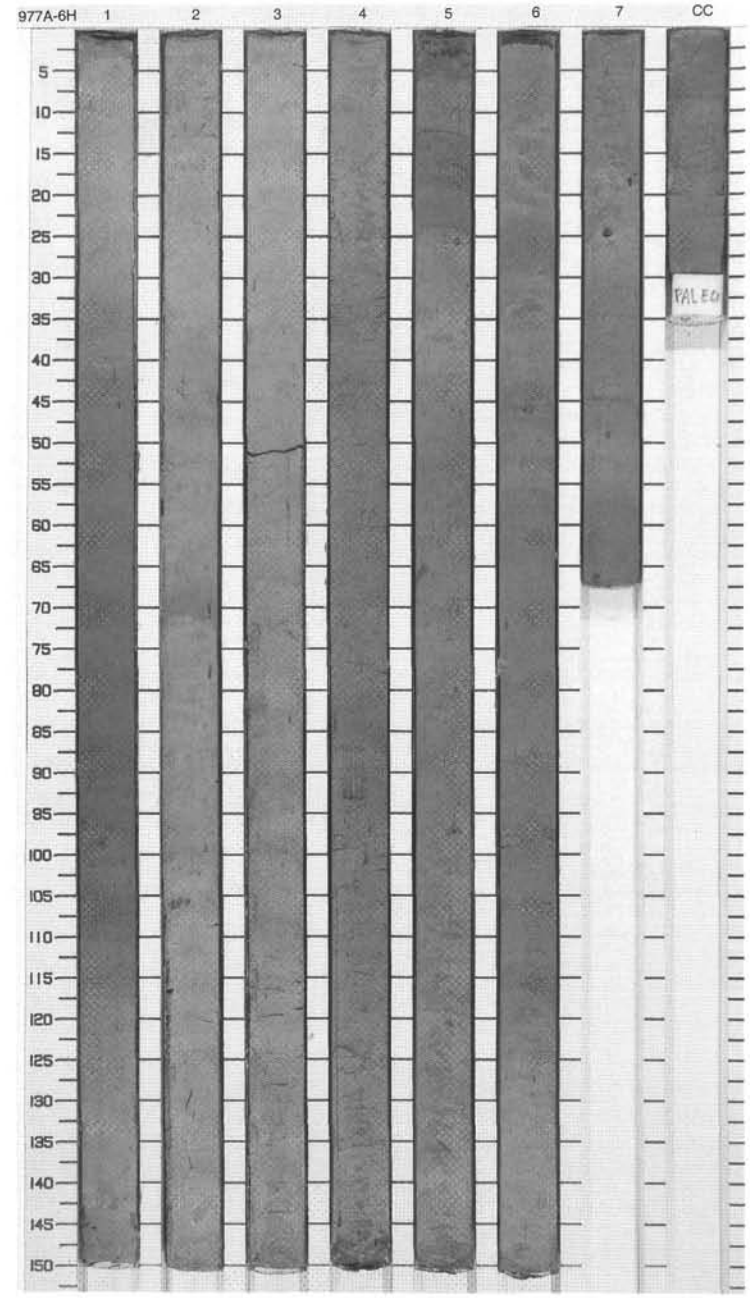
SITE 977 HOLE A CORE 5H CORED 32.5 - 42.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	Pleistocene			S, S, S, S, I, S, S, S, M	5Y 5/2; 5Y 4/1; 5Y 5/2; 10Y 4/2; 5GY 5/2; 10Y 4/2 To 5GY 4/1	NANNOFOSSIL SILTY CLAY and NANNOFOSSIL-RICH SILTY CLAY Major Lithologies: The sediment type is NANNOFOSSIL to NANNOFOSSIL-RICH SILTY CLAY containing up to 10% micrite. Colors are quite variable ranging from light olive gray (5Y 5/2, 5GY 4/1) and olive gray (5Y 4/1) to grayish olive (10Y 4/2) and dusky yellow green (5GY 5/2). Color banding is irregularly present and includes olive gray (5Y 3/2, 5Y 4/1), dusky yellow green (5GY 5/2), grayish olive (10Y 4/2), and light olive gray (5Y 5/2). Minor Lithologies: CALCAREOUS SILTY CLAY and CALCAREOUS SANDY SILTY CLAY occur in blebs and laminae many of which are enriched in either organic matter or pyrite. Laminae are found in Section 1 from 40–55 cm (includes several discrete laminae), Section 2 at 50 cm, Section 4 from 0–2 cm, and 96–97 cm, and Section 5 at 66 cm and at 139 cm. General Description: Rare color mottles, probably formed by bioturbation, and pyritized burrows are present. Grayish olive (10Y 4/2) to olive gray (5Y 3/2) organic-rich layers are present in Section 1 from 34–66 cm and in Section 5 from 43–55 cm and 84–110 cm.



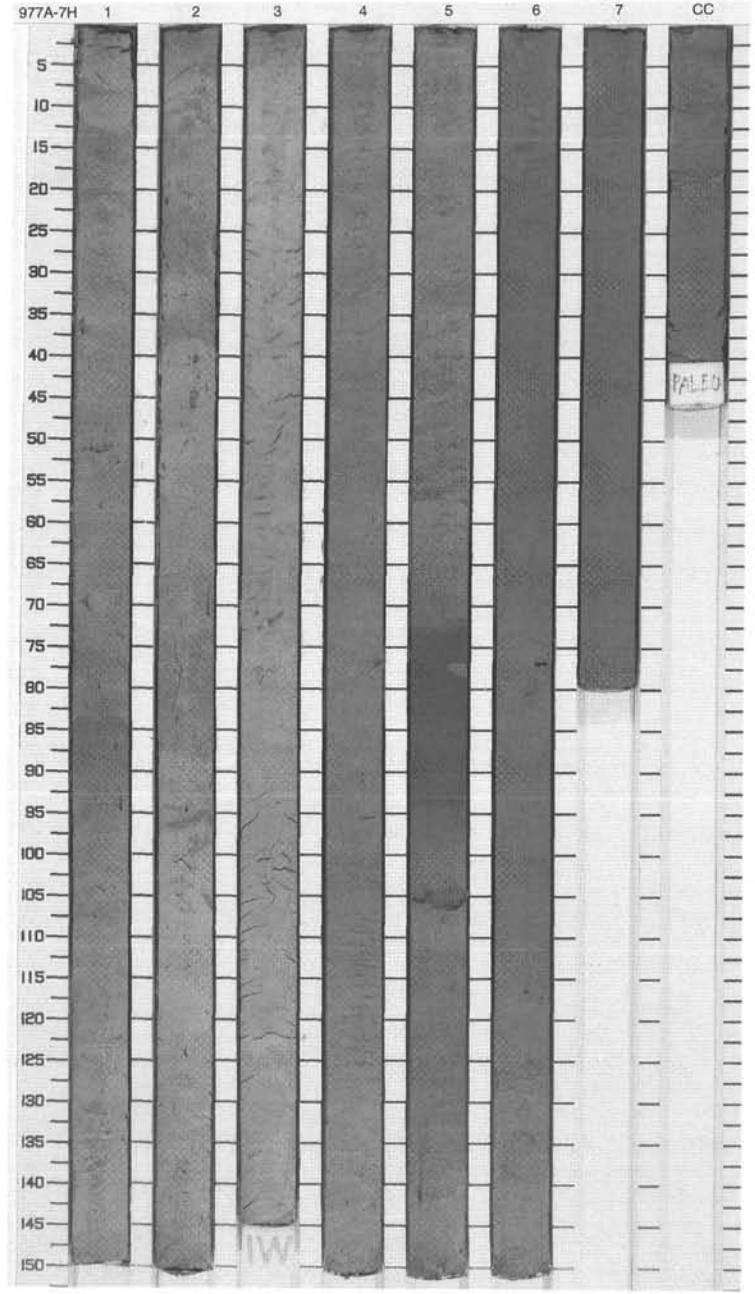
SITE 977 HOLE A CORE 6H CORED 42.0 - 51.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1	Pleistocene			S	5Y 5/2 To 5Y 4/1	NANNOFOSSIL CLAY, NANNOFOSSIL OOZE and NANNOFOSSIL SILTY CLAY Major Lithologies: The major lithologies are olive gray (5Y 4/1) NANNOFOSSIL CLAY, light olive gray (5Y 5/2) NANNOFOSSIL OOZE, AND light olive gray (5Y 5/2) NANNOFOSSIL SILTY CLAY. Bioturbation is mostly weak with rare areas of intense burrowing (e.g. Section 4 at 30–35 cm). Shell fragments are present in a few places, as are pyritized burrows. Dark gray (N3) flecks, probably of pyrite, are common. Faint color banding is present in most sections. Minor Lithologies: Quartz-, nannofossil-rich SANDY CLAY is present in a few places (e.g., Section 2 at 4 cm).
							5Y 6/1	
		2				S		
							5Y 5/2	
		3				S		
						I		
							5Y 4/1	
		4						
							5Y 5/2	
		5						
		6				S		
		7					5Y 6/1	
		CC				M		



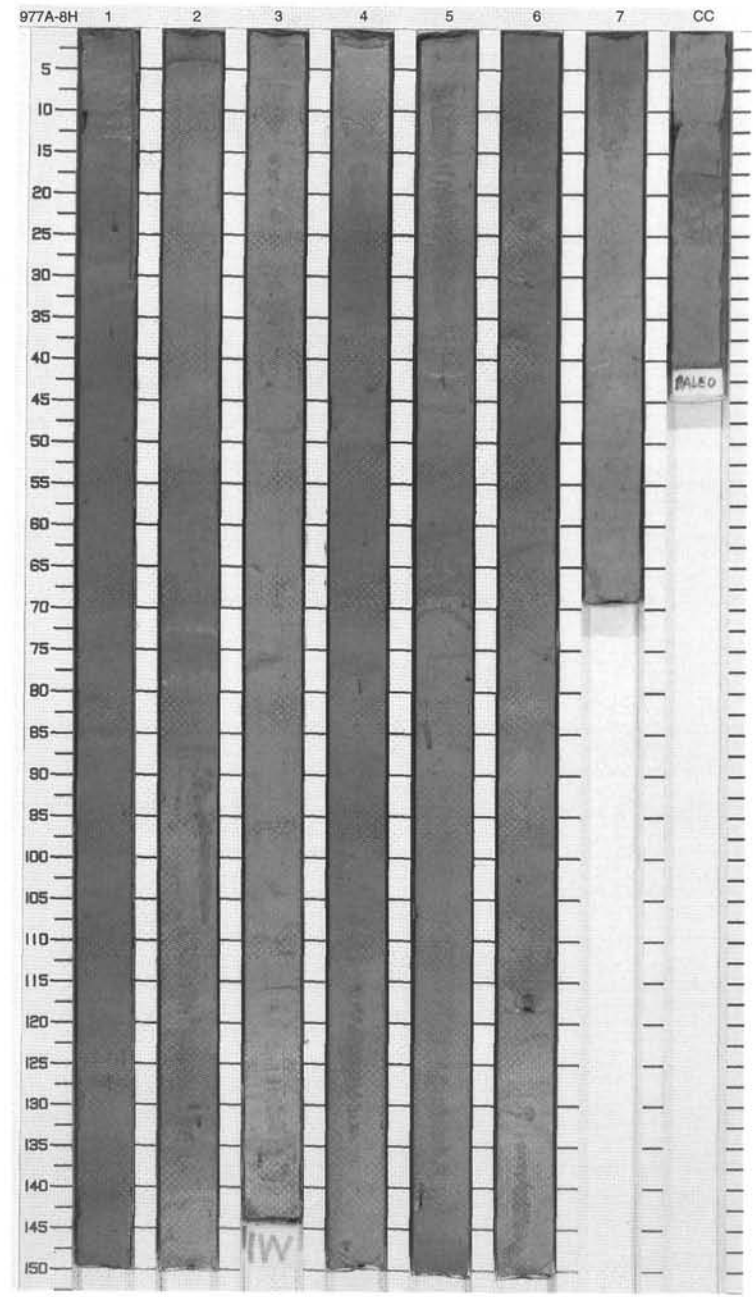
SITE 977 HOLE A CORE 7H CORED 51.5 - 61.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1–7, CC	Pleistocene			S, S, S, S, S, S, M	5Y 6/1; 10Y 4/2; 5Y 4/1 To 5Y 6/1; 5Y 5/2; 5Y 6/1; 5Y 5/2 To 10Y 4/2	NANNOFOSSIL CLAY and QUARTZ-RICH CALCAREOUS SILTY CLAY Major Lithologies: The main sediment types are light olive gray (5Y 6/1 to 5Y 5/2) NANNOFOSSIL CLAY and light olive gray (5Y 5/2) QUARTZ-RICH CALCAREOUS SILTY CLAY. Both are commonly burrowed and contain color mottling and flecks of opaque material. Weak color banding is present in many places. Minor Lithologies: Very thin SILT laminae are present in a few places. General Description: Organic-rich layers are present in Section 1, 62–107 cm and from Section 1, 121 cm to Section 2, 39 cm.



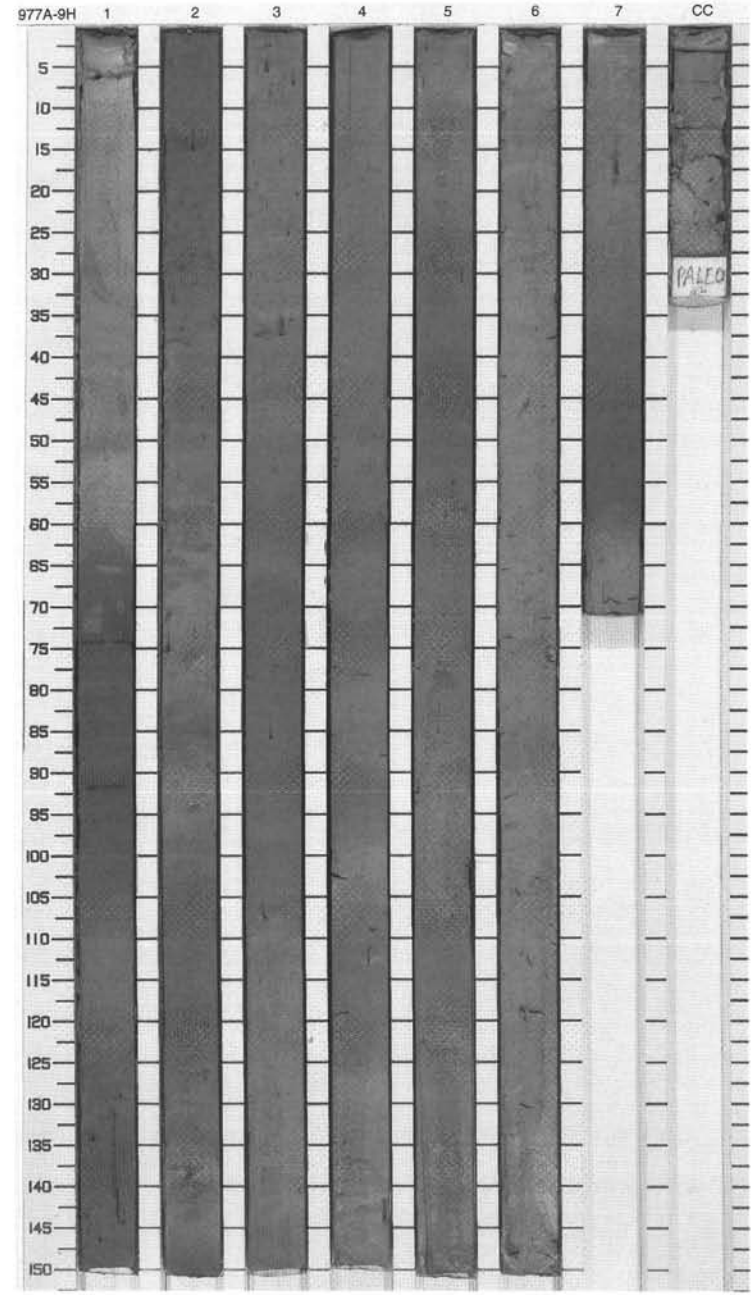
SITE 977 HOLE A CORE 8H CORED 61.0 - 70.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1–7, CC	Pleistocene			S, M	5Y 5/2; 10Y 4/2; 5Y 5/2 To 5Y 6/1; 5GY 5/2; 5GY 5/2 To 10Y 4/2; 5GY 5/2	NANNOFOSSIL CLAY TO NANNOFOSSIL SILTY CLAY and CALCAREOUS SILTY CLAY Major Lithologies: The main lithologies are NANNOFOSSIL CLAY, NANNOFOSSIL SILTY CLAY, and CALCAREOUS SILTY CLAY which range in color from light olive gray (5Y 5/2 to 5Y 6/1). The clay is weakly to moderately burrowed throughout and contains some pyritized burrows. Shell fragments are increasingly common towards the base of the core. Color bands are present in a few places. Minor Lithologies: Minor lithologies include light olive gray (5Y 6/1) CALCAREOUS SILTY CLAYEY SAND rich in foraminifers and OPAQUE-RICH NANNOFOSSIL CLAY which are speckled dark gray (N3) in color. General Description: One organic-rich layer was identified in Section 5, from 12–24 cm. This layer is color banded and laminated. Colors range from moderate olive brown (5Y 4/4) to dusky yellow green (5GY 5/2) and grayish olive (10Y 4/2).



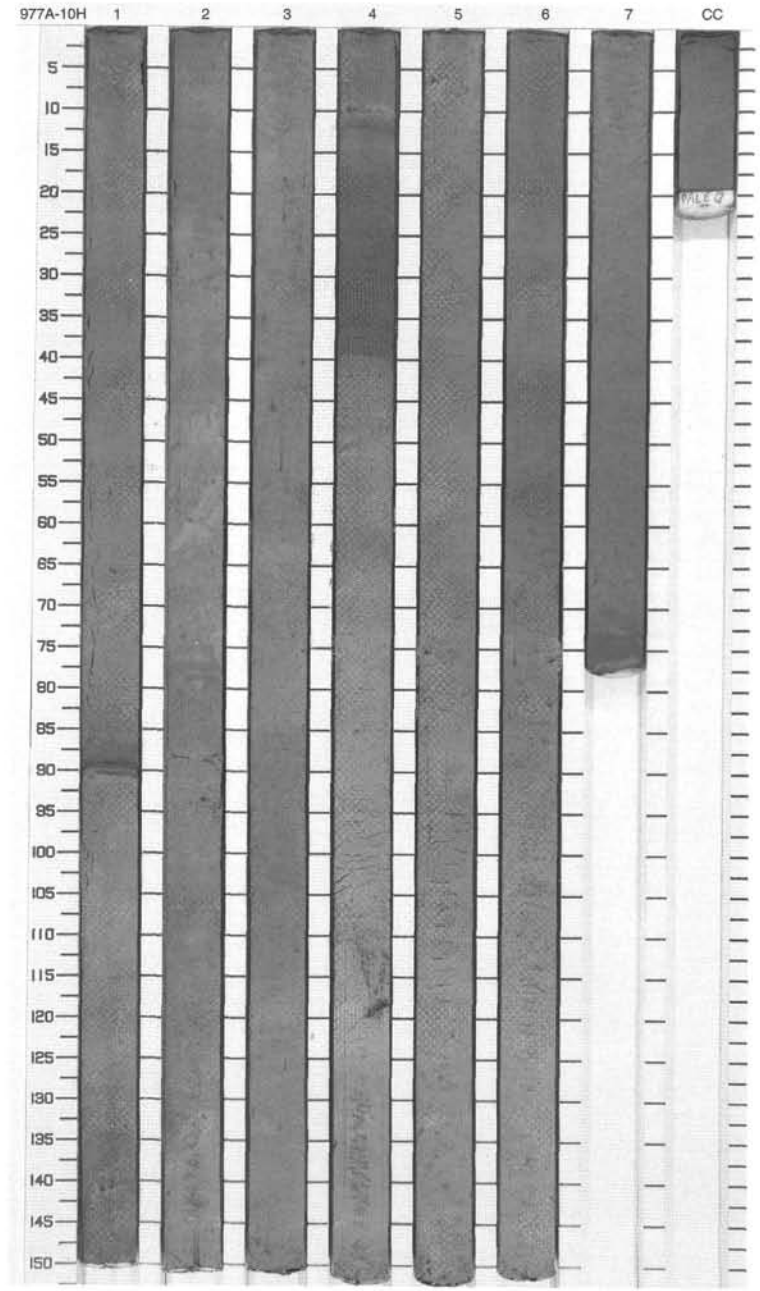
SITE 977 HOLE A CORE 9H CORED 70.5 - 80.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1–7, CC	Pleistocene			S, S, I, S, S, S, M	5Y 5/2; 5GY 5/2 To 10Y 6/2; 5Y 5/2 To 5Y 6/1; 10Y 4/2	NANNOFOSSIL CLAY Major Lithology: The main sediment type is NANNOFOSSIL CLAY with common pyritized burrows and shell fragments. Color variation is common ranging from light olive gray (5Y 5/2, 5Y 6/1), pale olive (10Y 6/2), and grayish olive (10Y 4/2) to dusky yellow green (5GY 5/2). Minor Lithologies: OPAQUE-RICH NANNOFOSSIL CLAY is present in pods and in one bed from 103.5–106 cm in Section 5. This lithology was described as a foraminifer sand in the core description, but the sand component was under represented in the smear slide. General Description: An organic-rich layer is present in Section 5 from 73–95 cm.



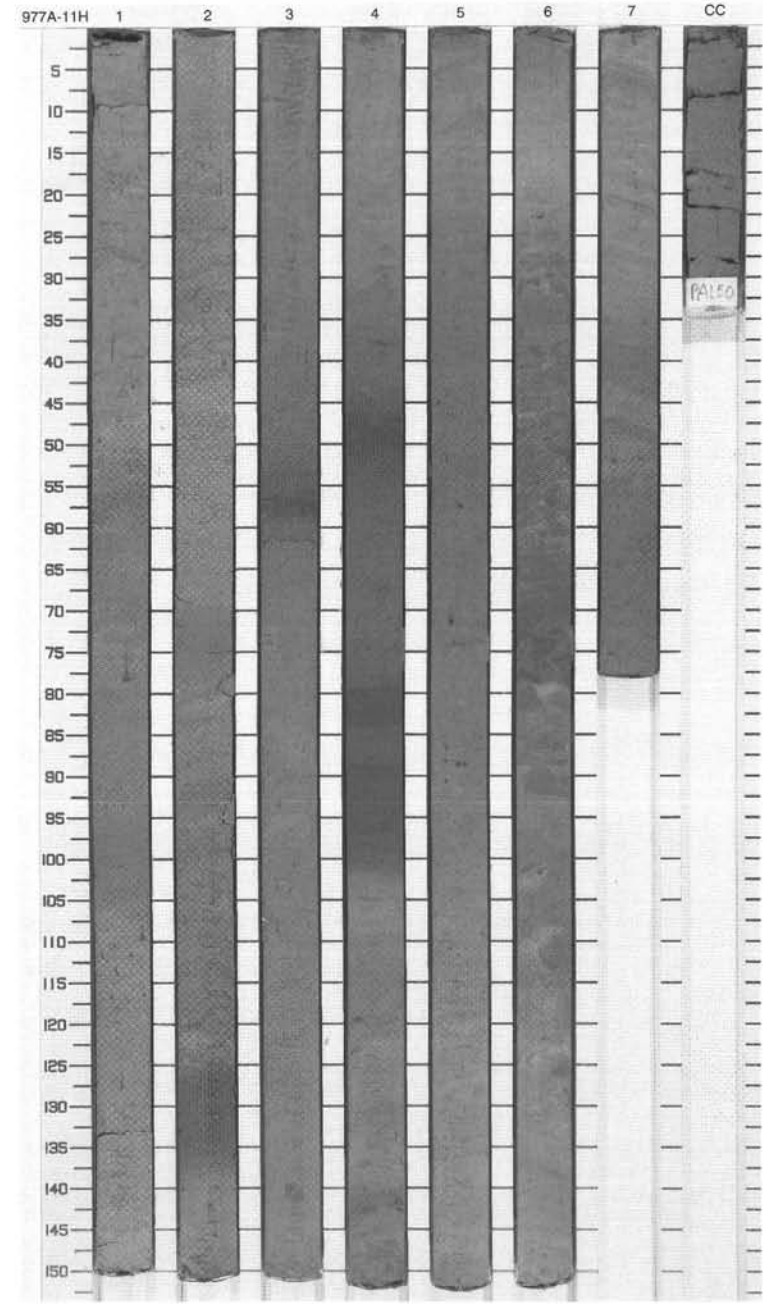
SITE 977 HOLE A CORE 10H CORED 80.0 - 89.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene			S	5Y 5/2	NANNOFOSSIL CLAY and CALCAREOUS SILTY CLAY Major Lithologies: The dominant lithologies are light olive gray (5Y 6/1 and 5Y 5/2) to olive gray (5Y 4/1) to greenish gray (5GY 6/1) NANNOFOSSIL CLAY and CALCAREOUS SILTY CLAY. Minor Lithology: Laminae of olive gray (5Y 4/1) CALCAREOUS CLAYEY SILT occur at 89–91 cm in Section 1. General Description: Olive gray (5Y 4/1, 5Y 3/2) organic-rich layers occur from Section 1, 135 cm to Section 2, 25 cm; in Section 4 at 11–39 cm; and from Section 7, 71 cm to Section CC, 5 cm. The top of the organic-rich layer in Section 4 is bioturbated and is slightly more yellowish in color. Opaque-rich (pyrite?) burrow fills are present throughout the core.
						S		
						S	5Y 4/1	
		2		P			5GY 6/1 To 5Y 5/2	
				P				
		3					5GY 4/1 To 5Y 5/2	
						S	5GY 6/1	
		4				S	5GY 6/1 To 5Y 5/2	
						S		
		5		P			5Y 4/1	
		6				S		
		7				M	5Y 5/2	
		CC						



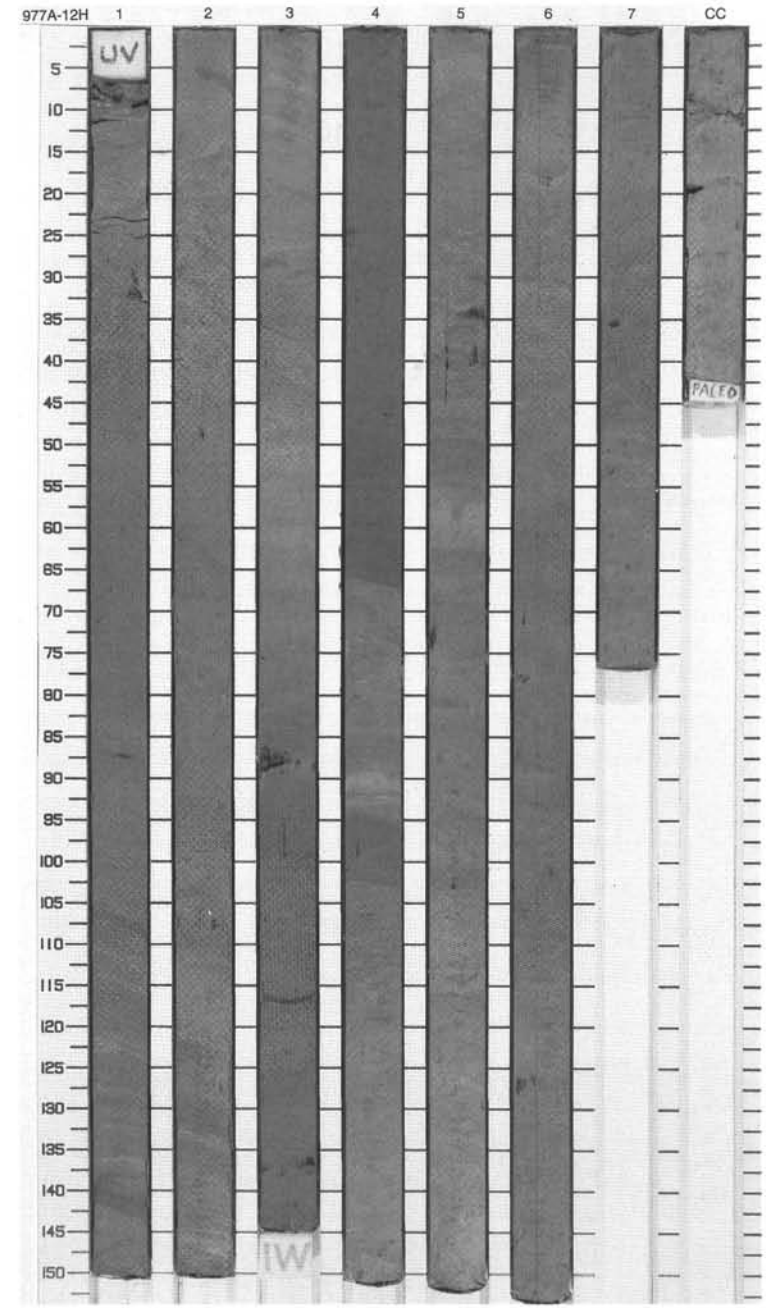
SITE 977 HOLE A CORE 11H CORED 89.5 - 99.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1–7, CC	Pleistocene	P; S; M			5GY 4/1; 10Y 4/2; 5GY 4/1; 5Y 4/1; 5GY 4/1; 5Y 4/1	NANNOFOSSIL-RICH CLAY and NANNOFOSSIL CLAY Major Lithologies: The major lithologies are olive gray (5Y 4/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL-RICH CLAY and grayish olive (10Y 4/2) NANNOFOSSIL CLAY with scattered concentrations of pyrite. Minor Lithologies: Medium dark gray (N4) SANDY SILT and SILT layers with normal grading occur at 57–62 cm in Section 3, and at 46–47cm and 89–90 cm in Section 4. An INTRACLASTIC BRECCIA composed of gravel-sized clasts of NANNOFOSSIL-RICH CLAY and NANNOFOSSIL CLAY occurs within Section 6. The breccia is clast-supported with a matrix of NANNOFOSSIL-RICH CLAY to NANNOFOSSIL CLAY. The clast margins are somewhat diffuse, but clast shapes range from angular to subrounded. This slump(?) breccia passes down core into a zone of soft-sediment deformation. General Description: Olive gray (5Y 3/2) organic-rich layers occur at 125–138 cm in Section 2, and at 47–56 cm, and 79–103 cm in Section 4.



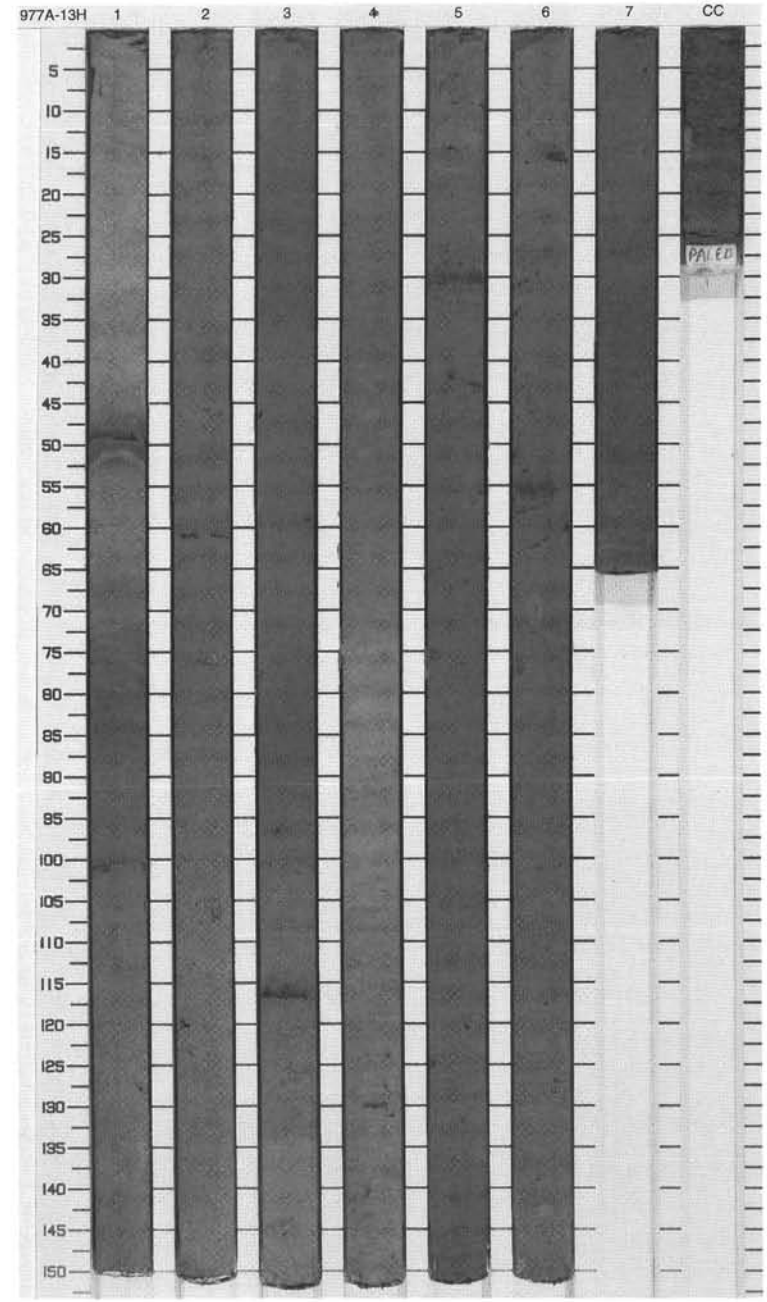
SITE 977 HOLE A CORE 12H CORED 99.0 - 108.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1–7, CC	Pleistocene			S, I, M	5GY 4/1; 10Y 4/2; 5GY 4/1 To 10Y 4/2; 5GY 4/1; 5GY 4/1 To 5GY 6/1	NANNOFOSSIL-RICH CLAY, CALCAREOUS SILTY CLAY and CALCAREOUS CLAY Major Lithologies: The major lithologies are dark greenish gray (5GY 4/1) to greenish gray (5GY 6/1) NANNOFOSSIL-RICH CLAY, grayish olive (10Y 4/2) CALCAREOUS SILTY CLAY, and dark greenish gray (5GY 4/1) to grayish olive (10Y 4/2) CALCAREOUS CLAY with scattered grayish black (N2) minerals (pyrite?). General Description: One grayish olive (10Y 4/2) organic-rich layer occurs from Section 3, 90 cm to Section 4, 67 cm. Thin color-banded layers are present. Slump structures occur at 139–143 cm in Section 1, at 14–27 cm in Section 2, at 115–136 cm in Section 4, and at 28–50 cm in Section 7.



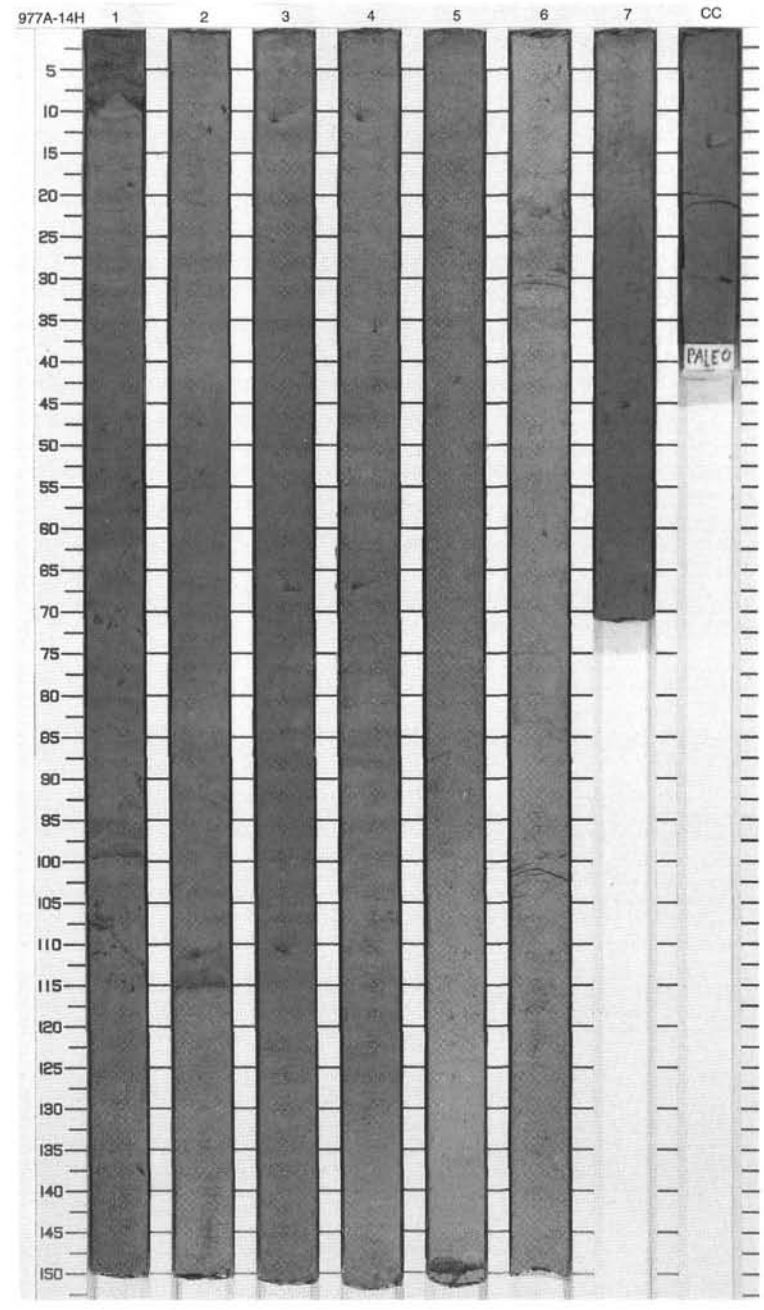
SITE 977 HOLE A CORE 13H CORED 108.5 - 118.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	Pleistocene	P, S		S, S M	5GY 4/1; 5Y 3/2; 5Y 4/1; 5GY 4/1; 5Y 3/2; 5GY 4/1; 5Y 3/2	NANNOFOSSIL-RICH CLAY and NANNOFOSSIL CLAY Major Lithologies: The major lithologies are dark greenish gray (5GY 4/1) to olive gray (5Y 3/2) NANNOFOSSIL-RICH CLAY and olive gray (5Y 4/1; 5Y 3/2) to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY with scattered grayish black (N2) minerals (pyrite?). Minor Lithologies: A color-banded layer of olive gray (5Y 3/2) DIATOM OOZE occurs from 31 cm in Section 7 to 26 cm in Section CC. Color banding within the interval reflects variations in siliceous and calcareous microfossil content. Laminae and pods of FORAMINIFER SAND occur at 60–61 cm in Section 2, 123–131 cm in Section 4, and 0–13 cm in Section 5. Laminae of PYRITE-RICH SANDY SILT occur at 116–117 cm in Section 3, and 29–30 cm in Section 5. General Description: Olive gray (5Y 4/1; 5Y 3/2) organic-rich layers occur in Section 1, 50–53 cm and from Section 1, 72 cm to Section 3, 135 cm.



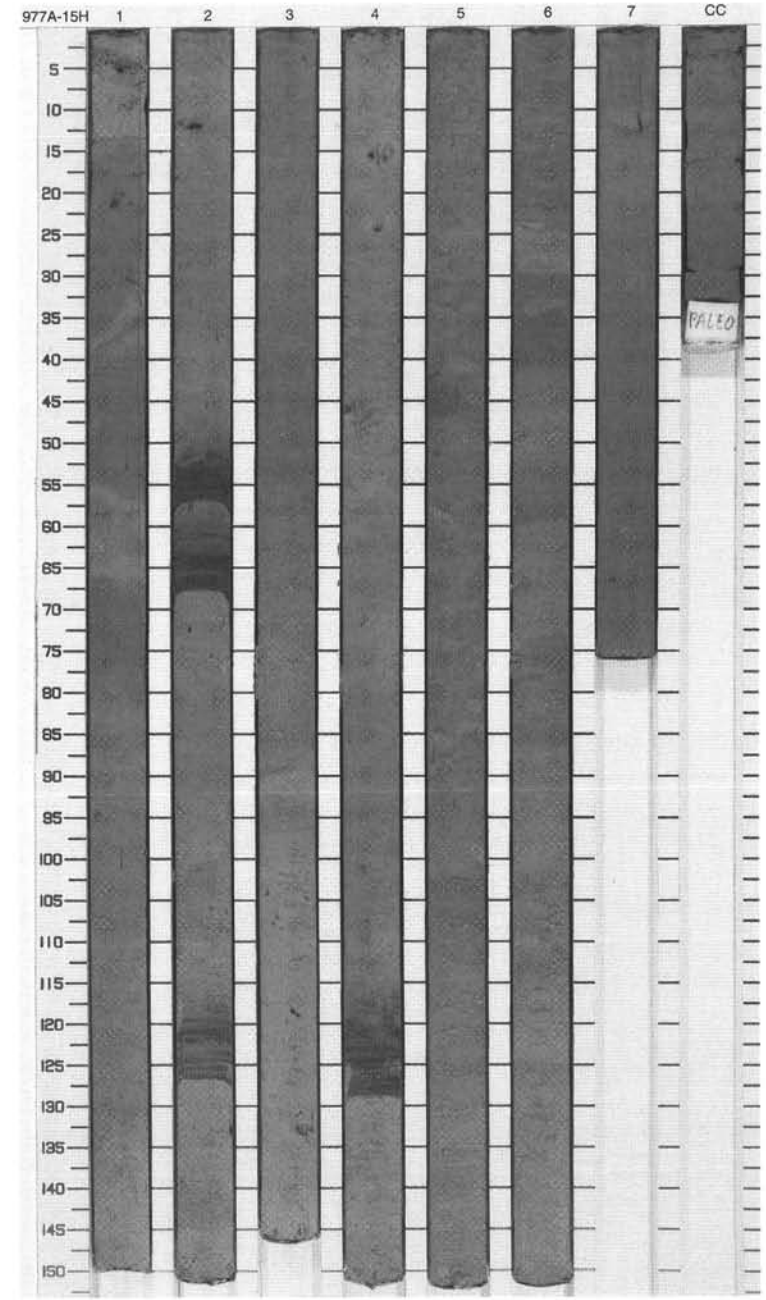
SITE 977 HOLE A CORE 14H CORED 118.0 - 127.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1–CC	Pleistocene			S, M	5Y 4/1; 5GY 4/1; 5Y 5/2 To 5Y 4/1	NANNOFOSSIL CLAY and CALCAREOUS SILTY CLAY Major Lithologies: The major lithologies are dark greenish gray (5GY 4/1) to olive gray (5Y 4/1; 5Y 5/2) NANNOFOSSIL CLAY and dark greenish gray (5GY 4/1) to olive gray (5Y 4/1) CALCAREOUS SILTY CLAY with scattered pods (burrow fills?) of grayish black (N2) pyrite. Minor Lithologies: DIATOM OOZE is present from 0–6 cm in Section 1. Dark greenish gray (5GY 4/1) CALCAREOUS CLAY layers and dark greenish gray (5GY 4/1) SANDY SILT layers with foraminifers and bioclasts occur throughout the core. The sandy intervals include: 62–79 cm and 92–100 cm in Section 1, 52–53 cm and 114–115 cm in Section 2, 148–150 cm in Section 5, and 30–31 cm in Section 6. These layers are locally pyrite-rich and show sharp basal contacts. General Description: Olive gray (5Y 4/1) organic-rich layers occur at 6–9 cm and 31–86 cm in Section 1, and at 112–135 cm in Section 4.



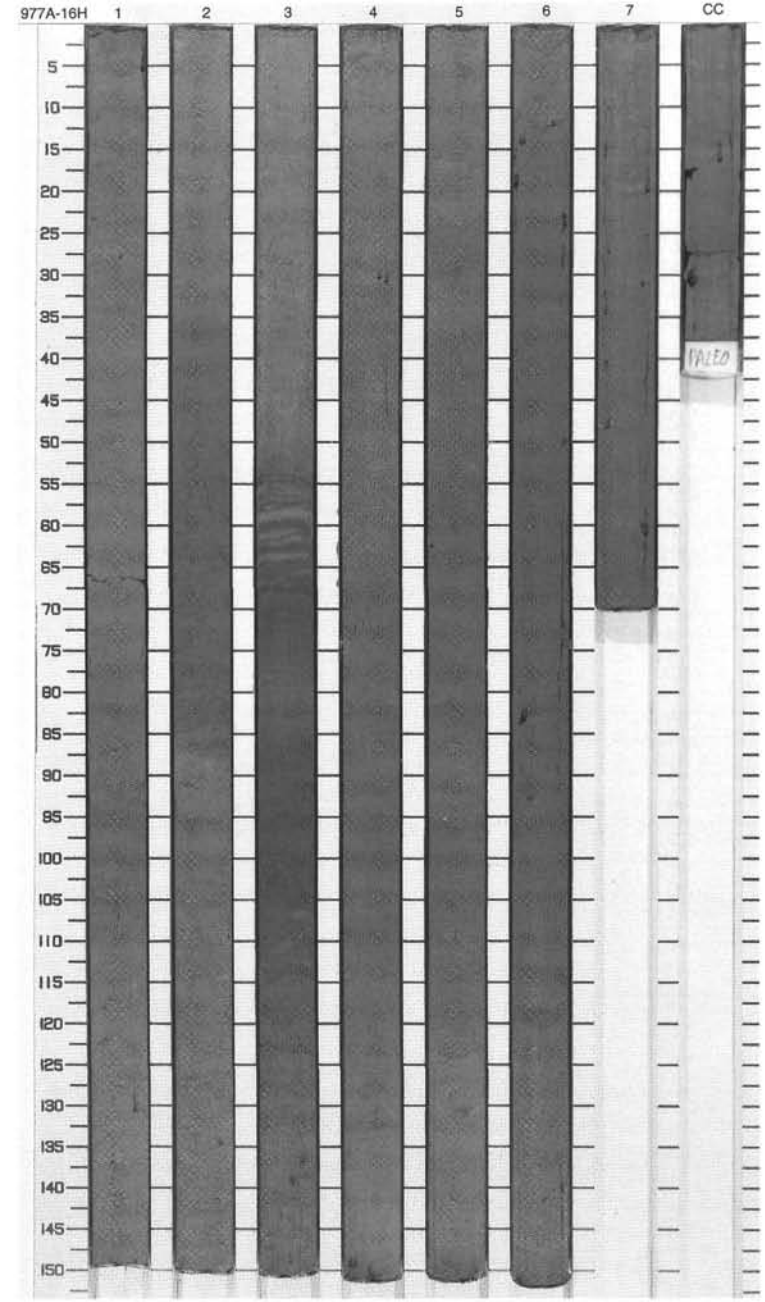
SITE 977 HOLE A CORE 15H CORED 127.5 - 137.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1–7, CC	Pleistocene	P, P, P, P, P, P, P, P		S, S, S, I, S, S, M	5GY 4/1; 10Y 4/2; 5GY 4/1; 5Y 5/2; 5Y 4/1; 5GY 4/1; 5Y 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is olive gray (5Y 4/1; 5Y 5/2), grayish olive (10Y 4/2) to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY with scattered grayish black (N2) minerals (pyrite?). Minor Lithologies: Dark gray (N3) SANDY SILTY CLAY layers with normal grading occur at 50–58 cm and at 61–68 cm in Section 2, and at 120–130 cm in Section 4. An INTRAFORMATIONAL BRECCIA composed of gravel-sized clasts of NANNOFOSSIL CLAY occurs in Section 5 from 13–103 cm. The unit exhibits crude inverse to normal grading and overlies a thin interval of structureless NANNOFOSSIL CLAY. General Description: Soft sediment folding (slump?) occurs at 29–68 cm in Section 1.



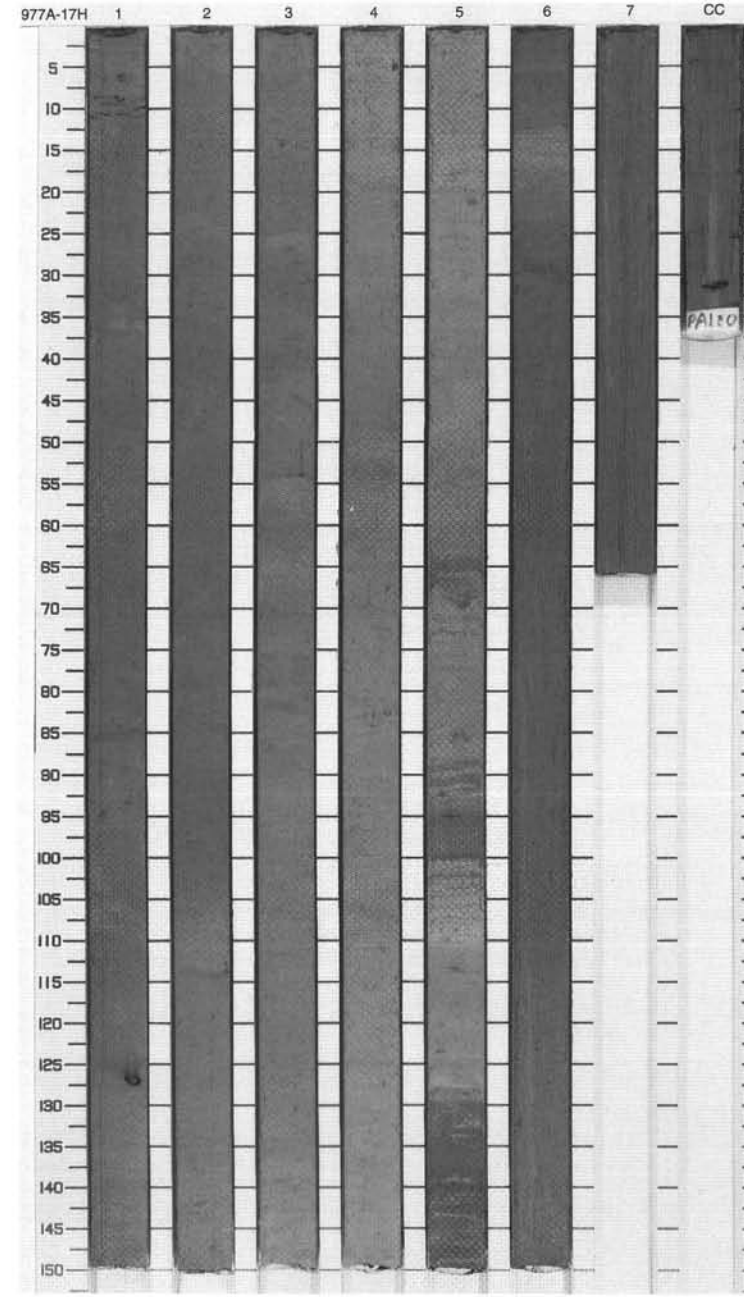
SITE 977 HOLE A CORE 16H CORED 137.0 - 146.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1	Pleistocene			S	5Y 4/1	NANNOFOSSIL-RICH CLAY and NANNOFOSSIL CLAY Major Lithologies: The main sediment type is NANNOFOSSIL-RICH to NANNOFOSSIL CLAY with common mottling, color banding and dispersed shell fragments. The dominant colors are olive gray (5Y 4/1), medium olive gray (5Y 4/2), light olive gray (5Y 6/1, 5Y 5/2), grayish olive (10Y 4/2), and dark greenish gray (5GY 4/1). Minor Lithology: CALCAREOUS SILTY CLAY containing 30% inorganic carbonate (dolomite?) is present as a minor lithology in Section 3, 59 cm in an organic-rich layer. General Description: An organic-rich layer is present from Section 3, 51 cm to Section 4, 5 cm. The lower part of core is affected by flow in.
							5Y 6/1	
		2					5Y 4/1 To 5GY 4/1	
							5Y 5/2	
		3				S	5Y 4/2 To 10Y 4/2	
						S		
		4					5GY 4/1	
						S	10Y 4/2	
		5					5GY 4/1	
		6						
		7					10Y 4/2	
		CC				M	5GY 4/1	



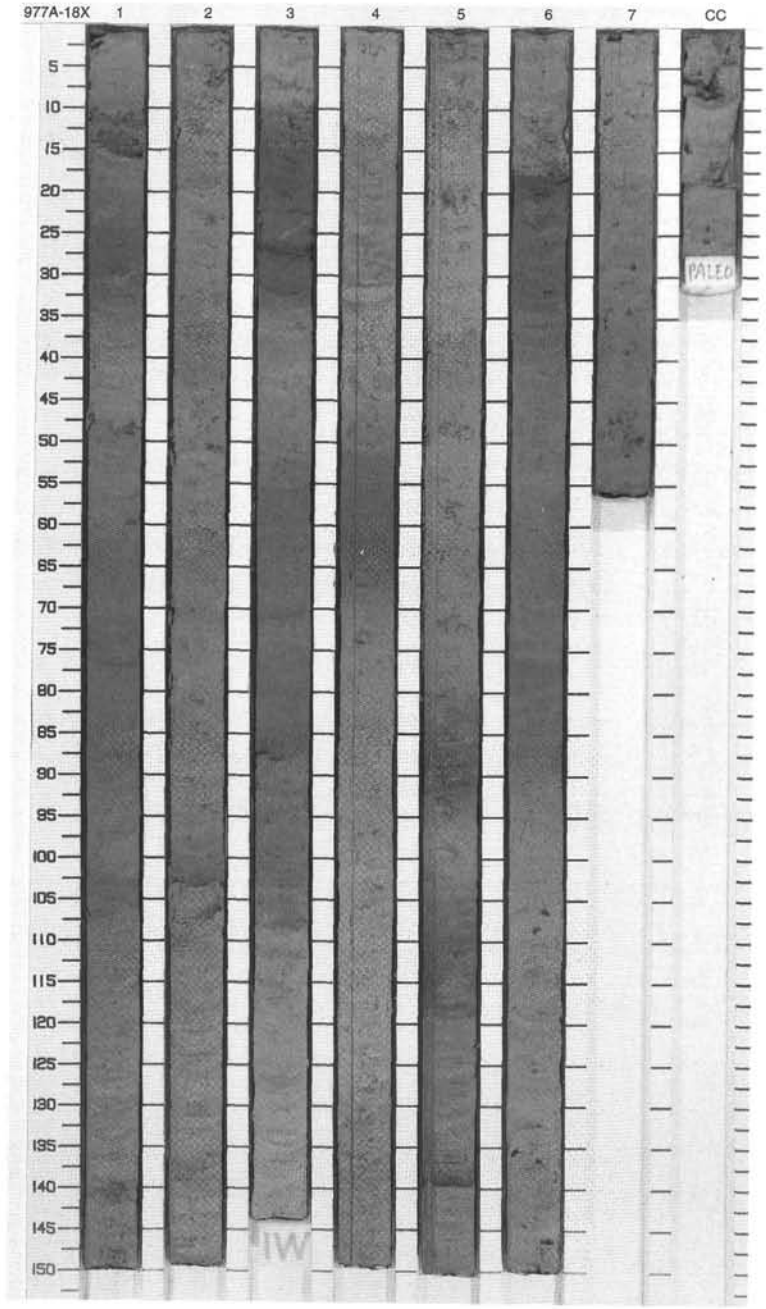
SITE 977 HOLE A CORE 17H CORED 146.5 - 156.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1	Pleistocene				5Y 5/2	NANNOFOSSIL CLAY and CALCAREOUS CLAY
							5GY 4/1 To 5Y 4/1	Major Lithologies: The two main sediment types are NANNOFOSSIL CLAY and CALCAREOUS CLAY. The calcareous clay is dominated by nannofossils (25%) and micrite (12%). Colors range between light olive gray (5Y 5/2), olive gray (5Y 4/1, 5Y 3/2), grayish olive (10Y 4/2), medium greenish gray (5GY 5/1), and dark greenish gray (5GY 4/1).
		2				S	5Y 4/1 To 5GY 4/1	
		3					5GY 4/1 To 5Y 4/1	Minor Lithologies: NANNOFOSSIL-RICH DIATOMACEOUS SANDY SILTY CLAY is present in a laminated interval in Section 5, 88–108 cm. CALCAREOUS SILTY SANDY CLAY with variable concentrations of quartz and opaque minerals is present in an organic-rich layer in Section 5.
		4					5GY 5/1	
						S	10Y 4/2	General Description: An organic-rich layer is present from Section 5, 131 cm to Section 6, 38 cm. The core below Section 6, 42 cm is affected by flow-in.
							5Y 3/2	
		5				S		
						S S		
						S S S		
		6					5Y 4/1	
		7						
		CC				M		



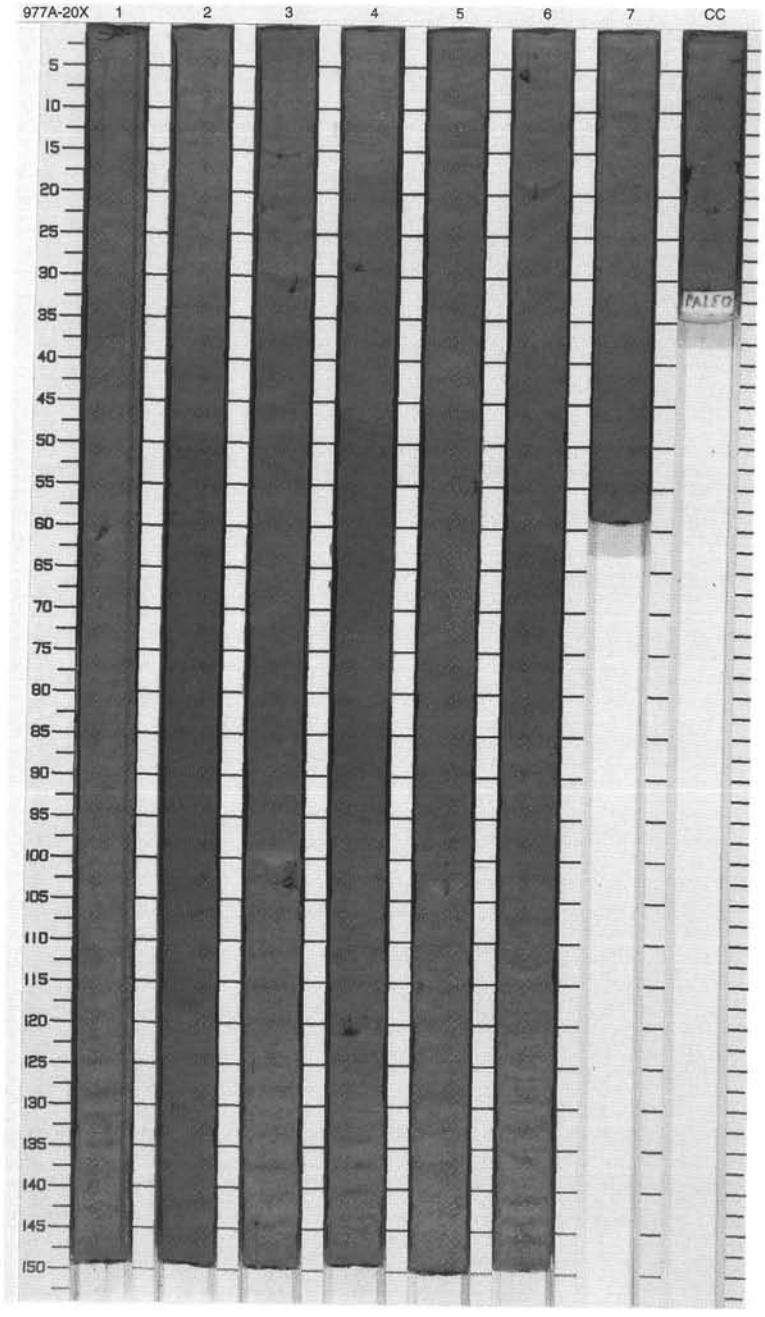
SITE 977 HOLE A CORE 18X CORED 156.0 - 165.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	Pleistocene			S, S, S, I, S, S, S, M	5GY 5/2 To 5GY 4/1; 5GY 5/2 To 5Y 5/2; 5Y 4/1; 5Y 3/2; 5GY 5/2 To 10Y 4/2; 5Y 5/1; 5Y 5/1 To 5GY 5/1; 10Y 4/2; 5Y 5/1; 5GY 5/1; 5GY 4/1	NANNOFOSSIL-RICH CLAY and NANNOFOSSIL CLAY Major Lithologies: The major lithology is NANNOFOSSIL-RICH CLAY and NANNOFOSSIL CLAY containing dispersed foraminifers. These sediments range in color from dusky yellow green (5GY 5/2) to dark greenish gray (5GY 4/1) to light olive gray (5Y 5/2) to olive gray (5Y 4/1 and 5Y 3/2) to grayish olive (10Y 4/2) to medium olive gray (5Y 5/1) and medium greenish gray (5GY 5/1). Faint laminations, silt blebs, and color bands are common. Minor Lithologies: QUARTZ- AND FELDSPAR-RICH CLAYEY SILTY SAND and CALCAREOUS CLAY are present in an organic-rich layer. General Description: Organic-rich layers are present from 24–34 cm in Section 1, 10–32 cm in Section 3, and from 18–35 cm in Section 6.



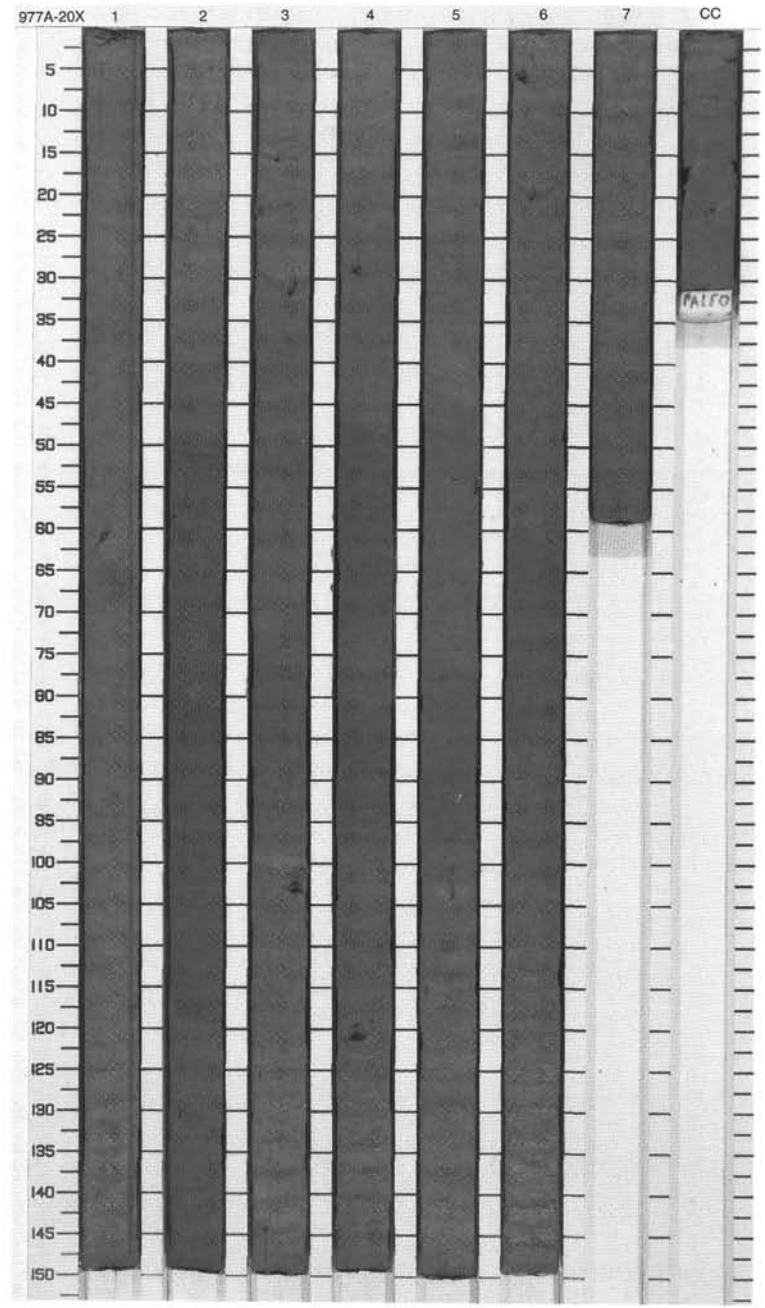
SITE 977 HOLE A CORE 19X CORED 165.6 - 175.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene			S	5GY 4/1	NANNOFOSSIL-RICH CLAY Major Lithology: The major lithology is thinly color-banded, dark greenish gray (5GY 4/1) NANNOFOSSIL-RICH CLAY with scattered grayish black (N2) minerals (pyrite?). Minor Lithologies: An interval of light olive gray (5Y 5/2) CALCAREOUS OOZE occurs at 65–74 cm in Section 4 (above an organic-rich layer). A layer of greenish gray (5GY 5/1) NANNOFOSSIL CLAY occurs within Sections 2 and 3. Greenish gray (5GY 5/1) layers of NANNOFOSSIL- RICH CLAYEY SILT to SILTY SAND occur at 60–67 cm in Section 3. General Description: One olive gray (5Y 3/2) organic-rich layer occurs at 74–100 cm in Section 4.
		2		P P		S	5GY 5/1	
		3		P P		S		
		4		P		S S	5GY 4/1 5Y 3/2	
		5					5GY 4/1	
		6				S	5Y 4/1	
		7		P			5Y 5/1	
		CC				M		



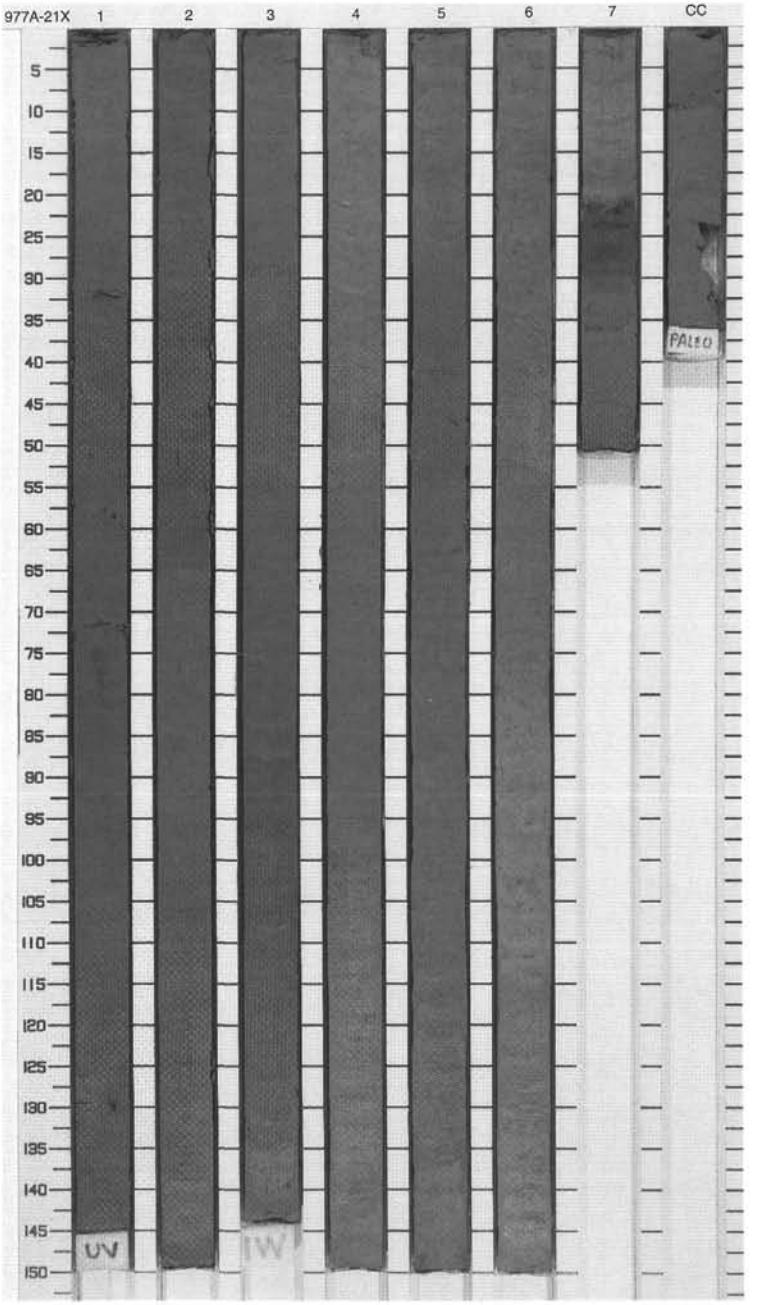
SITE 977 HOLE A CORE 20X CORED 175.2 - 184.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene			S	5GY 4/1	CALCAREOUS SILTY CLAY TO NANNOFOSSIL-RICH CLAY Major Lithology: The major lithologies are dark greenish gray (5GY 4/1) to olive gray (5Y 4/1) CALCAREOUS SILTY CLAY to NANNOFOSSIL-RICH CLAY locally enriched in *foraminifers*, shell fragments, and grayish black (N2) pods of pyrite(?).
							5Y 4/1	
		2				S	5GY 4/1	
							5Y 4/1	
		3				S		
		4						
		5					5GY 4/1	
		6		P				
		7						
		CC				M		



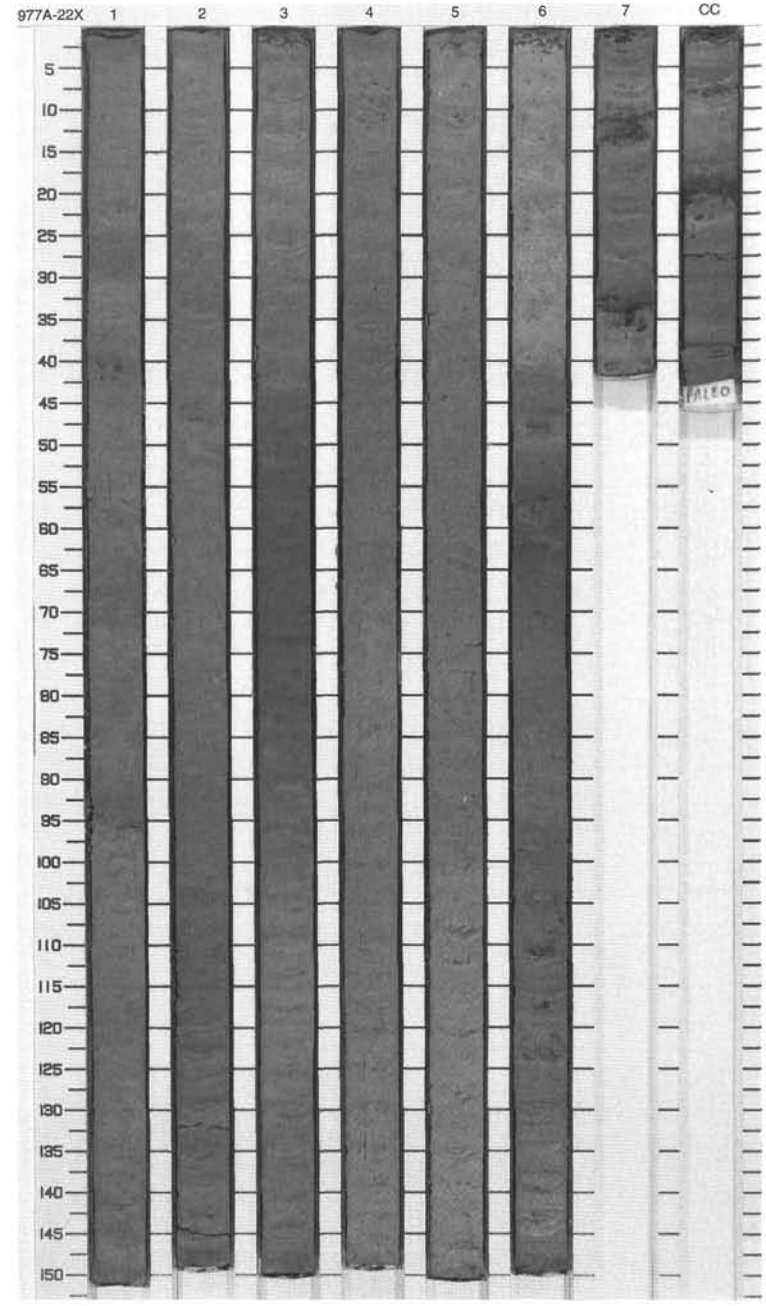
SITE 977 HOLE A CORE 21X CORED 184.9 - 194.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene	P, P		S	5GY 4/1	NANNOFOSSIL-RICH SILTY CLAY and CALCAREOUS CLAY Major Lithologies: The major lithologies are dark greenish gray (5GY 4/1) to grayish olive (10Y 4/2) NANNOFOSSIL-RICH SILTY CLAY and greenish gray (5GY 5/1) CALCAREOUS CLAY with scattered grayish black (N2) pods of pyrite(?). General Description: One olive gray (5Y 3/2) organic-rich layer occurs at 21–32 cm in Section 7.
		2		P			10Y 4/2	
		3					5GY 4/1	
							5GY 4/1 To 10Y 4/2	
		4				I	5GY 5/1 To 5GY 4/1	
						S	5GY 5/1	
		5		P, P			5GY 4/1	
							5GY 5/1	
		6					5GY 4/1	
							5GY 5/1	
		7				S	5GY 4/1	
		CC				M		



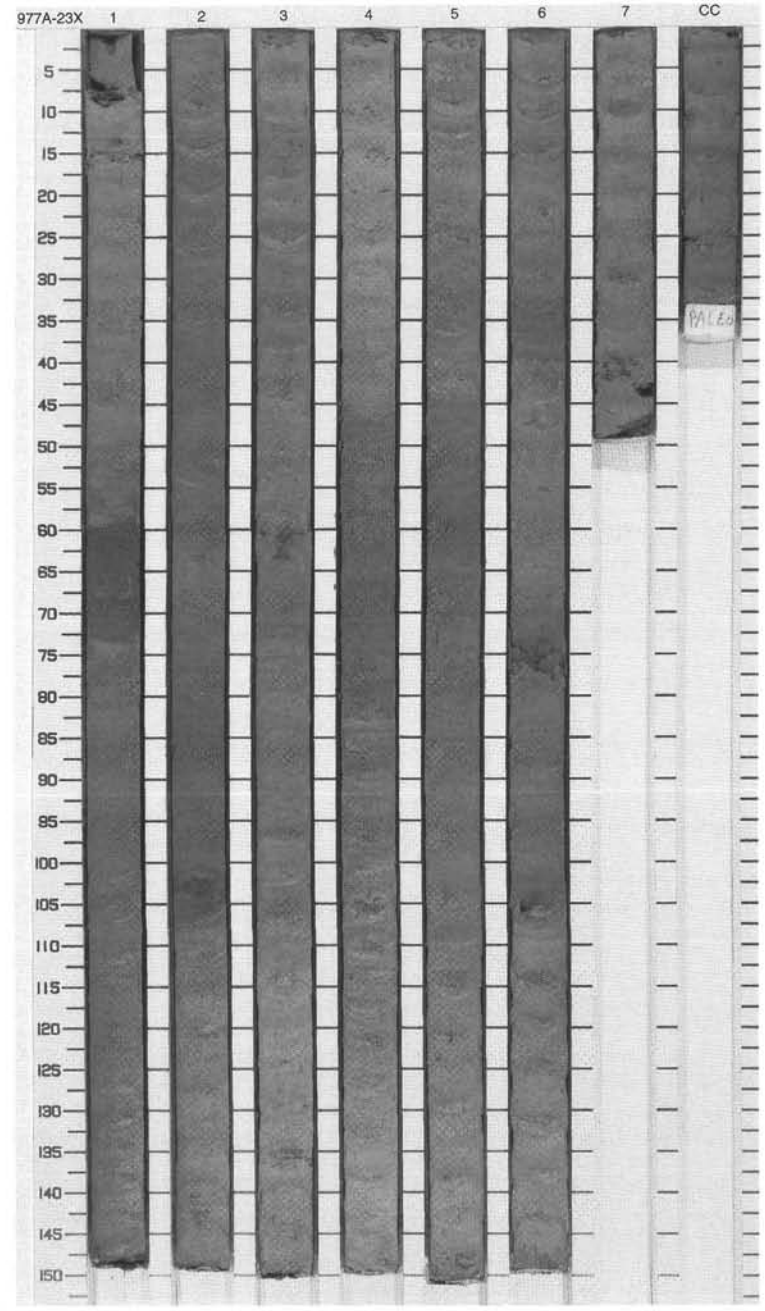
SITE 977 HOLE A CORE 22X CORED 194.4 - 204.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene	P		S	5GY 5/1	CALCAREOUS CLAY Major Lithology: The major lithology is greenish gray (5GY 5/1) to dark greenish gray (5GY 4/1) CALCAREOUS CLAY with scattered grayish black (N2) minerals (pyrite?).
2		2					5GY 4/1	
3		3		P P		S	5GY 5/1 To 5GY 4/1	Minor Lithologies: Locally foraminifers are concentrated in laminae (FORAMINIFER SAND) at 70 cm and 121–124 cm in Section 6, and 11–14 cm in Section 7. Dark greenish gray (5GY 4/1) NANNOFOSSIL SILTY CLAY layers occur at 95–96 cm in Section 1, 46–48 cm in Section 6, and 31–36 cm in Section 7. A dark gray (N3) SANDY SILTY CLAY layer occurs at 18–20 cm in Section CC; the sand-sized fraction consists mainly of quartz, mica, rock fragments, foraminifers, and bioclasts.
4							5GY 5/1	
5		4					5Y 4/1	
6							5GY 5/1	
7		5					5Y 5/1	
8		6		P			5GY 5/1	General Description: One olive gray (5Y 3/2) organic-rich layer occurs at 40–70 cm in Section 6.
9		7		P P			5Y 3/2	
		CC		P		S M	5GY 4/1	



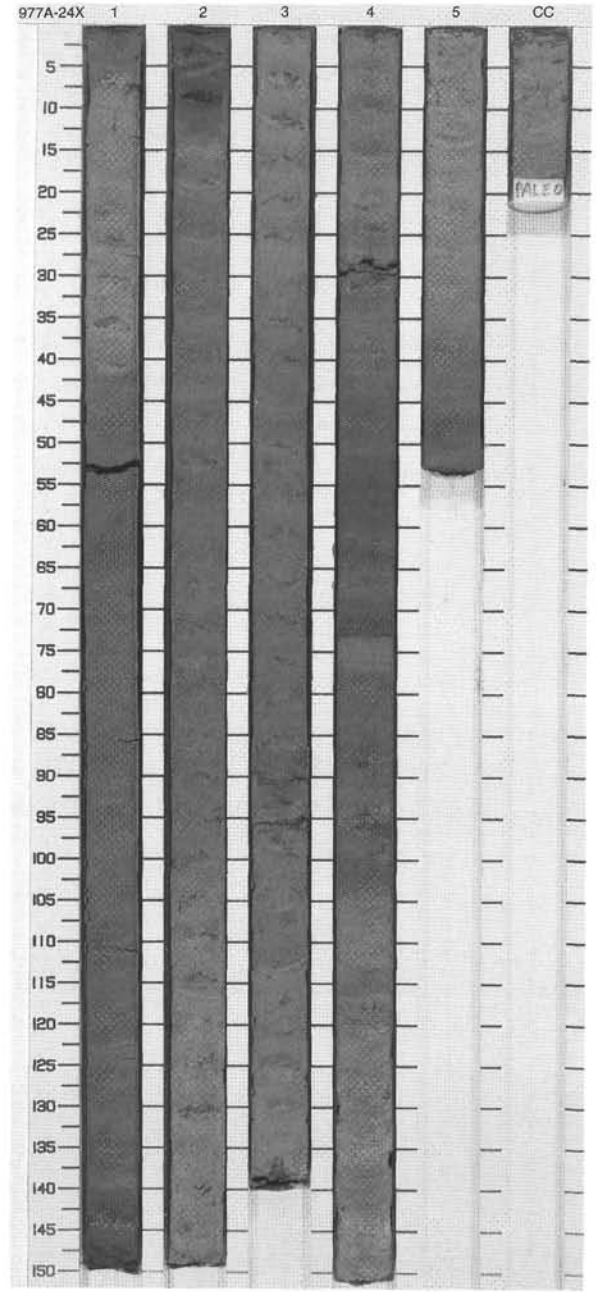
SITE 977 HOLE A CORE 23X CORED 204.0 - 213.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene			S	5GY 5/1	CALCAREOUS CLAY Major Lithology: The major lithology is greenish gray (5GY 5/1) to dark greenish gray (5GY 4/1) CALCAREOUS CLAY with scattered pods of grayish black (N2) pyrite(?) throughout the core. Minor Lithologies: Olive gray (5Y 3/2) layers of NANNOFOSSIL CLAY occur at 59–67 cm in Section 1 and 96.5–103 cm in Section 2. Greenish gray (5GY 5/1) CALCAREOUS SILTY CLAY is present in Section 4, and medium dark gray (N4) SILT to SAND occurs as burrow fills and discrete layers in Sections 2 (102–103 cm; 140–144 cm), 3 (60–65 cm), and 6 (73–77 cm; 102–105 cm). General Description: One olive gray (5Y 3/2) organic-rich layer occurs at 56–73 cm in Section 1.
							5GY 4/1	
		2				S	5Y 4/1	
		3					5GY 4/1 To 5Y 4/1	
		4					5Y 4/1	
						S	5Y 5/1	
		5					5GY 5/1	
						S	5GY 5/1 To 5GY 4/1	
		6					5Y 4/1	
						S	5GY 5/1	
							5GY 4/1	
		7					5Y 5/1 To 5Y 4/1	
		CC				M		



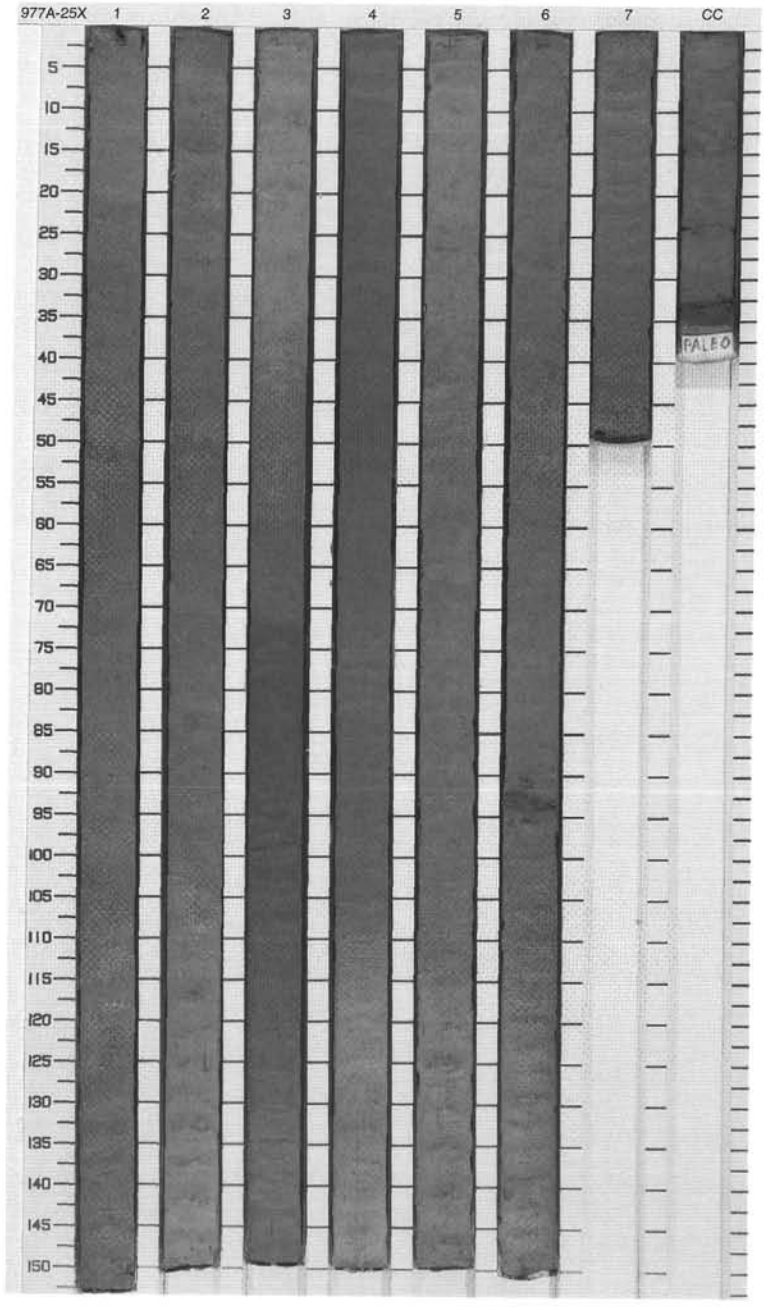
SITE 977 HOLE A CORE 24X CORED 213.6 - 223.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–6		1	Pleistocene			S	5GY 4/1	NANNOFOSSIL CLAY and NANNOFOSSIL-RICH SILTY CLAY Major Lithologies: The major lithologies are olive gray (5Y 4/1; 5Y 5/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY and dark greenish gray (5GY 4/1) NANNOFOSSIL-RICH SILTY CLAY; scattered pods (burrow fills?) of grayish black (N2) pyrite(?) are present throughout the core. Minor Lithologies: Dark greenish gray (5GY 4/1) to olive gray (5Y 4/1) OPAQUE-RICH SANDY SILT layers occur at 70–73 cm, 93–102 cm, and 127–138 cm in Section 4. High concentrations of sand-sized foraminifers (FORAMINIFER SAND) occur at 89–93 cm in Section 1, and at 87–91 cm in Section 3. General Description: One grayish olive (5Y 3/2) organic-rich layer occurs from Section 1, 149 cm to Section 2, 14 cm.
		2				S		
		3				I	5Y 4/1 To 5Y 5/1	
		4				S		
		5				S	5GY 4/1	
		CC				M		



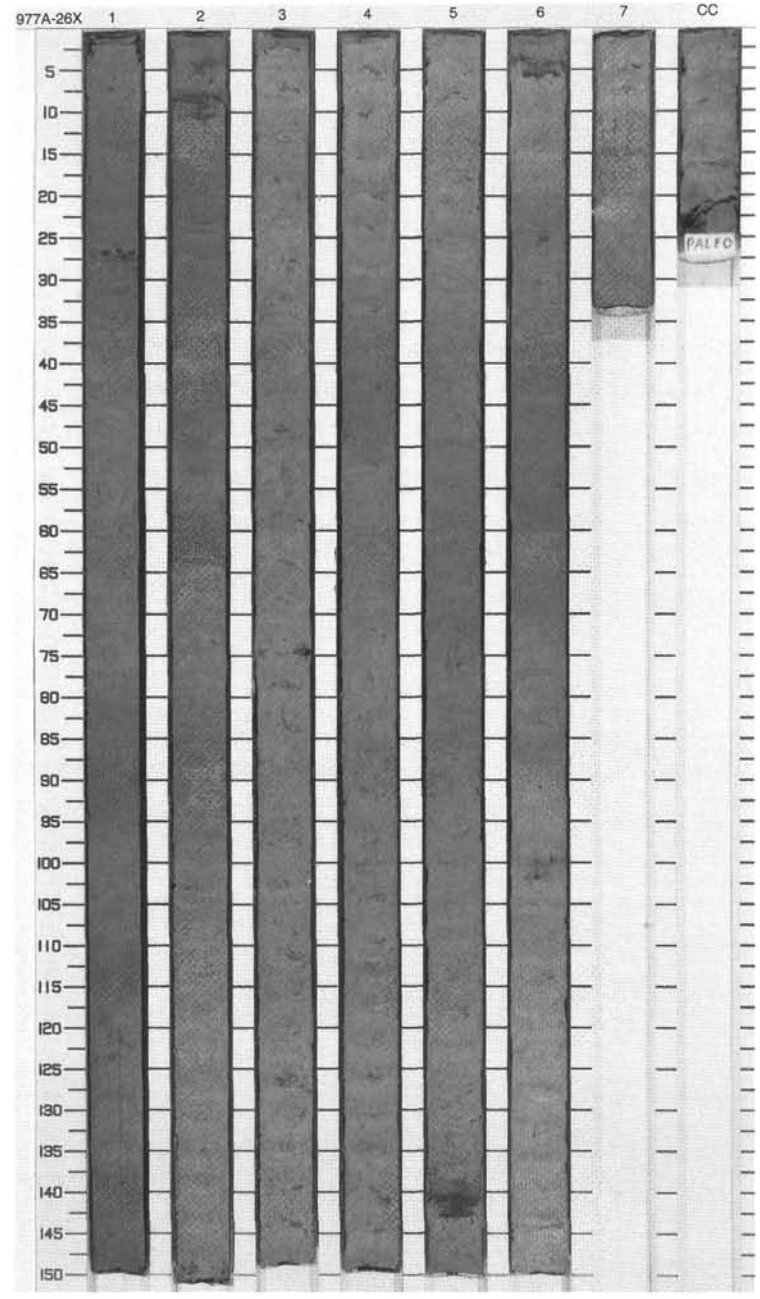
SITE 977 HOLE A CORE 25X CORED 223.2 - 232.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	Pleistocene			S, MS	5GY 2/1; 5GY 5/1; 10Y 4/2; 5GY 4/1; 10Y 4/2; 5GY 4/1; 10Y 4/2	NANNOFOSSIL CLAY TO NANNOFOSSIL-RICH CLAY Major Lithology: The predominant lithology is NANNOFOSSIL CLAY to NANNOFOSSIL-RICH CLAY that varies in color from medium greenish gray (5GY 5/1) to dark greenish gray (5GY 4/1) to grayish olive (10Y 4/2). Flecks of opaque minerals and silty partings and blebs rich in foraminifers are common. Minor Lithology: A non-graded bed of SILTY CLAYEY SAND, rich in quartz, feldspar, and rock fragments, is present in Section CC, 32–35 cm. General Description: One organic-rich layer is present in Section 3, 71–100 cm.



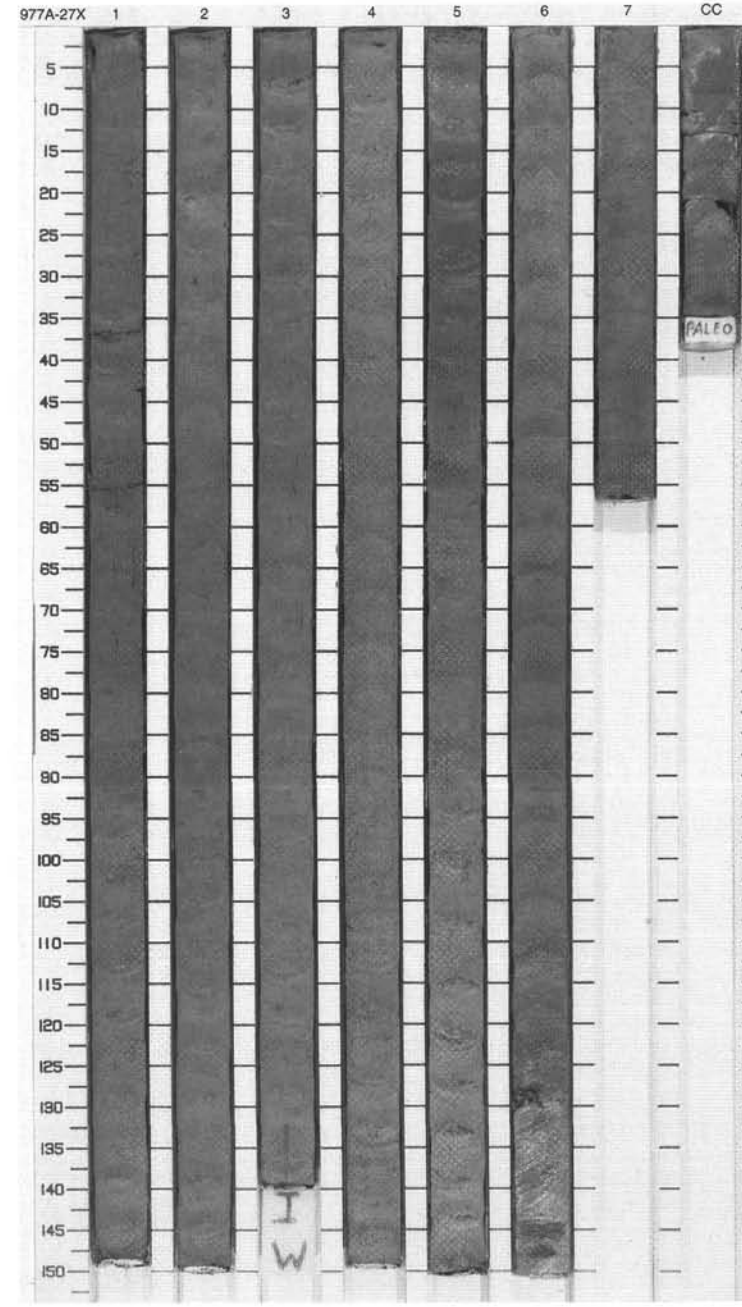
SITE 977 HOLE A CORE 26X CORED 232.9 - 242.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	Pleistocene			S, M	5GY 4/1; 5GY 5/1 To 5GY 4/1; 10Y 4/2; 5Y 5/1; 5GY 5/2; 10Y 4/2; 5Y 4/1 To 10Y 4/2	NANNOFOSSIL CLAY and CALCAREOUS CLAY Major Lithologies: NANNOFOSSIL CLAY and CALCAREOUS CLAY are the major lithologies. The CALCAREOUS CLAY contains 15% micrite and 20% nannofossils. Abundant flecks of opaque minerals and shell fragments are dispersed throughout the core. Colors include dark greenish gray (5GY 4/1), medium greenish gray (5Y 5/1, 5GY 5/2), grayish olive (10Y 4/2), and medium olive gray (5Y 5/1). Minor Lithology: An ungraded bed of CLAYEY SAND with abundant quartz, mica, feldspar, and bioclasts is present in Section 5, 142–144 cm. This bed has a sharp base and gradational top. CLAYEY SAND is also present in several laminae in Section 6, 2–6 cm.



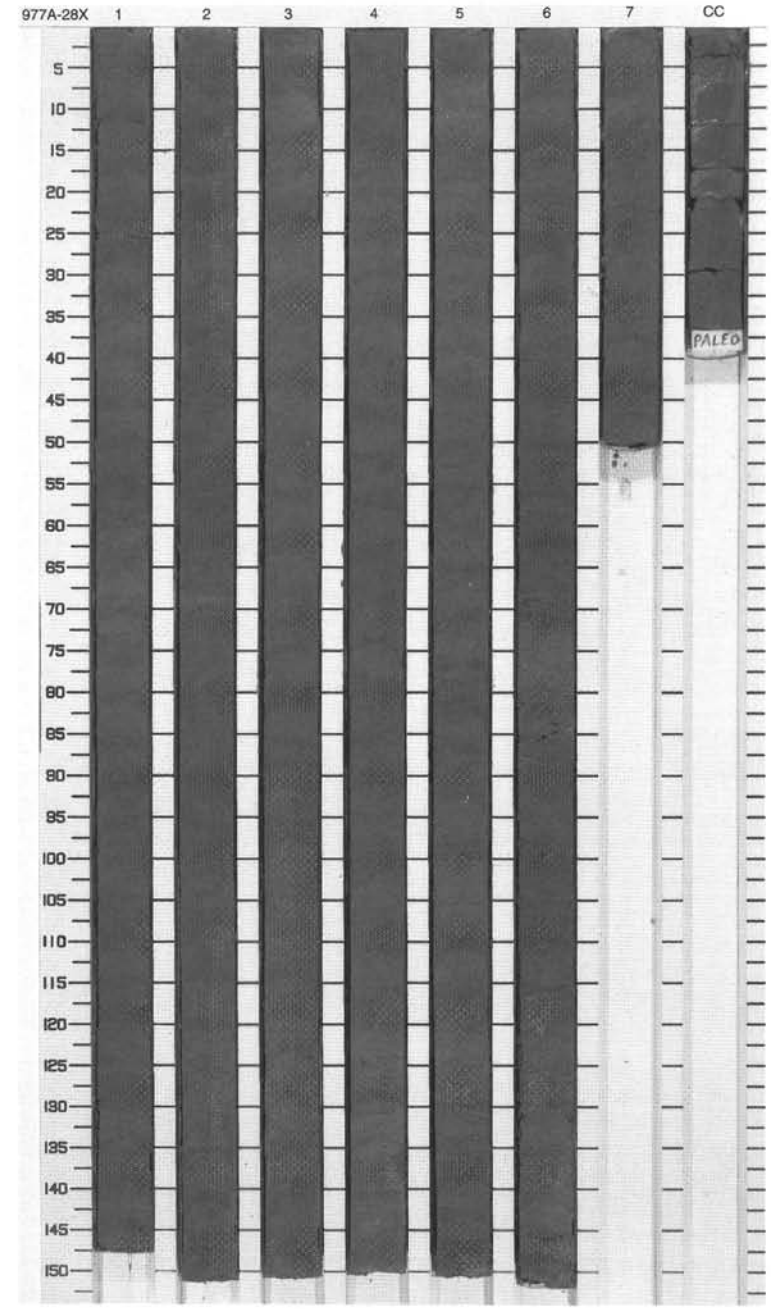
SITE 977 HOLE A CORE 27X CORED 242.6 - 252.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene			S S	5GY 5/1	NANNOFOSSIL CLAY TO SILTY CLAY Major Lithology: The major lithologies are NANNOFOSSIL CLAY to NANNOFOSSIL SILTY CLAY. Flecks of opaque minerals are abundant throughout. Colors range between medium greenish gray (5GY 5/1), dark greenish gray (5GY 4/1), and medium olive gray (5Y 5/1). Minor Lithologies: Layers of NANNOFOSSIL-, QUARTZ-RICH SANDY CLAY, and FORAMINIFER CLAYEY SAND are present in Section 6 at 126–130 cm and 144–146 cm, respectively. Both of these layers may be slightly laminated.
		2					5GY 4/1	
		3				I	5Y 5/1	
		4					5GY 5/1	
							5Y 5/1	
		5					5GY 4/1	
		6				S S	5GY 5/1	
		7				S	5GY 4/1	
		CC				M		



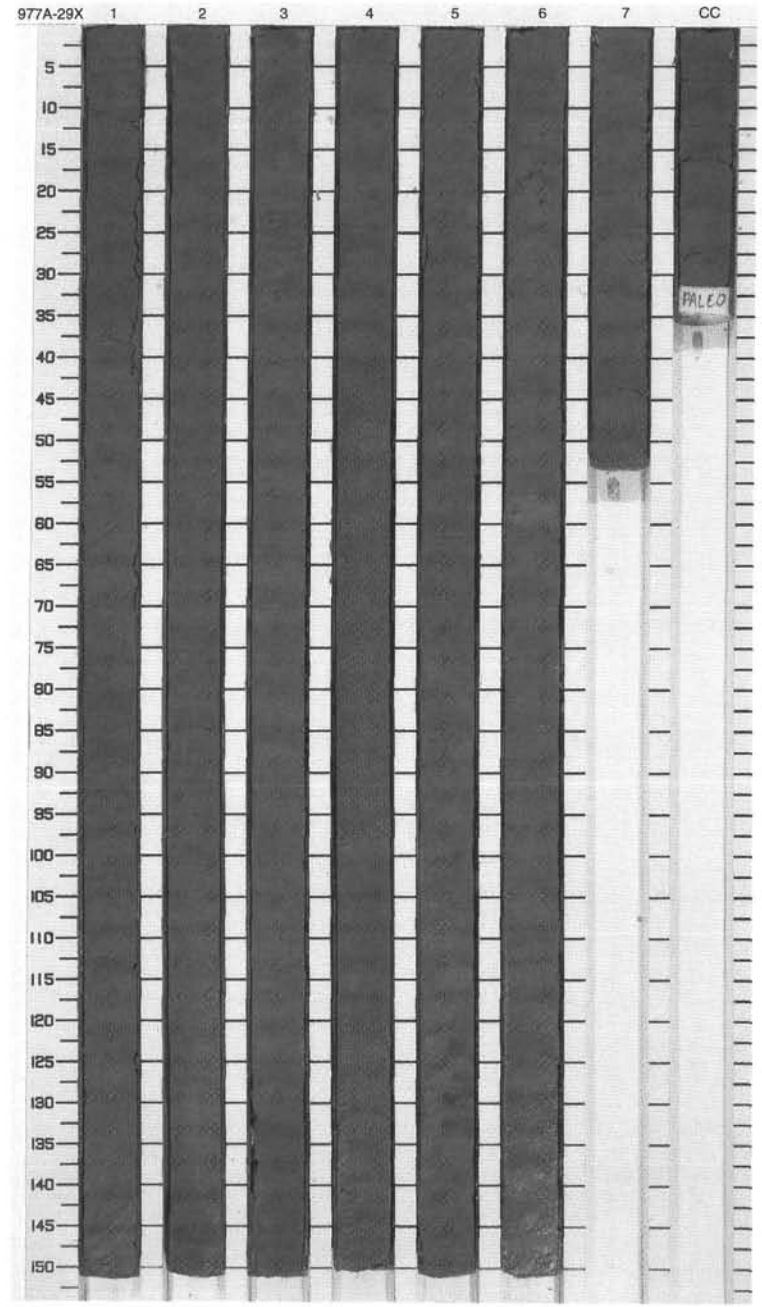
SITE 977 HOLE A CORE 28X CORED 252.5 - 261.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	Pleistocene				5G 5/1	CALCAREOUS SILTY CLAY Major Lithology: The predominant lithology is CALCAREOUS SILTY CLAY in which the carbonate component includes nannofossils, bioclasts, micrite, and foraminifers. Quartz content ranges up to 10%. Colors include medium greenish gray (5G 5/1, 5GY 5/1), dark greenish gray (5GY 4/1), medium olive gray (5Y 5/1), and grayish olive (10Y 4/2). Minor Lithology: An interval of FORAMINIFER CLAYEY SAND, highly disturbed by drilling, is present in Section 6, 68–88 cm.
		2					5GY 5/1	
		3				S		
		4					5GY 4/1	
		5					5GY 5/1	
		6				S S	5Y 5/1 5GY 4/1	
		7					5GY 5/1	
		CC				M	10Y 4/2	



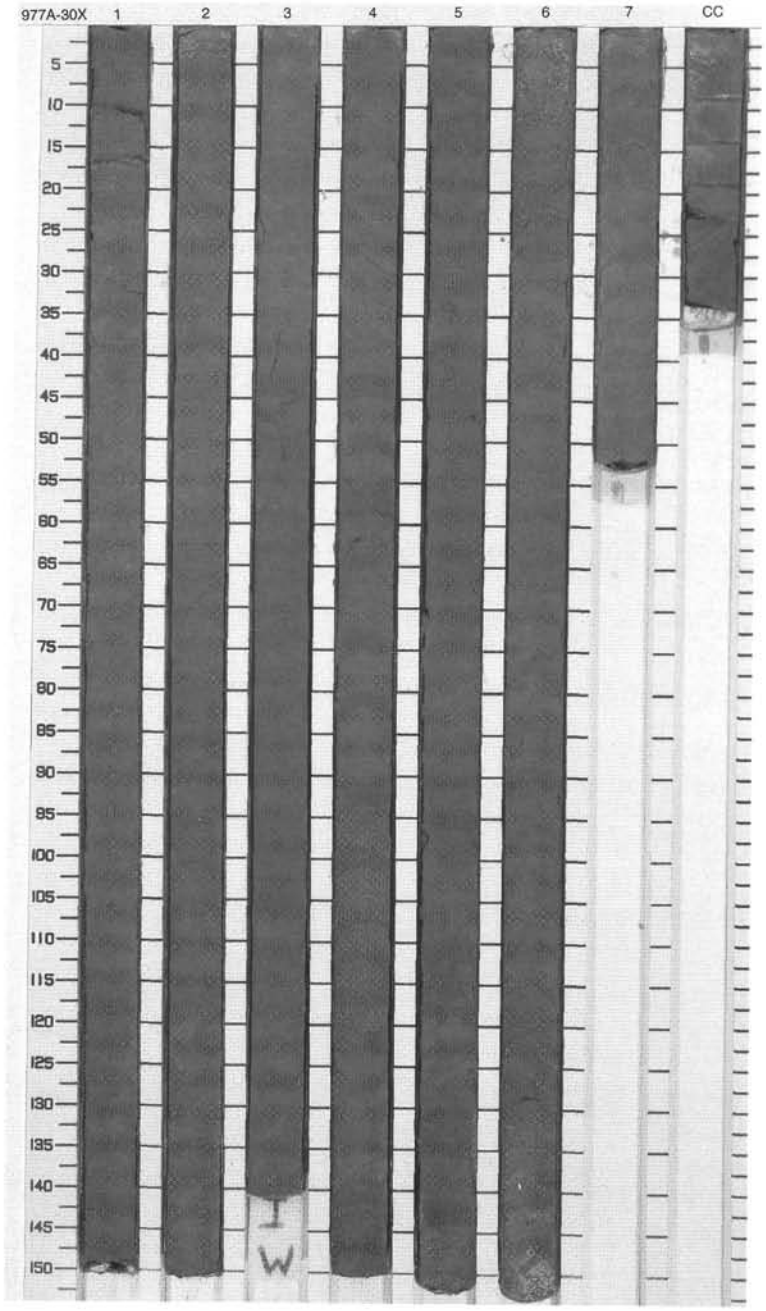
SITE 977 HOLE A CORE 29X CORED 261.8 - 271.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene–Pleistocene			S; S S; S; M	5GY 4/1; 5Y 4/1; 10Y 4/2	CALCAREOUS CLAY TO SILTY CLAY Major Lithology: The predominant lithology is CALCAREOUS CLAY to SILTY CLAY. The carbonate component comprises nannofossils, micrite, bioclasts, and foraminifers. Colors include dark greenish gray (5GY 4/1), olive gray (5Y 4/1), and grayish olive (10Y 4/2). Minor Lithologies: NANNOFOSSIL-RICH CLAY and MICRITE-RICH CLAY are interbedded in the slumped interval in Sections 4 and 5. General Description: A slumped interval in Section 4 and Section 5, 0–133 cm is characterized by inclined and folded bedding.



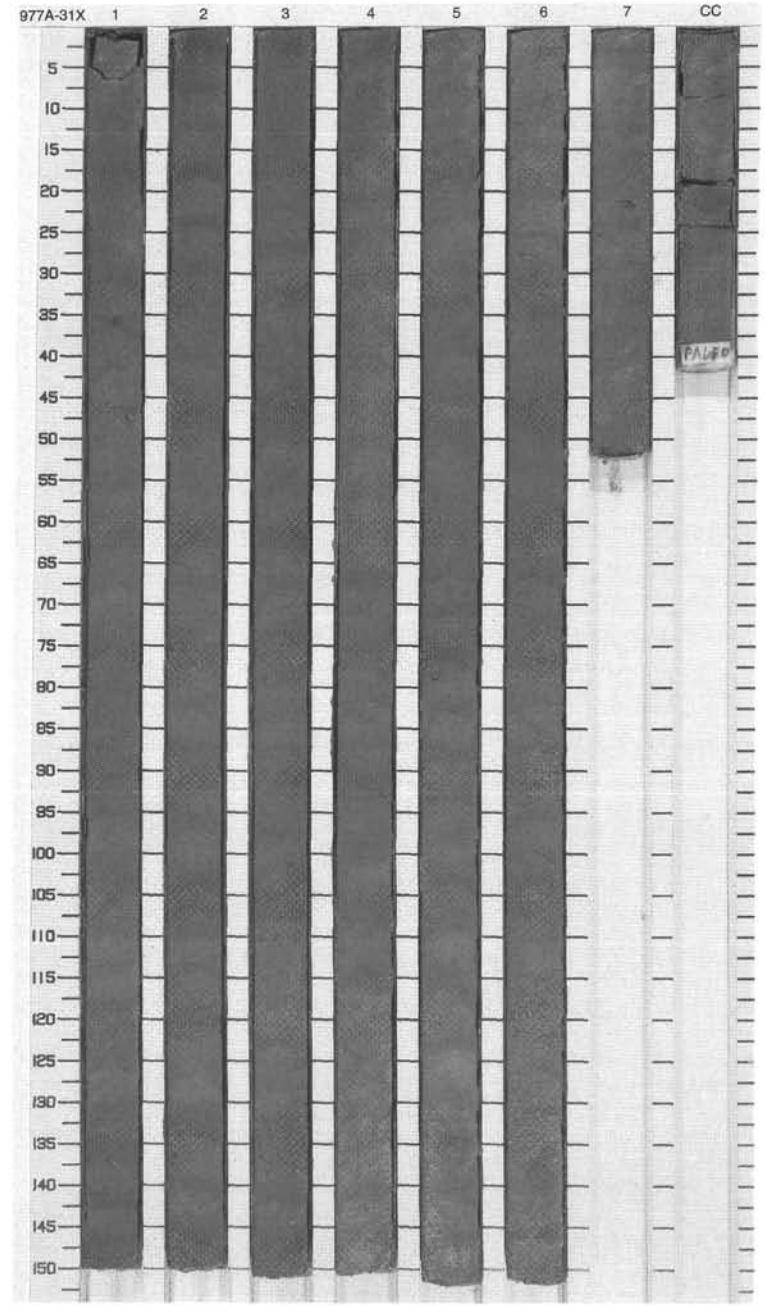
SITE 977 HOLE A CORE 30X CORED 271.4 - 281.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene–Pleistocene			I, S, S, M	5Y 4/1 To 5GY 4/1; 5Y 4/1; 5GY 4/1 To 5Y 4/1; 5Y 4/1	NANNOFOSSIL-RICH CLAY TO CALCAREOUS SILTY CLAY Major Lithology: The major lithologies are olive gray (5Y 4/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY to CALCAREOUS SILTY CLAY with local concentrations of grayish black (N2) pyrite-rich burrow fills and shell fragments.



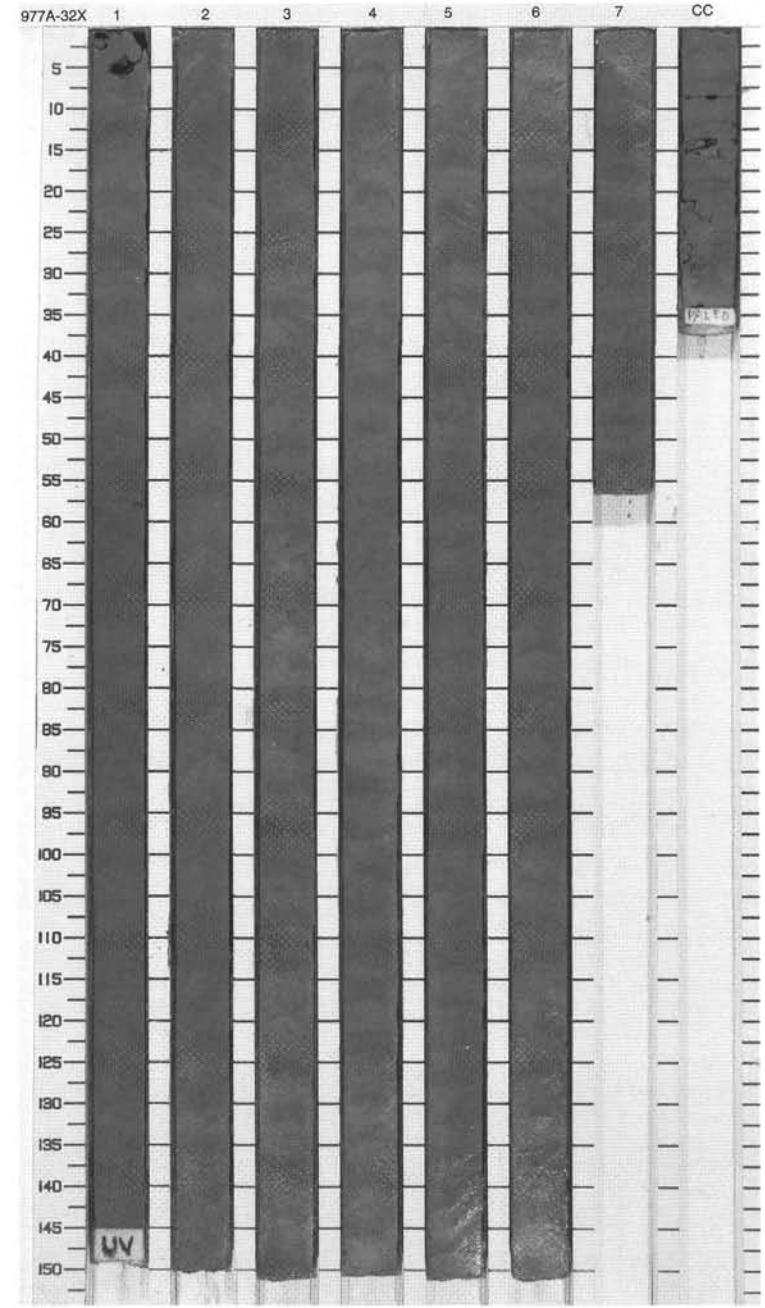
SITE 977 HOLE A CORE 31X CORED 281.0 - 290.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene			S, S, M	5Y 4/1 To 5GY 4/1; 5GY 4/1; 5GY 5/1 To 5GY 4/1; 5Y 4/1 To 5GY 4/1; 5Y 4/1	CALCAREOUS CLAY TO CALCAREOUS SILTY CLAY Major Lithology: The major lithologies are olive gray (5Y 4/1) to dark greenish gray (5GY 4/1; 5GY 5/1) CALCAREOUS CLAY to CALCAREOUS SILTY CLAY. Grayish black (N2) pyrite(?)-rich pods and shell fragments are present throughout the core.



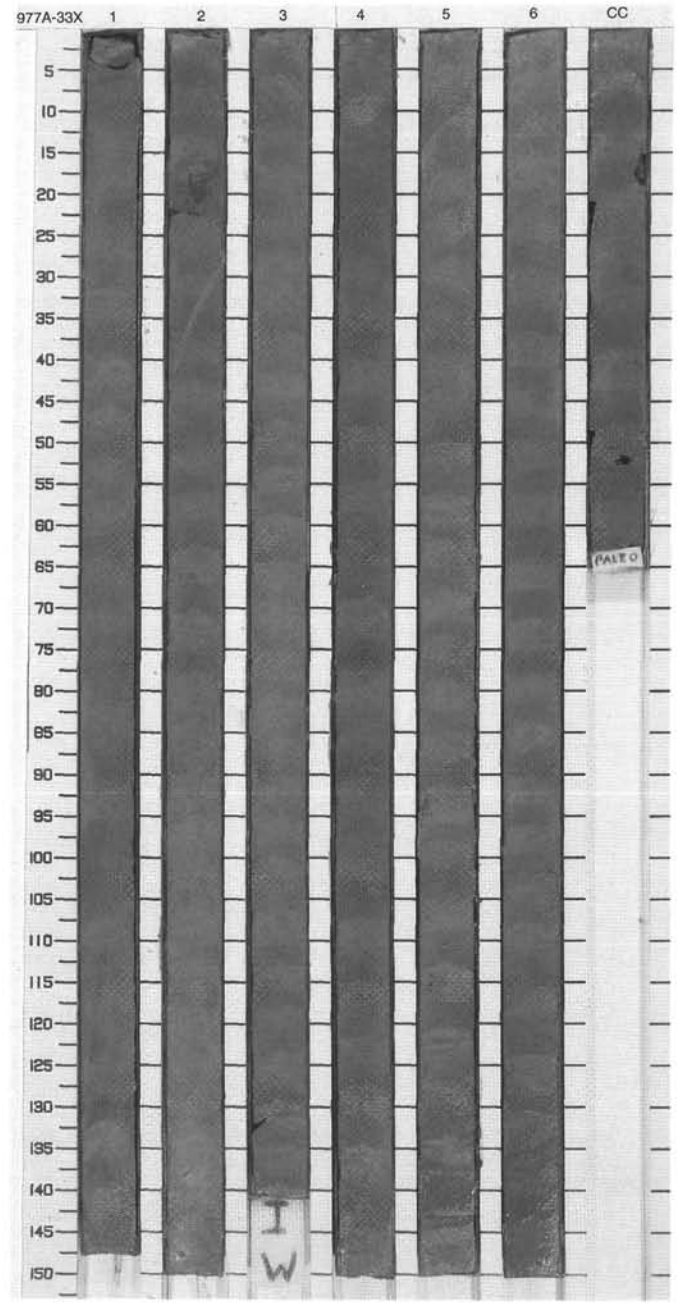
SITE 977 HOLE A CORE 32X CORED 290.5 - 300.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene			S	5GY 4/1	NANNOFOSSIL CLAY and CALCAREOUS SILTY CLAY Major Lithologies: The major lithologies are olive gray (5Y 4/1; 5Y 5/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY and olive gray (5Y 4/1) CALCAREOUS SILTY CLAY. Grayish black (N2) pryite-rich pods (burrow fills?) and shell fragments are present throughout the core.
		2					5GY 4/1 To 5Y 4/1	
		3						
		4		P			5Y 5/1	
		5					5Y 4/1	
		6				S		
		7						
		CC				M		



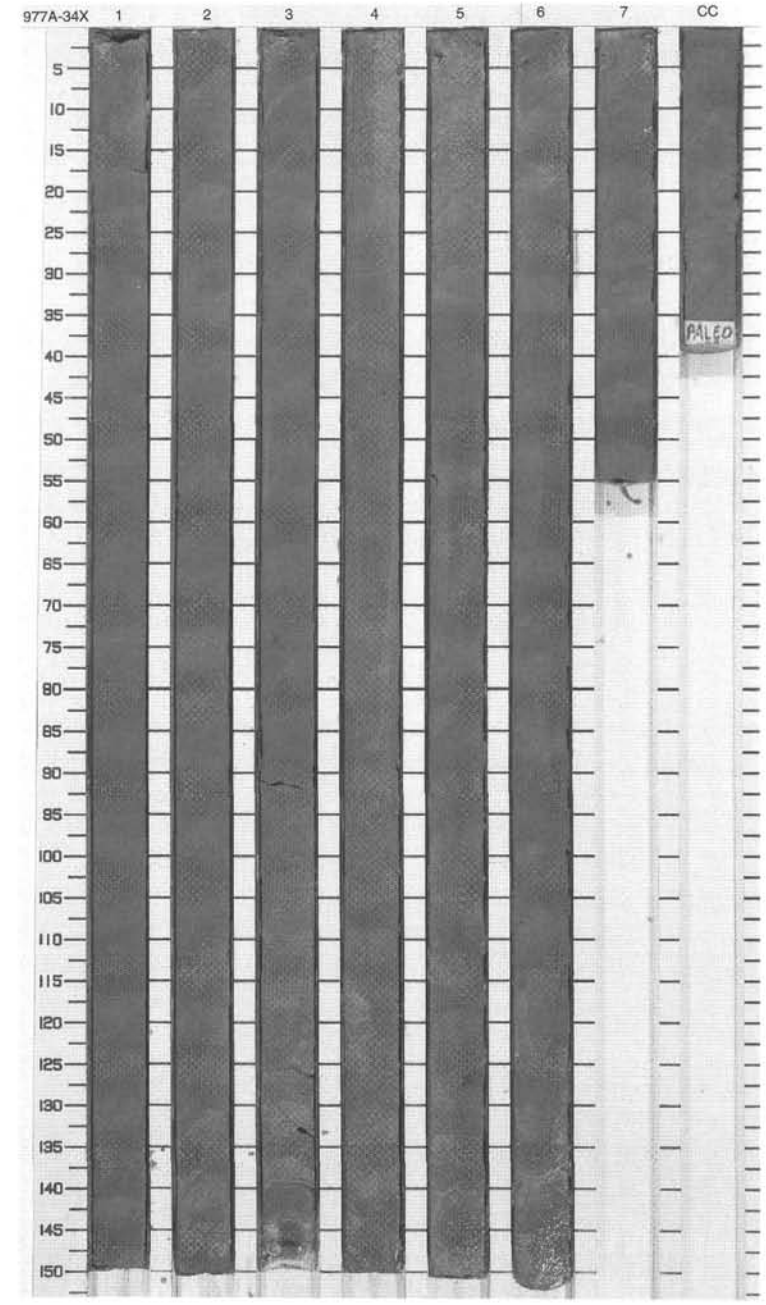
SITE 977 HOLE A CORE 33X CORED 300.1 - 309.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene	P			5GY 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is greenish gray (5GY 5/1) to dark geenish gray (5GY 4/1) NANNOFOSSIL CLAY . Minor Lithologies: A dark greenish gray (5GY 4/1) CALCAREOUS SILTY CLAY layer occurs at 0–45 cm in Section 2, and a concentration of foraminifers (FORAMINIFER SAND) occurs at 70–73 cm in Section 4. General Description: Bioturbation is variable, with local concentrations of *Chondrites* burrows and less common *Zoophycos* and composite burrows. Faint horizontal laminations occur at 113–115 cm in Section 2 and 124–126 cm in Section 3.
		2		P		S	5GY 5/1	
		3					5GY 4/1 5GY 5/1 5GY 4/1	
		4		P P		I S	5GY 4/1 5GY 5/1	
		5					5GY 4/1	
		6				S		
		CC				M	5GY 5/1	



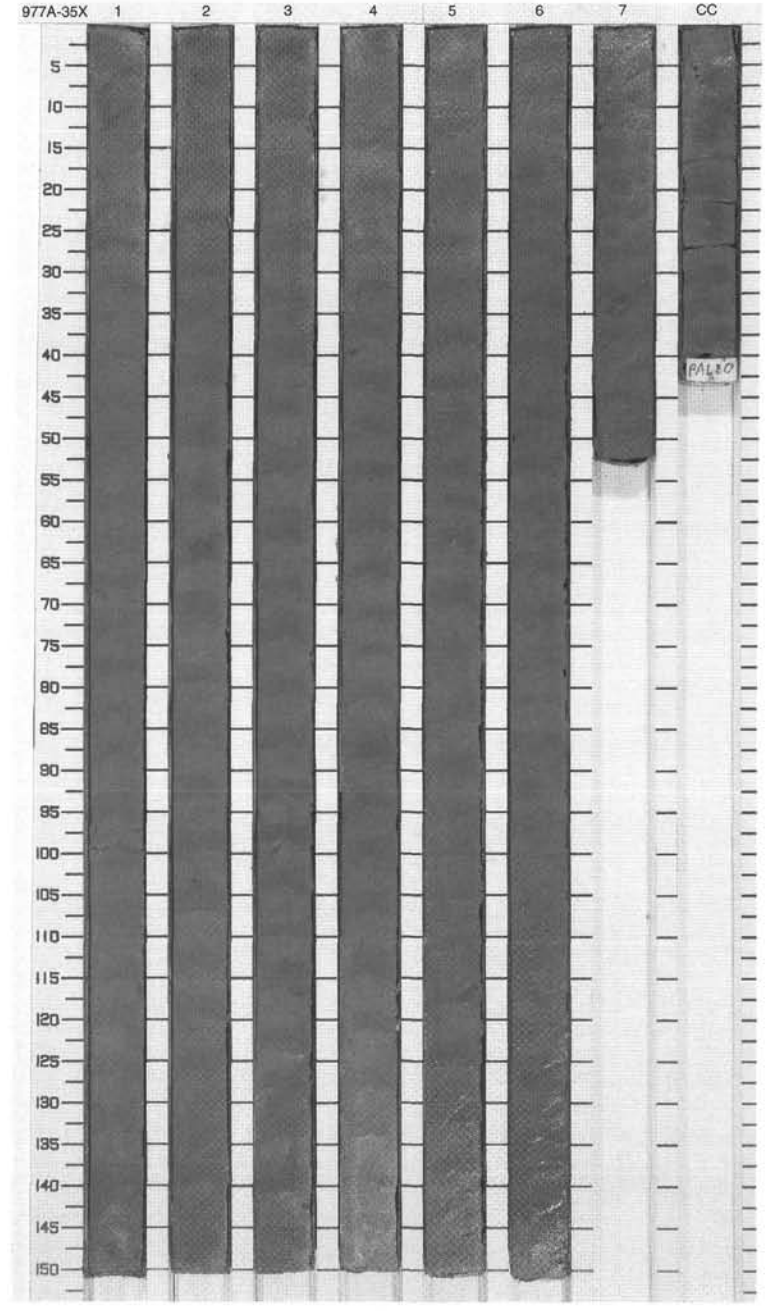
SITE 977 HOLE A CORE 34X CORED 309.7 - 319.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene	P; P; S; M			5GY 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY with scattered shell fragments. General Description: *Chondrites* burrows occur in more intensely bioturbated parts of the core.



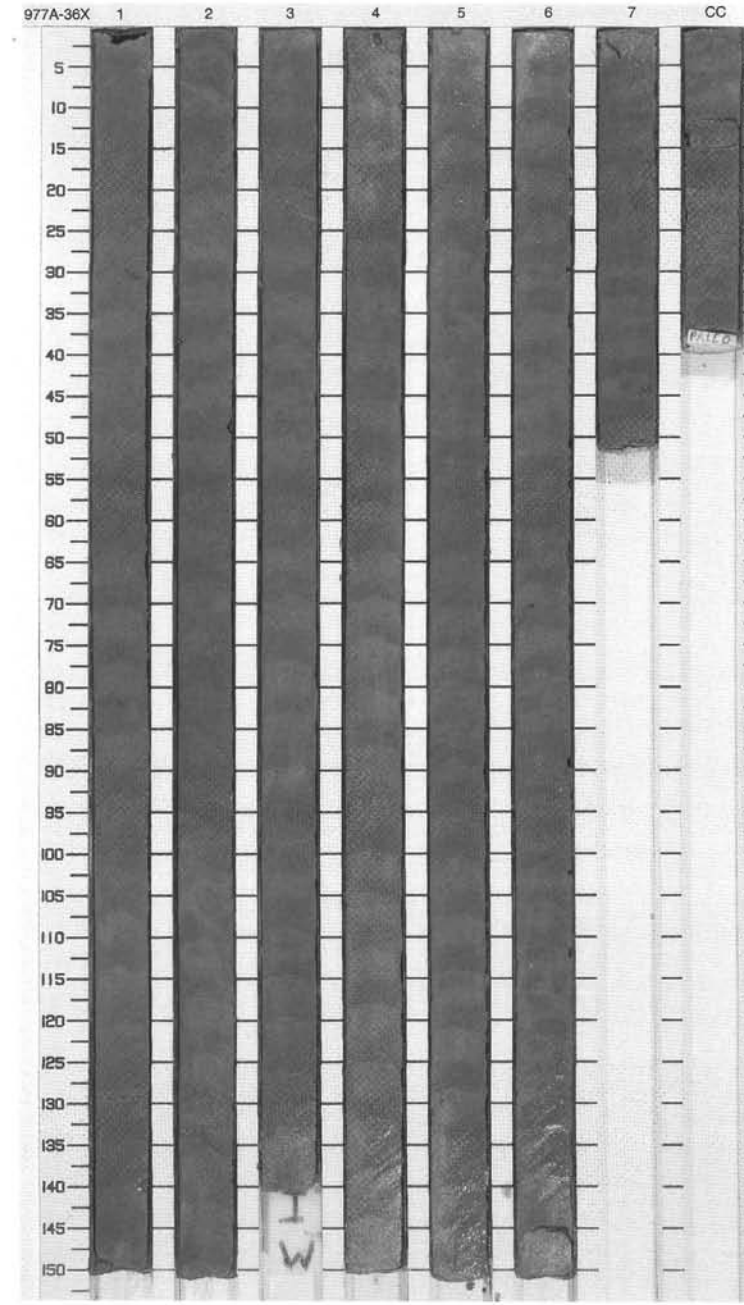
SITE 977 HOLE A CORE 35X CORED 319.4 - 328.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene			S, M	5Y 4/1; 5Y 4/1 To 5GY 4/1; 5Y 4/1; 5GY 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is olive gray (5Y 4/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY with scattered grayish black (N2) pyrite concretions, foraminifers and shell fragments. General Description: At 14–40 cm in Section CC the sediment is enriched in foraminifers. Faint, discontinuous lamination is present within Section 5.



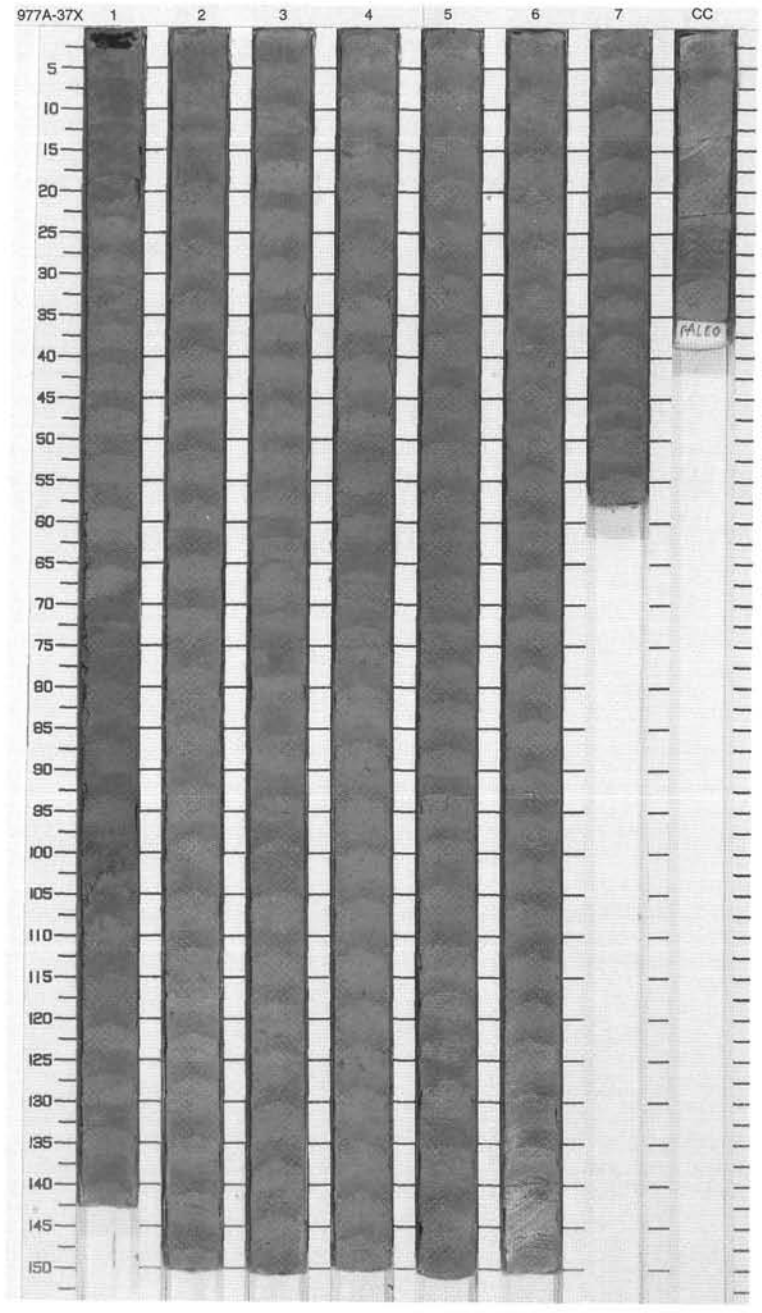
SITE 977 HOLE A CORE 36X CORED 328.9 - 338.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene	P, P, P, P, P, P		S, I	5GY 4/1; 10Y 4/2 To 5GY 4/1; 5GY 4/1; 5GY 4/1 To 5Y 4/1	CALCAREOUS SILTY CLAY Major Lithology: The major lithology is dark greenish gray (5GY 4/1) to olive gray (5Y 4/1) and grayish olive (10 Y 4/2) CALCAREOUS SILTY CLAY. General Description: Faint, discontinuous laminae are present at 87–94 cm in Section 1, at 81–85 cm in Section 2, at 28–30 cm in Section 3, at 54–60 cm in Section 4, and at 95–96 cm in Section 5. More intensely bioturbated intervals contain *Chondrites* burrows. Some larger pyrite-filled discrete burrows are also present.



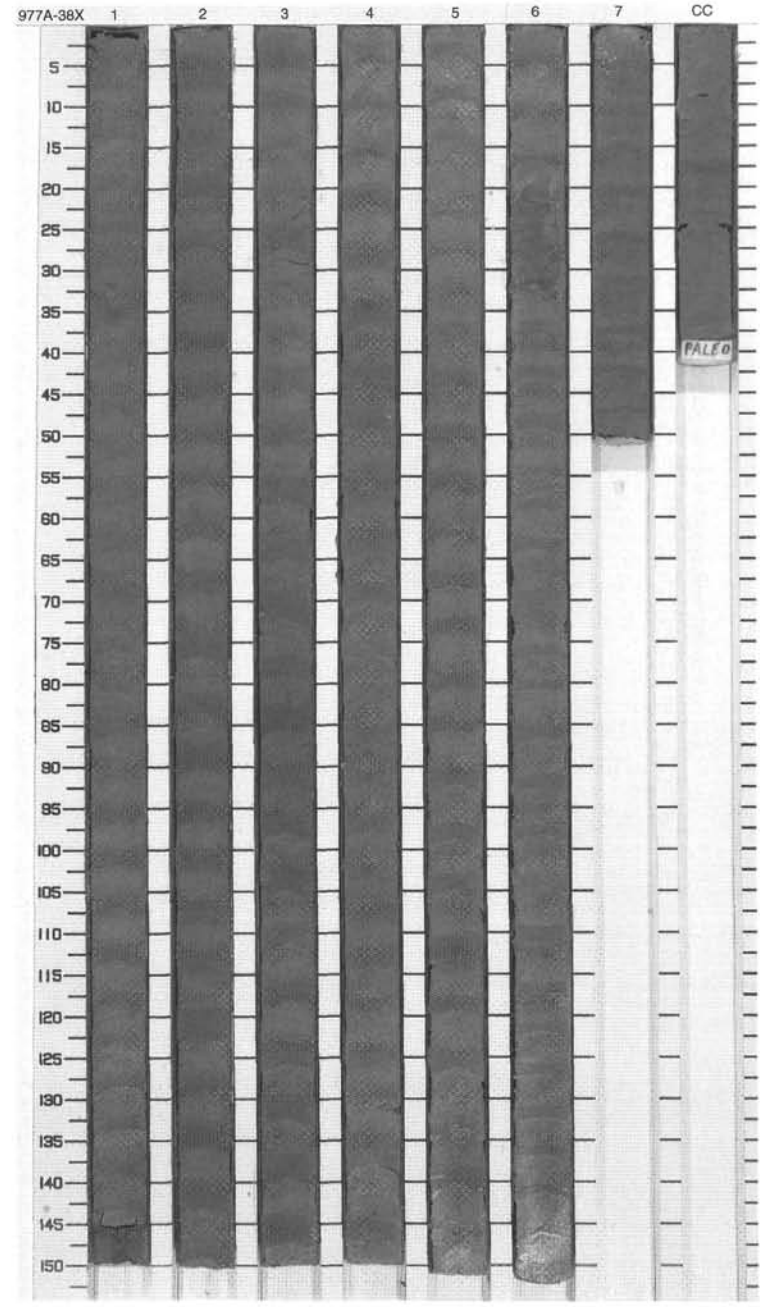
SITE 977 HOLE A CORE 37X CORED 338.5 - 348.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene			S	5Y 4/1 To 10Y 4/2	NANNOFOSSIL-RICH SILTY CLAY and NANNOFOSSIL CLAY Major Lithologies: The main lithologies are olive gray (5Y 4/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL-RICH SILTY CLAY and NANNOFOSSIL CLAY. Sediment is mainly weakly burrowed, but is moderately to strongly burrowed in a few places. Recognizable trace fossils include common *Chondrites* and rare *Zoophycos*. Dark flecking (pyrite?) is visible throughout. Minor Lithologies: Fine SAND to SILT laminae are found from 74–79 cm in Section 3. The strata are composed mainly of foraminifers. General Description: Biscuiting of the core is visible throughout. An organic-rich layer is present in Section CC, 23–31 cm.
		2		Ø (P)		S	5GY 4/1	
		3				S		
		4				S	5Y 4/1	
		5						
		6						
		7					5GY 4/1 To 5Y 4/1	
		CC				M		



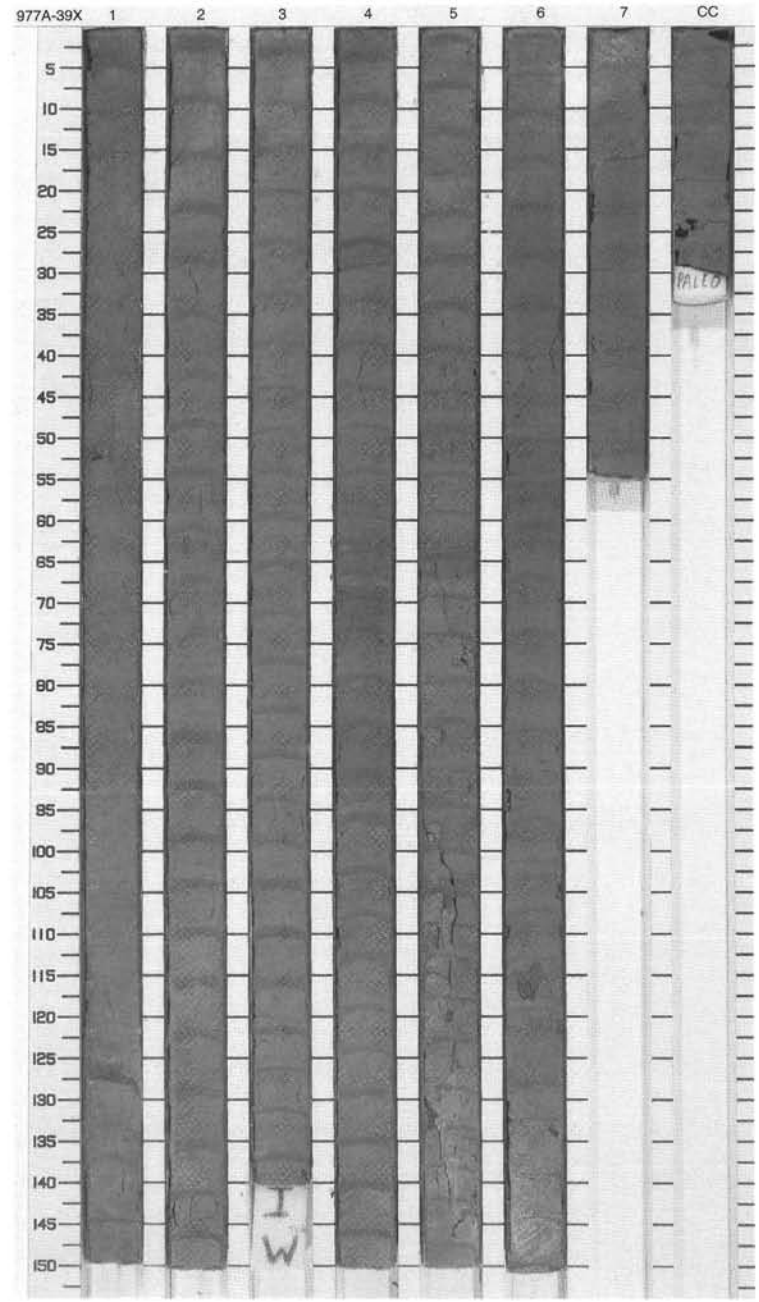
SITE 977 HOLE A CORE 38X CORED 348.2 - 357.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene				5GY 5/1	NANNOFOSSIL SILTY CLAY Major Lithology: The main sediment type is NANNOFOSSIL SILTY CLAY which is medium greenish gray (5GY 5/1) to medium olive gray (5Y 5/1) in color and weakly to strongly bioturbated and burrowed. It contains common dark gray (N3) flecks and rare shell fragments. Most of the flecks are granular to rounded but a few are needle-like in form. Minor Lithologies: Minor lithologies include FORAMINIFER-NANNOFOSSIL SANDY SILTY CLAY layers and CALCAREOUS SILTY CLAY in which nannofossils and micrite are subequally abundant. The former are graded with a coarser grained foraminifer-rich base grading upward into a silty clay-dominated interval. A few intervals are characterized by grayish olive (10Y 4/2) clay with prominant dusky yellow green (5GY 5/2) burrows. General Description: Laminations are prominant in the tops of biscuits near the base of the core. It was not possible to tell if these were of depositional, biological, or drilling-induced origin. The core has undergone significant drilling deformation and biscuits are visible throughout.
		2					5Y 5/1	
		3				S	5GY 4/1 10Y 4/2	
		4					5GY 4/1	
		5				S	5Y 5/1	
		6				S	10Y 4/2	
		7					5GY 5/2	
		CC				M	10Y 4/2	



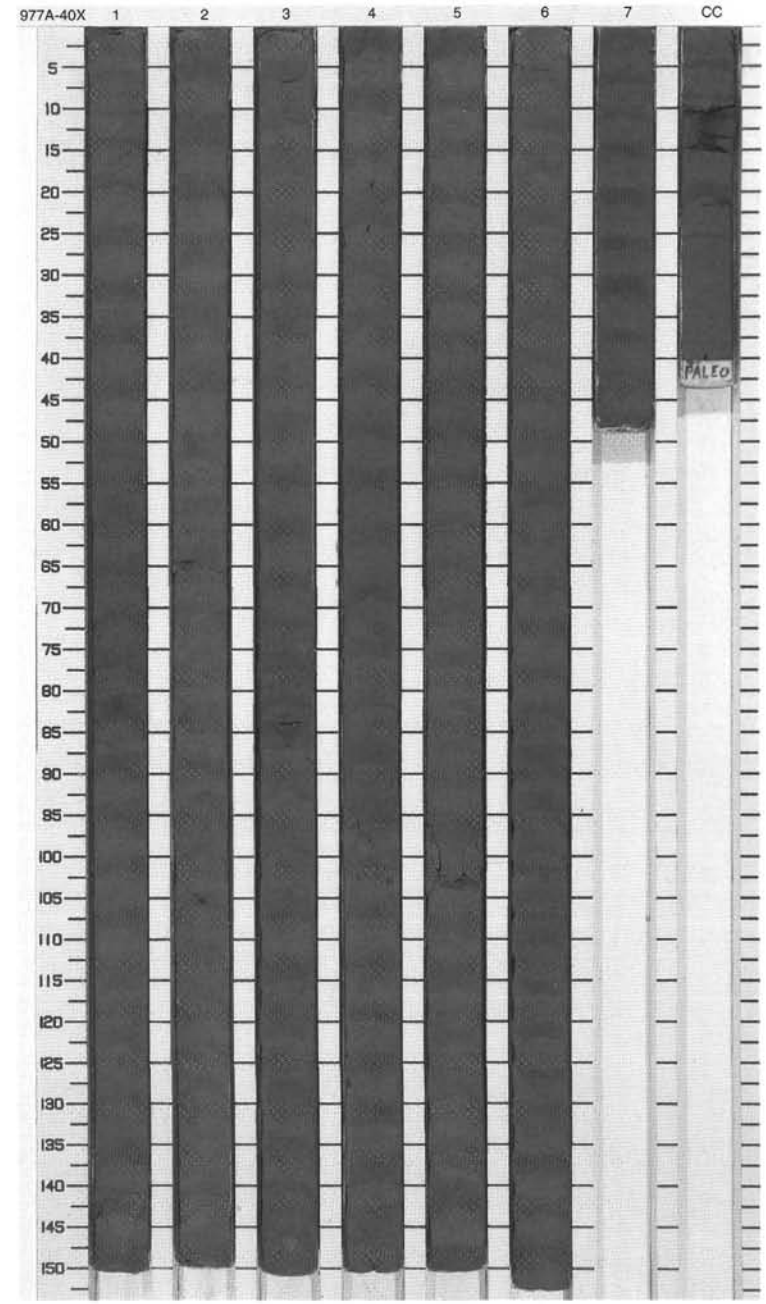
SITE 977 HOLE A CORE 39X CORED 357.9 - 367.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene			S	5Y 5/1	NANNOFOSSIL-RICH CLAY Major Lithology: The main sediment type is NANNOFOSSIL-RICH CLAY. It ranges in color from medium greenish gray (5GY 5/1) to medium olive gray (5Y 5/1) and grayish olive (10Y 4/2). Burrowing and bioturbation increase down the core, as do pyrite flecks. Dispersed foraminifers are common throughout; shell fragments are rare. Minor Lithologies: In a few places foraminifers are concentrated into pockets and, more rarely, into layers. Intensely burrowed grayish olive (10Y 4/2) NANNOFOSSIL CLAY is present from 60–73 cm in Section 4 , and from 60–70 cm in Section 5. In the former *Planolites* is the dominant form; in the latter *Chondrites* dominates. General Description: A small-scale normal fault was found in a foraminifer sand at 10–15 cm in Section 7. The core is visibly biscuited throughout.
		2				S	5GY 5/1	
		3				I		
		4					10Y 4/2	
		5		P		S	5GY 5/1	
		6					10Y 4/2	
		7						
		CC		P		M		



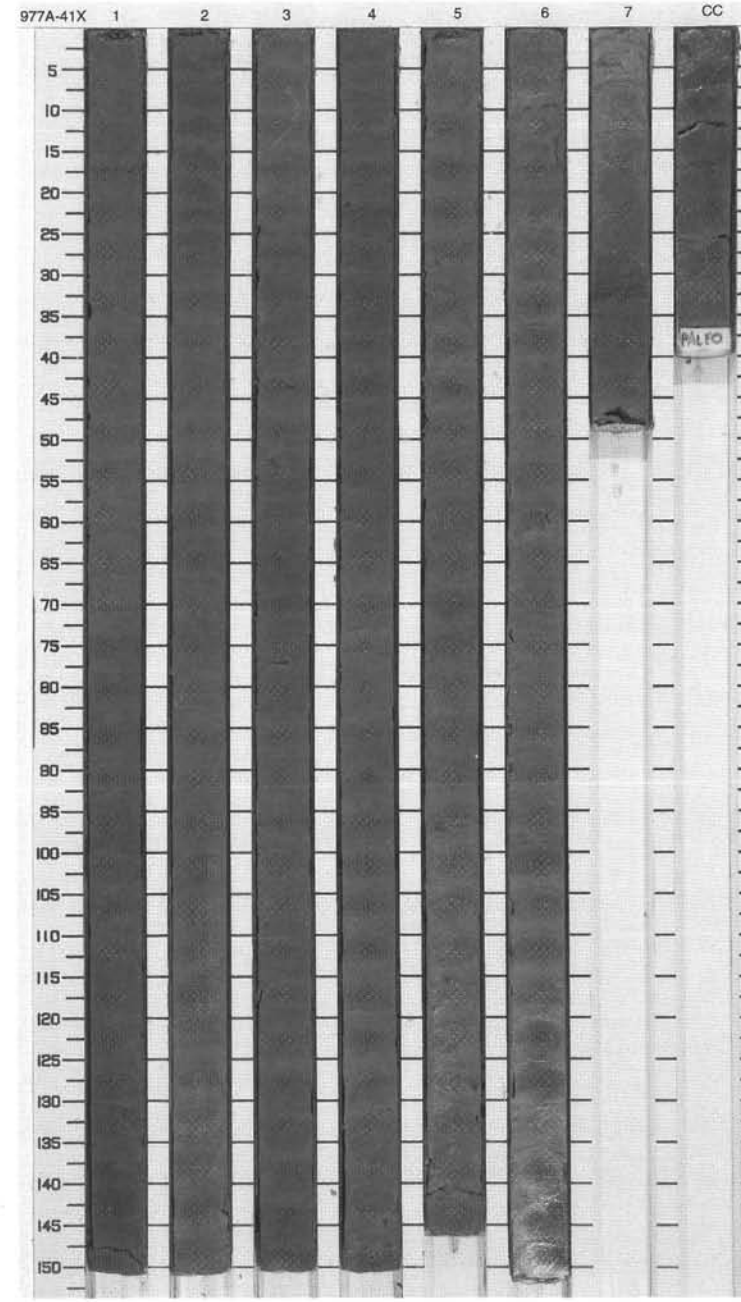
SITE 977 HOLE A CORE 40X CORED 367.5 - 377.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene				5GY 5/1	CALCAREOUS SILTY CLAY Major Lithology: The main sediment type is a medium greenish gray (5GY 5/1) CALCAREOUS SILTY CLAY in which the calcareous components are dominated by nannofossils with subordinate micrite. Shell fragments are common, as are burrowing and flecking. The latter two become increasingly common down the core. Minor Lithologies: One FORAMINIFER-RICH SAND is present at 14–15 cm in the Core Catcher. Burrowing throughout is moderate with rare pyritized burrows. *Chondrites* is the most common ichnogenus present, but composite burrows are also present. General Description: Drilling "biscuits" are common throughout.
							5GY 4/1	
		2				S S	5GY 5/1	
		3		(P)			10Y 4/2	
							5GY 5/1	
		4		(P) (P)			5G 4/1	
		5					5GY 5/1	
		6					5GY 5/1 To 10Y 4/2	
		7					10Y 4/2	
		CC				M		



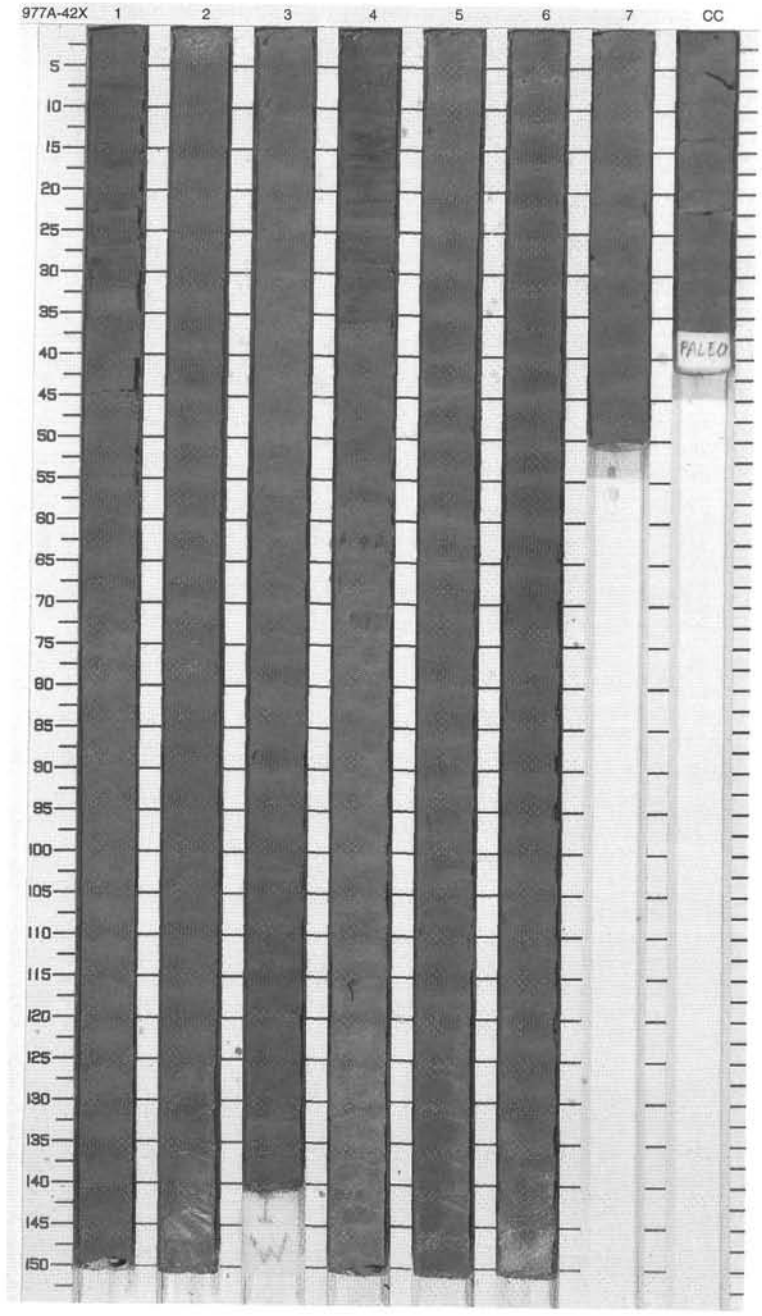
SITE 977 HOLE A CORE 41X CORED 377.1 - 386.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene			S, S, S, M	5GY 4/1 To 5Y 4/1; 5Y 4/1; 5Y 4/1 To 5GY 4/1; 5Y 4/1; 5Y 4/1 To 5GY 4/1	CALCAREOUS SILTY CLAY Major Lithology: The major lithology is variably bioturbated dark greenish gray to olive gray (5GY 4/1, 5Y 4/1) CALCAREOUS SILTY CLAY, locally exhibiting fine lamination and *Chondrites* burrows. Minor Lithology: Foraminifers are particularly concentrated at the bottom of the core, below 130 cm in Section 5. FORAMINIFER SAND to SILT is present at 8–22 cm in Section 6, and 33–35 cm in Section 7.



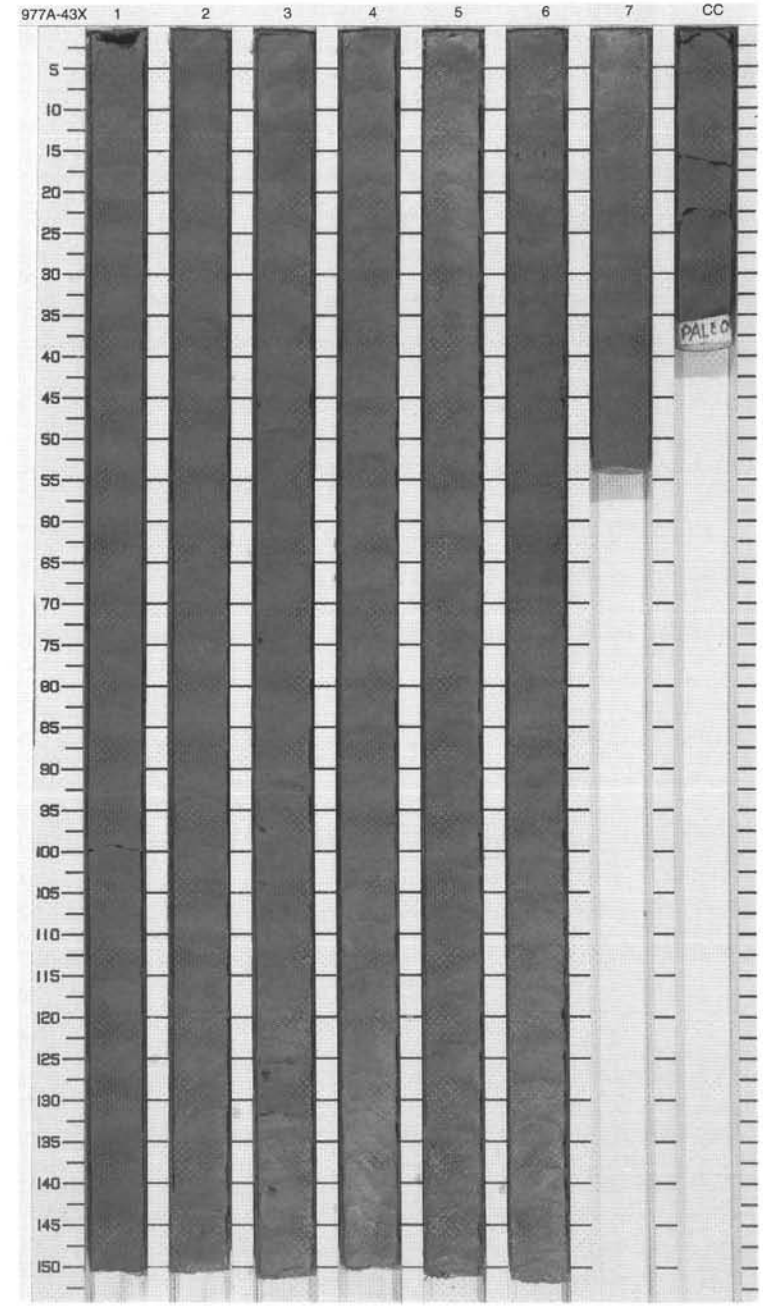
SITE 977 HOLE A CORE 42X CORED 386.7 - 396.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene			I S S S M	5GY 4/1 To 5Y 5/2 5Y 4/1 5GY 4/1 To 5Y 5/1 5Y 4/1 To 5Y 3/2 5GY 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is bioturbated and locally faintly laminated (18–60 cm in Section 6) dark greenish gray (5GY 4/1) to olive gray (5Y 4/1) NANNOFOSSIL CLAY. Minor Lithologies: The core is locally enriched in foraminifers, with some local concentrations of FORAMINIFER SAND (at 35–39 cm in Section 4 ; at 110–115 cm in Section 5; at 3–4 cm in Section 7). Laminated to thinly bedded olive gray (5Y 3/2; 5Y 4/1; 5Y 5/1) to dark greenish gray (5GY 4/1) to greenish gray (5GY 6/1) CALCAREOUS SILTY CLAY to SILT and CALCAREOUS CLAY occurs from 0–33 cm in Section 1, and 94 cm in Section 3 to 35 cm in Section 4. Smear slides of these laminated intervals show trace amounts of pyrite-replaced diatoms. Both the FORAMINIFER SAND and CALCAREOUS SILTY CLAY to SILT show upward-coarsening trends. General Description: Organic-rich layers are present in Section 1, 0–33cm and from Section 3, 100 cm to Section 4, 35 cm. The core is variably bioturbated with common *Chondrites* and rarer Composite, *Zoophycos* and *Planolites*. Burrows are locally rich in pyrite.



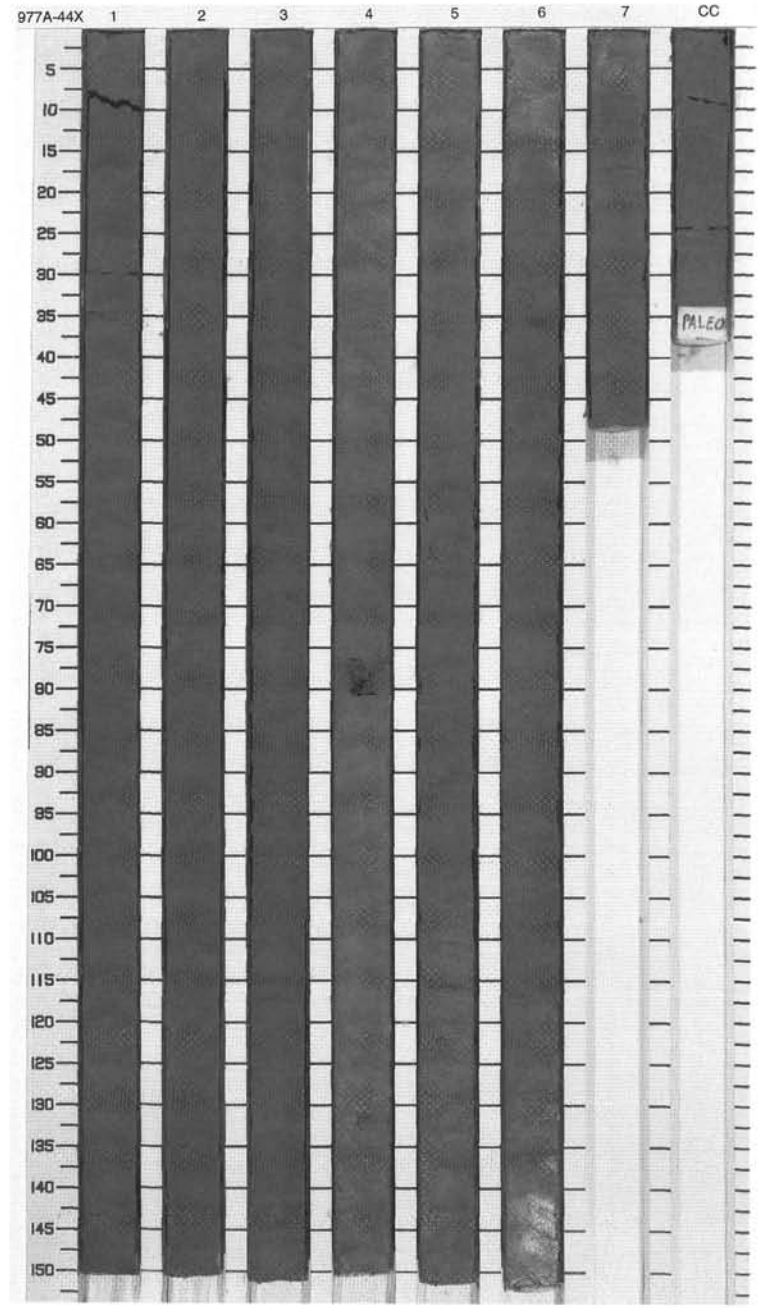
SITE 977 HOLE A CORE 43X CORED 396.4 - 406.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene				5Y 4/1 To 5Y 5/1	NANN0FOSSIL SILTY CLAY Major Lithology: The major lithology is olive gray (5Y 4/1; 5Y 5/1) to dark greenish gray (5GY 5/1 to 5GY 4/1) NANN0FOSSIL SILTY CLAY.
		2					5GY 5/1 To 5Y 4/1	
		3						
		4				S		
		5					5GY 4/1	
		6				S		
		7						
		CC				M		



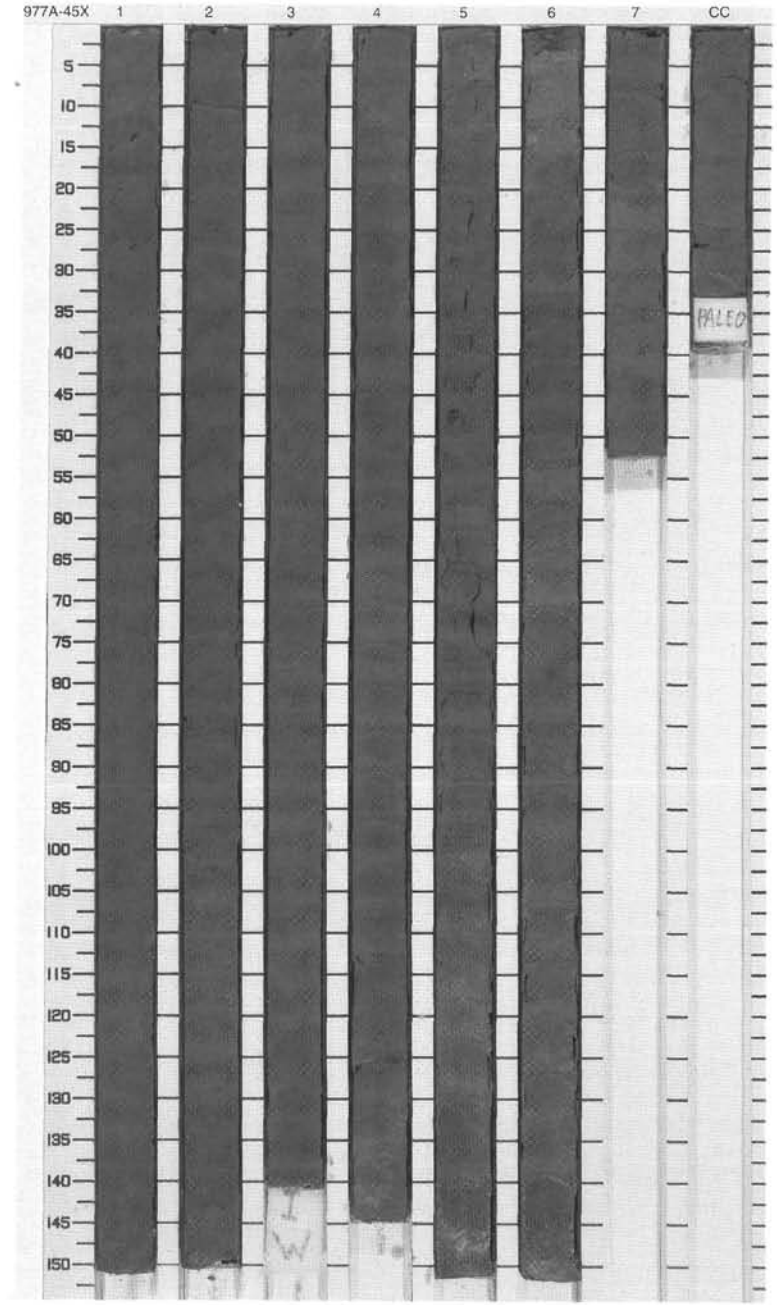
SITE 977 HOLE A CORE 44X CORED 406.0 - 415.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene				5GY 4/1	NANNOFOSSIL-RICH CLAY Major Lithology: *The major lithology is* olive gray (5Y 4/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL-RICH CLAY locally enriched in shell fragments and foraminifers. Minor Lithologies: Intensely bioturbated greenish gray (5GY 5/1) NANNOFOSSIL SILTY CLAY is a minor lithology. A lamina of dark gray (N3) pyrite- and bioclast-rich SANDY SILTY CLAY occurs at 77 cm in Section 4. General Description: The core is variably bioturbated with locally abundant *Chondrites* and rare Composite burrows. The larger burrows are locally rich in pyrite and foraminifers.
		2						
		3				S	5Y 4/1	
							5GY 4/1	
		4				S S	5GY 5/1	
		5		P			5GY 4/1	
		6						
		7		P			5Y 4/1	
							5GY 4/1	
		CC				M	5GY 5/1	



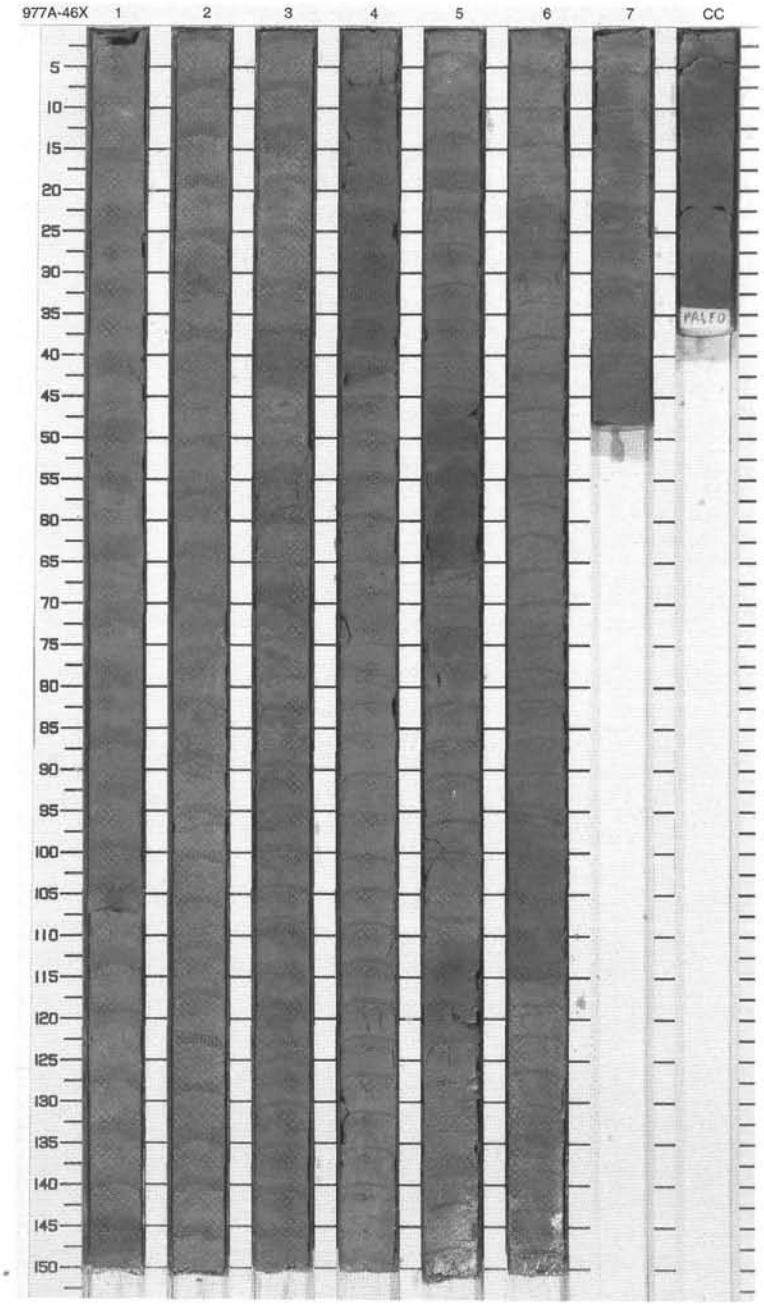
SITE 977 HOLE A CORE 45X CORED 415.6 - 425.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene				5Y 5/1	CALCAREOUS SILTY CLAY Major Lithology: The major lithology is olive gray (5Y 4/1; 5Y 5/1) CALCAREOUS SILTY CLAY, locally enriched in foraminifers and faintly laminated (at 78–103 cm in Section 5).
							5GY 4/1	
		2					5GY 4/1 To 5Y 6/1	Minor Lithologies: Olive gray (5Y 4/1), highly-bioturbated CALCAREOUS CLAY occurs at 145–150 cm in Section 5. Foraminifers are locally concentrated in laminae, or thin laminated beds (FORAMINIFER SAND) at 138 and 140 cm in Section 4, throughout Section 5, at 3–5 cm in Section 6, at 7–8 cm in Section 7, and at 25–33 cm in Section CC.
		3				S	5Y 5/1	
							5Y 4/1	
		4		P		I	5Y 5/1	General Description: The core is variably bioturbated with common *Zoophycos* and *Chondrites* burrows and rarer Composite and *Planolites*(?) burrows. Locally, burrows are rich in pyrite. Soft-sediment deformation and folding (slump?) of finely laminated CALCAREOUS SILTY CLAY occurs from 32–85 cm in Section 2.
		5					5GY 4/1	
						S	5Y 4/1	
						S	5Y 5/1	
		6					5GY 4/1	
		7						
		CC				M		



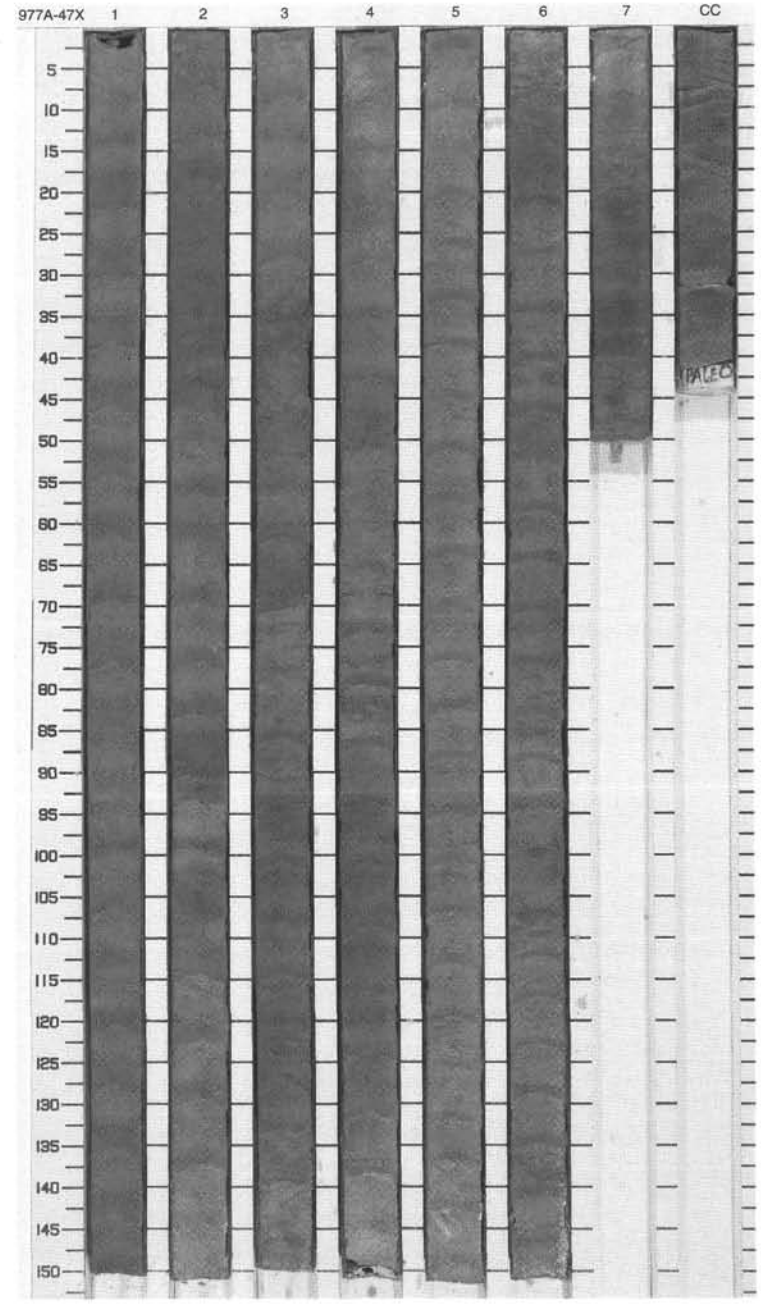
SITE 977 HOLE A CORE 46X CORED 425.3 - 434.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1–7, CC	late Pliocene			S, S, S, M	5Y 5/1 To 5GY 4/1; 5GY 4/1 To 5Y 4/1; 5Y 5/1 To 5Y 4/1; 5GY 4/1; 5Y 4/1; 5GY 4/1; 5Y 5/1 To 5Y 4/1	NANNOFOSSIL-FORAMINIFER SILTY CLAY and NANNOFOSSIL CLAY Major Lithologies: The major lithologies are olive gray (5Y 4/1; 5Y 5/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL-FORAMINIFER SILTY CLAY and NANNOFOSSIL CLAY with scattered foraminifers and fish debris. Minor Lithology: Foraminifers are locally concentrated in burrows and in silty to sandy laminae and beds. One bed of FORAMINIFER SANDY SILTY CLAY at 51–59 cm in Section 3 exhibits normal grading. A foraminifer-rich, faintly laminated interval at 45–64 cm in Section 5, is topped by a normally graded lamina of FORAMINIFER SANDY SILTY CLAY (44-45 cm), that *in turn is overlain by horizontally* laminated NANNOFOSSIL CLAY. General Description: *Zoophycos* and *Chondrites* are common in Sections 1 through 4. There is a downcore decrease in bioturbation and concomitant increase in faint lamination; the transition begins in Section 3.



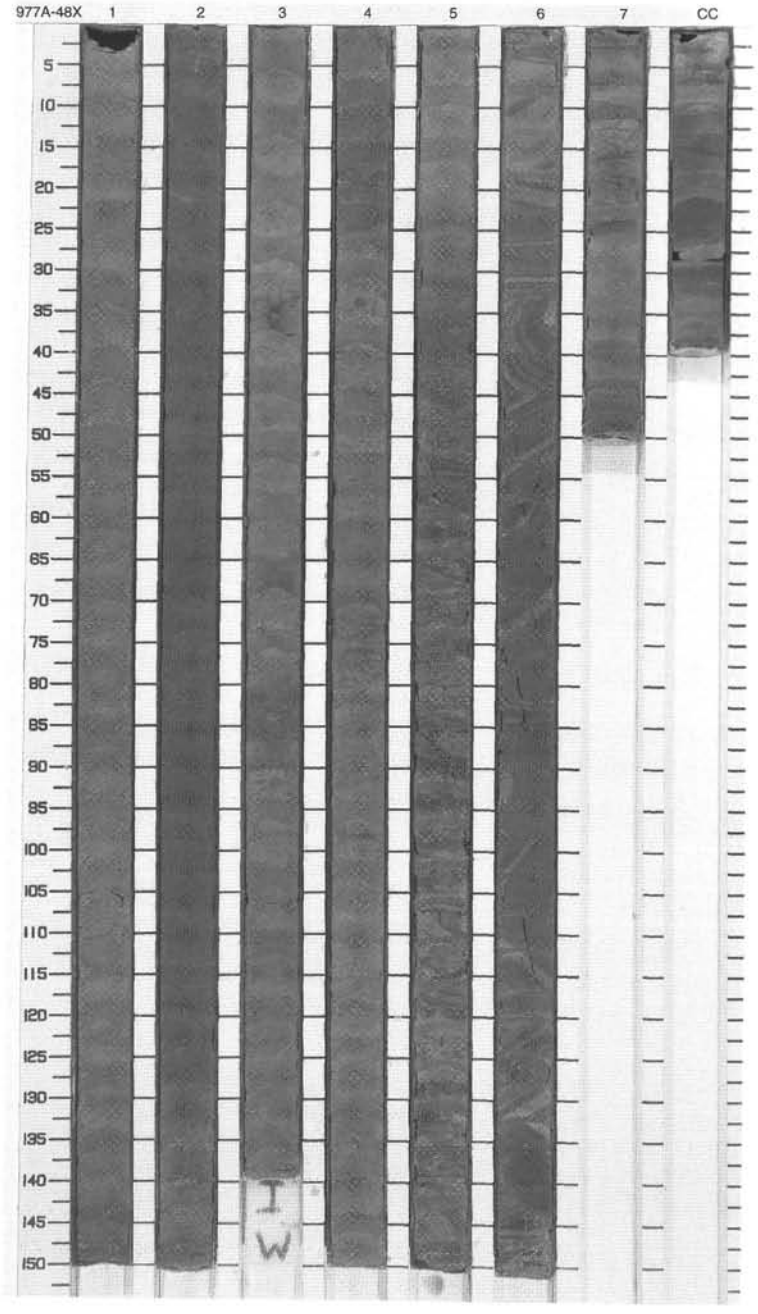
SITE 977 HOLE A CORE 47X CORED 434.9 - 444.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene			S	5Y 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is olive gray (5Y 4/1; 5Y 5/1) to dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY. Minor Lithologies: An olive gray (5Y 4/1; 5Y 5/1) CALCAREOUS SILTY CLAY layer occurs at 24–27 cm in Section 2. Foraminifers are locally concentrated (e.g., 95–100 cm in Section 4). Three normally graded FORAMINIFER SAND TO SILT layers are present in Section 6 at 10–20 cm, 45–50 cm, and 95–103 cm; these alternate with beds of dark greenish gray (5GY 4/1), strongly bioturbated NANNOFOSSIL CLAY. General Description: *Zoophycos* and *Planolites* burrows are present. The base of core exhibits faint lamination.
		2				S	5Y 5/1	
		3						
		4					5Y 5/1 To 5Y 4/1	
							5Y 4/1 To 5Y 5/1	
		5					5Y 5/1	
		6					5Y 4/1 To 5GY 4/1	
		7				S		
		CC				M		



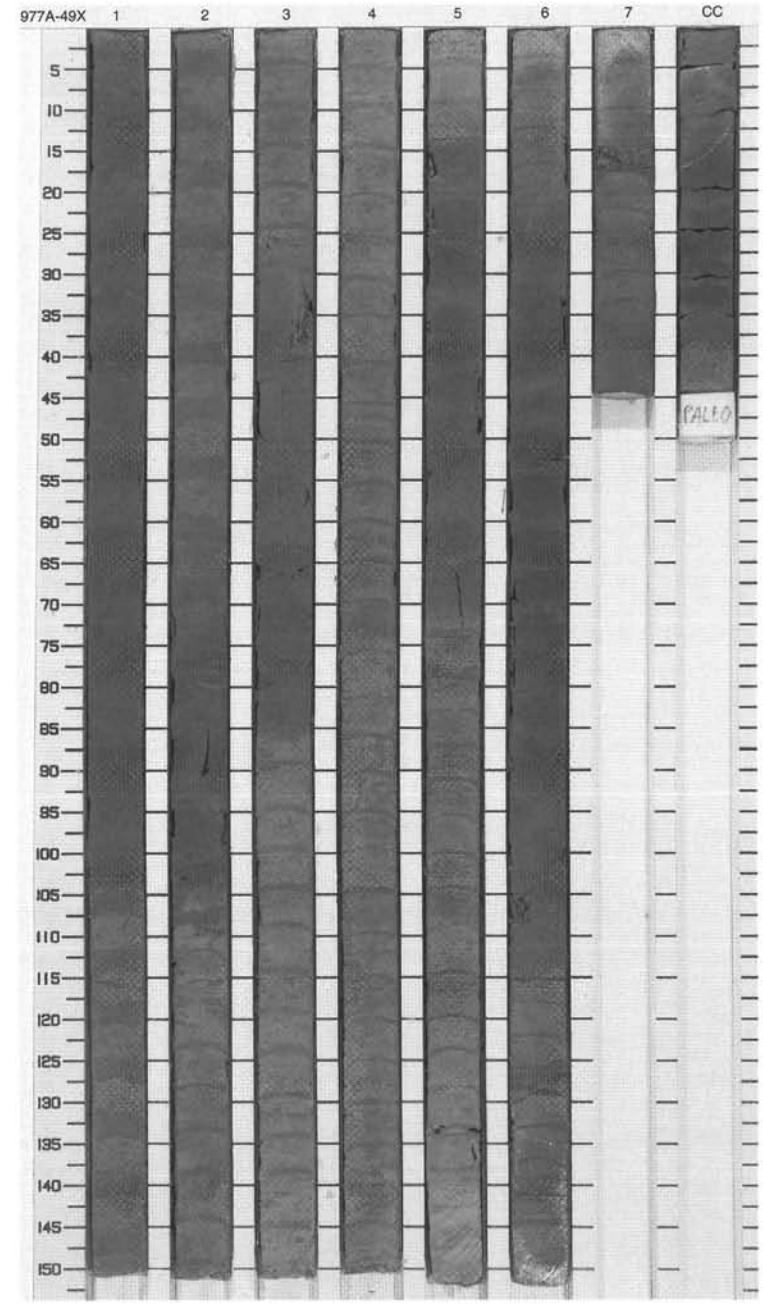
SITE 977 HOLE A CORE 48X CORED 444.5 - 454.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene			S	5Y 5/1	NANNOFOSSIL CLAY and CALCAREOUS CLAY Major Lithologies: The main sediment type is medium olive gray (5Y 5/1) to medium greenish gray (5GY 5/1) NANNOFOSSIL CLAY and CALCAREOUS CLAY. In the latter the carbonate fraction is dominated by nannofossils with subordinate bioclasts and micrite. Foraminifers are visible throughout. Bioturbation ranges from moderate to strong and the main trace fossil type is *Planolites*. Minor Lithology: An intraclastic breccia is present from 39–139 cm in Section 5. This unit consists of horizontally aligned, flattened clasts of thinly bedded NANNOFOSSIL CLAY and CALCAREOUS CLAY similar in composition to the overlying sediment. Below 139 cm in Section 5 thinly interbedded dark (grayish olive 10Y 4/2) NANNOFOSSIL CLAY and pale (dusky yellow green 5GY 5/2) CALCAREOUS CLAY are folded and faulted by slumping. The pale layers have sharp bases and graded tops. This unit continues to the base of the core. General Description: Biscuiting of the core is visible throughout.
		2				S	5GY 4/1	
		3				I	5Y 5/1 To 5GY 5/1	
		4					5Y 5/1	
		5					10Y 4/2	
							5GY 5/2 To 10Y 4/2	
		6				S S	10Y 4/2 To 5GY 5/2	
		7					10Y 4/2 To 5Y 5/2	
		CC						



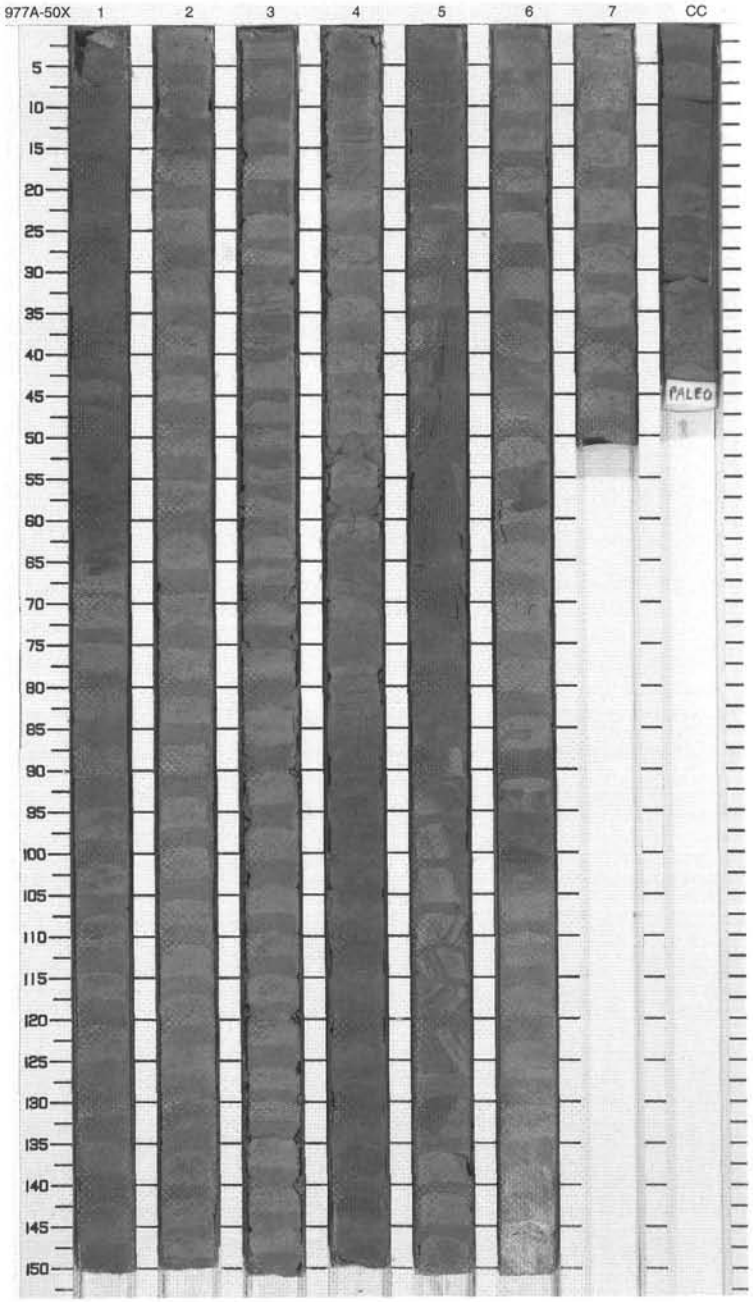
SITE 977 HOLE A CORE 49X CORED 454.1 - 463.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene			S	10Y 4/2	NANNOFOSSIL CLAY and CALCAREOUS CLAY Major Lithologies: The main sediment types are grayish olive (10Y 4/2) to dusky yellow green (5GY 5/2) and medium olive gray (5Y 5/1) NANNOFOSSIL CLAY and CALCAREOUS CLAY. In the latter, nannofossils are the dominant calcareous constituent. Bioturbation is moderate to strong throughout most of the core, but decreases downcore, and is dominated by *Chondrites* and *Planolites*. Dispersed foraminifers are common. Minor Lithologies: Minor lithologies include CALCAREOUS SANDY SILTY CLAY. General Description: Biscuiting due to drilling is visible throughout.
							5GY 5/2	
		2		(P) (P)			10Y 4/2	
							5Y 5/2	
		3					5Y 5/1	
							10Y 4/2	
		4				S	5Y 5/1	
		5					10Y 4/2	
							5Y 5/1	
		6				S	10Y 4/2	
		7				S	5Y 5/1 To 10Y 4/2	
		CC						



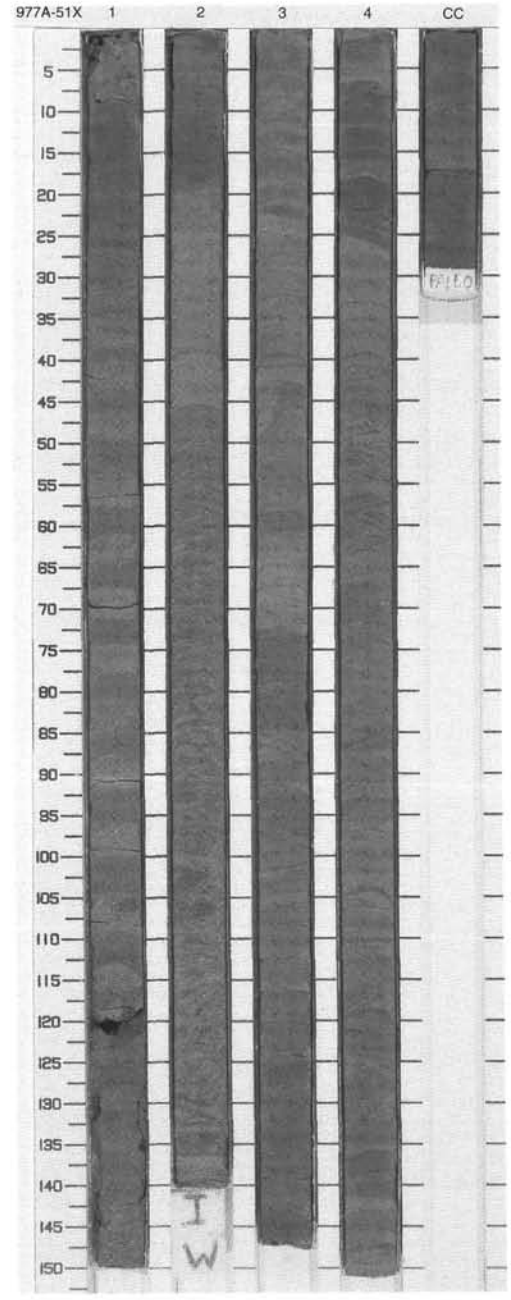
SITE 977 HOLE A CORE 50X CORED 463.7 - 473.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	late Pliocene				5Y 5/1 To 10Y 4/2	CALCAREOUS SILTY CLAY Major Lithology: The main sediment type is a CALCAREOUS SILTY CLAY which ranges in color from grayish olive (10Y 4/2) to light olive gray (5Y 5/1). In places it is bioturbated and elsewhere it is laminated with paler colored units, up to 15 mm thick, dominating over darker bands. Visible trace fossils are dominated by *Planolites*. Dispersed foraminifers are common. Minor Lithologies: A FORAMINIFER-RICH SAND is present in Section 4 from 70–89 cm. A slumped unit is recognized from 22 cm in Section 5 to 103 cm in Section 6. It comprises alternating darker and paler grayish olive (10Y 4/2) NANNOFOSSIL-RICH CLAY couplets in which the darker layers are up to 2 mm thick and the paler units are up to 12 mm thick, interstratified with laminated light olive gray (5Y 5/2) CALCAREOUS SILTY CLAY layers. Bedding attitudes range from horizontal to vertical. Fold hinges are present and younging reversals further support folding of the sediments. The units are not burrowed. General Description: "Biscuiting" due to drilling is common throughout.
		2				S	5Y 5/1	
		3					10Y 4/2	
		4				S	10Y 4/2 To 5Y 5/2	
		5				S S S	10Y 4/2	
		6				S	5Y 5/2 To 5GY 4/1	
		7					5Y 5/2	
		CC				M		



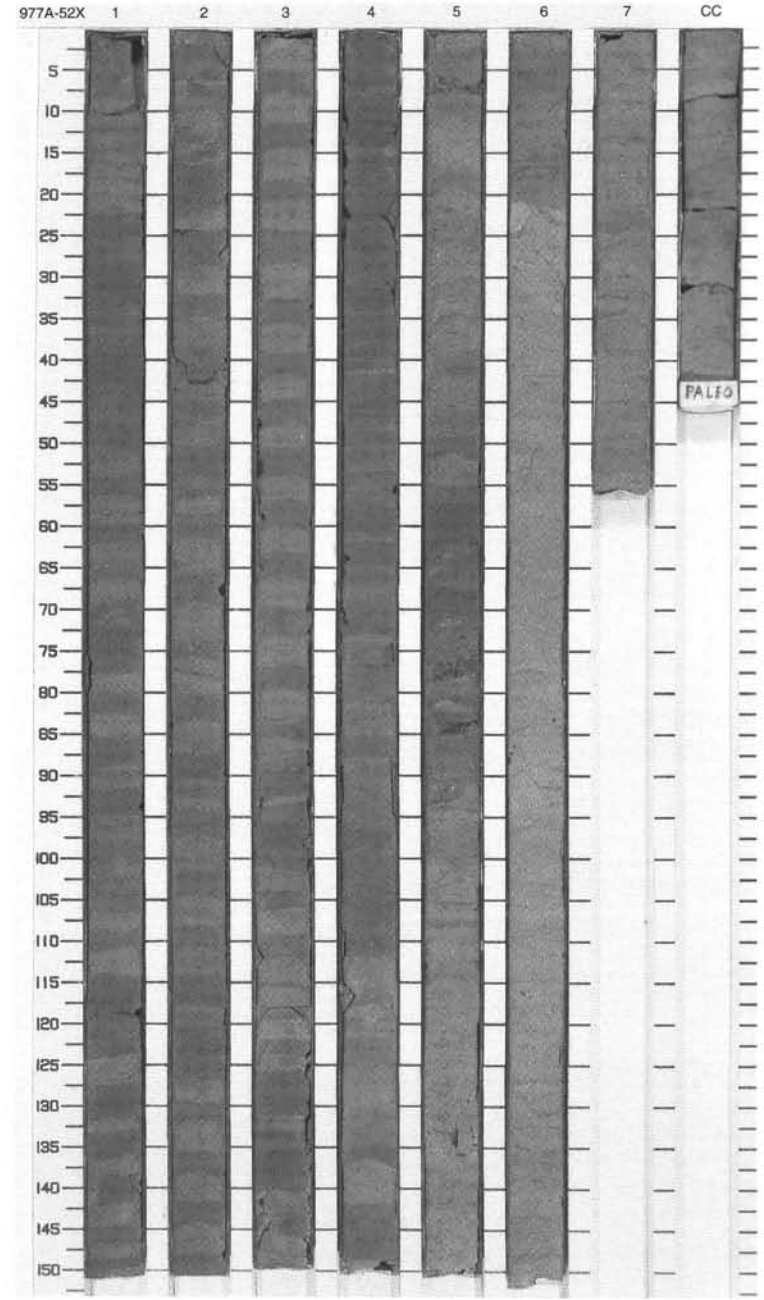
SITE 977 HOLE A CORE 51X CORED 473.3 - 482.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–6		1	early Pliocene–late Pliocene	P		S	10Y 4/2	CALCAREOUS CLAY
							5Y 5/1	Major Lithology: The main sediment type in this core is medium olive gray (5Y 5/1) to grayish olive (10Y 4/2) CALCAREOUS CLAY which is weakly to moderately burrowed and contains visible foraminifers.
						S	10Y 4/2	
		2					5Y 5/1	Minor Lithologies: Cemented FORAMINIFER SAND is present from 118–122 cm in Section 1, immediately overlying a fetid PYRITE-RICH SANDY SILTY CLAY. FORAMINIFER SAND is also present at 73–79 cm, 81–84 cm and 97–99 cm in Section 4 and in the Core Catcher from 16–18 cm. A small slump may be present from 25–144 cm in Section 2 based on inclined laminations.
				P		I		
		3				S	5Y 5/1 To 5Y 4/1	
		4				S	5Y 4/2	General Description: Prominent drilling "biscuits" visible throughout and microfaulting present in a few places.
		CC				M	10Y 4/2	



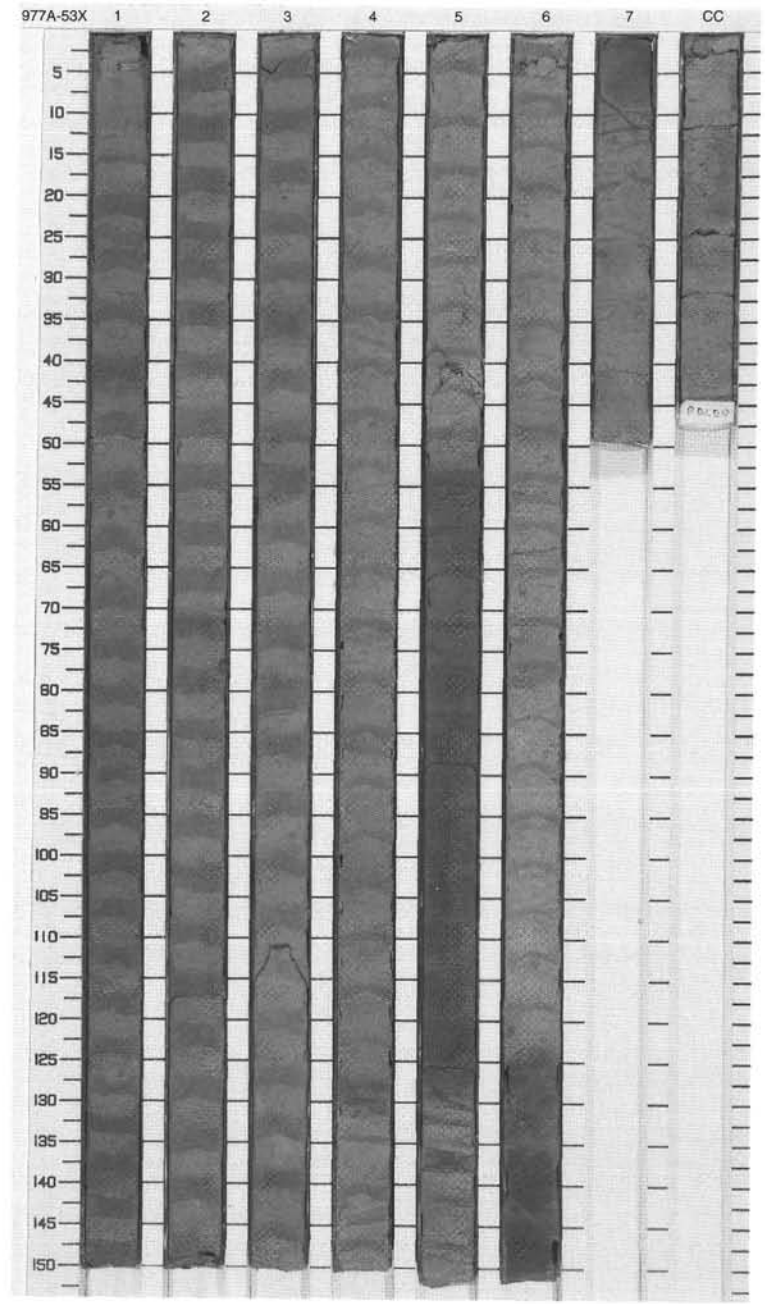
SITE 977 HOLE A CORE 52X CORED 482.9 - 492.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–10		1	early Pliocene				5Y 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is olive gray (5Y 4/1; 5Y 5/1) to dark greenish gray (5GY 4/1; 5GY 5/1) NANNOFOSSIL CLAY. Minor Lithologies: Greenish gray (5GY 4/1) NANNOFOSSIL-FORAMINIFER OOZE occurs below an abrupt contact in Section 6. Dark gray (N3) to dark greenish gray (5GY 5/1) SANDY SILT layers with normal grading and cross lamination occur at 92–111 cm in Section 4 and at 55–85 cm in Section 5. SANDY SILT intervals have been dismembered and biscuited during drilling, obscuring basal contact relationships. Local concentrations of sand and silt within drilling matrix between biscuits may represent completely homogenized layers of SANDY SILT. General Description: Parallel laminae, 0.1–0.5 mm in thickness, occur within NANNOFOSSIL CLAY at 10 cm in Section 1 to 113 cm in Section 2, and at 85 cm in Section 3 to 73 cm in Section 4. Foraminifers are locally concentrated throughout the core. Bioturbation is variable, with common *Zoophycos*, particularly in Sections 6 through CC, and less common *Planolites* and *Chondrites* burrows.
		2				S	5Y 4/1 To 5Y 5/1	
		3					5Y 5/1	
		4				S	5Y 4/1	
		5					5GY 4/1	
		6				S S	5Y 5/1	
		7					N3	
		CC				M	5GY 4/1	
							5Y 4/1	
							5GY 5/1	
							5Y 5/1	



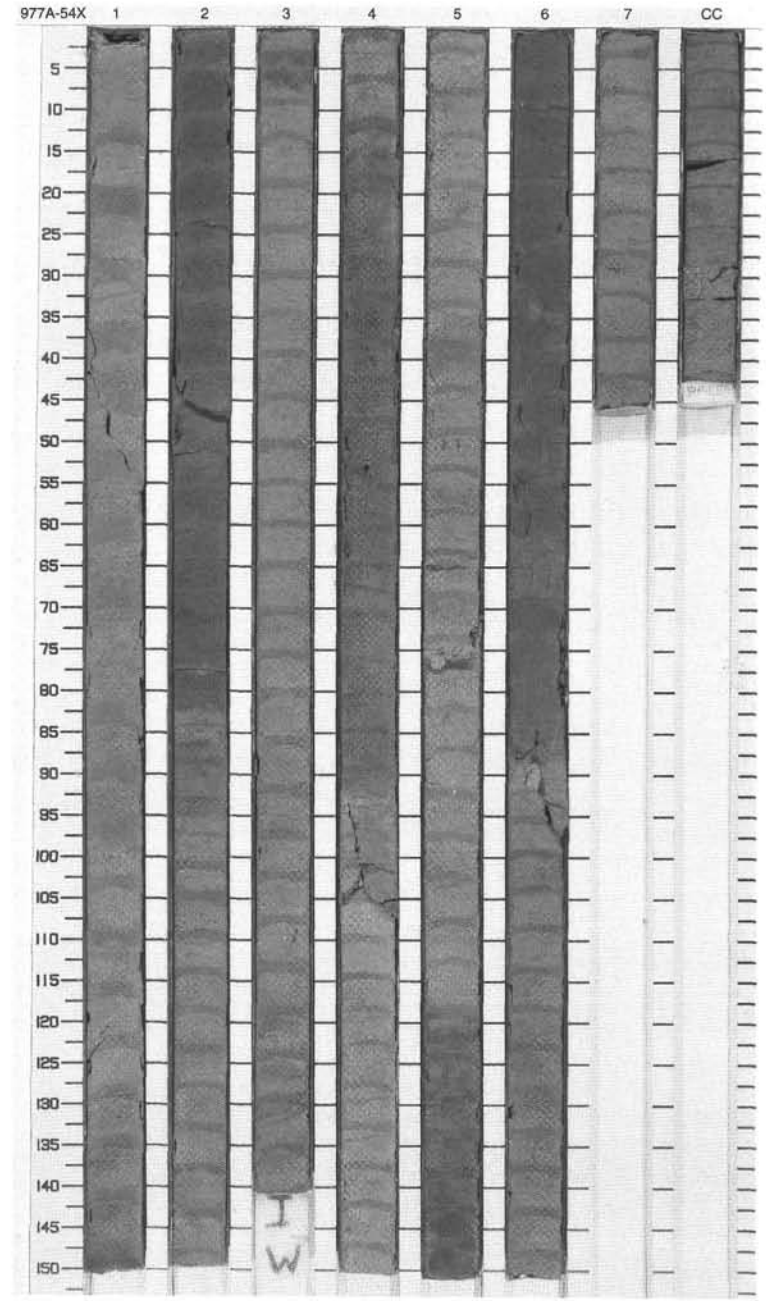
SITE 977 HOLE A CORE 53X CORED 492.5 - 502.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	early Pliocene				5Y 5/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is moderately bioturbated olive gray (5Y 5/1) NANNOFOSSIL CLAY. Minor Lithologies: Olive gray (5Y 4/1) to dark greenish gray (5GY 4/1) CALCAREOUS CLAY and olive gray (5Y 4/1) SANDY SILT layers are present in the lower part of the core. General Description: Burrow types include *Zoophycos*, *Chondrites*, and *Planolites*.
		2				S		
		3						
		4					5Y 5/1 To 5Y 4/1	
		5					5Y 5/1 To 5Y 4/1	
						S	5GY 4/1	
		6				S	5Y 5/1	
							5Y 4/1	
		7					5Y 5/1	
		CC				M		



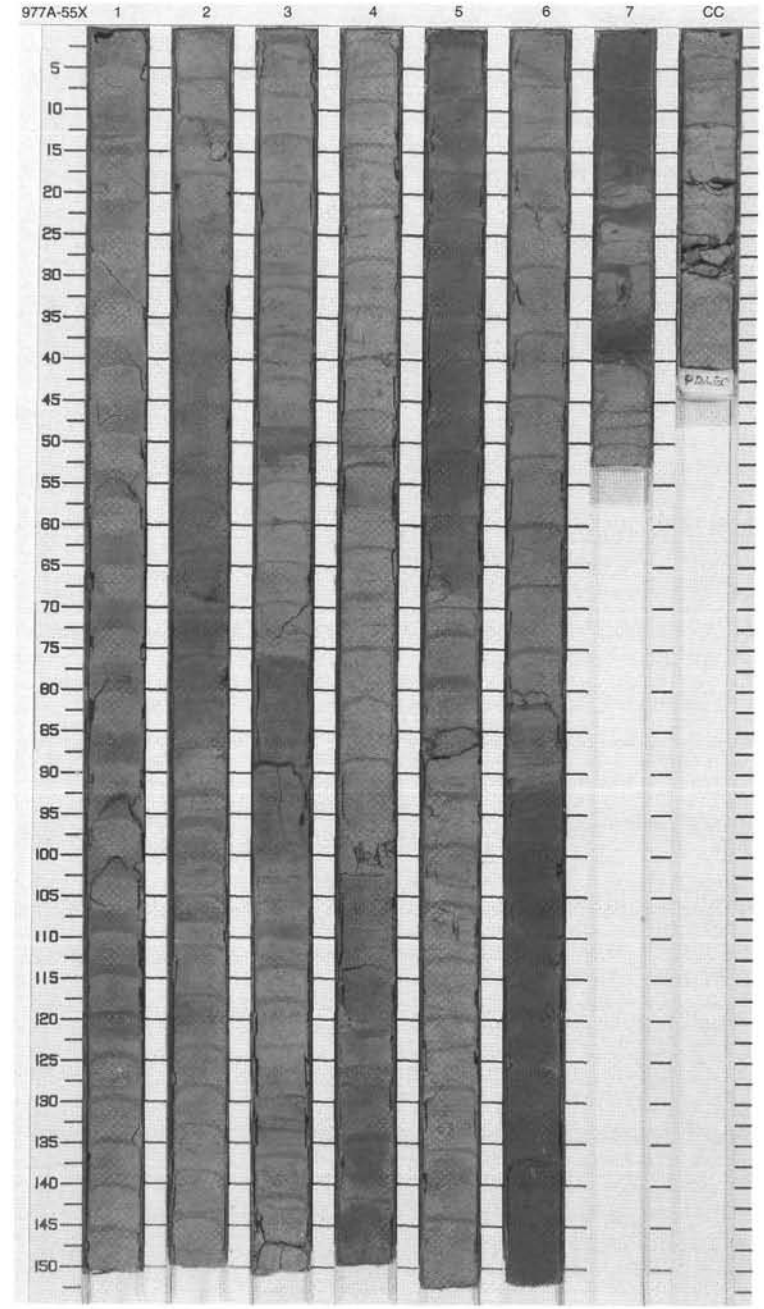
SITE 977 HOLE A CORE 54X CORED 502.1 - 511.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	early Pliocene				5Y 5/1 To 5Y 4/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is olive gray (5Y 4/1; 5Y 5/1) NANNOFOSSIL CLAY.
							5Y 5/1	
		2					5Y 4/1	General Description: *Zoophycos* and *Chondrites* burrows occur throughout the core. Foraminifers are more common in Section 2.
		3				I	5Y 5/1	
		4					5Y 4/1	
		5				S S	5Y 5/1	
		6					5Y 4/1	
		7					5Y 5/1	
		CC				M		



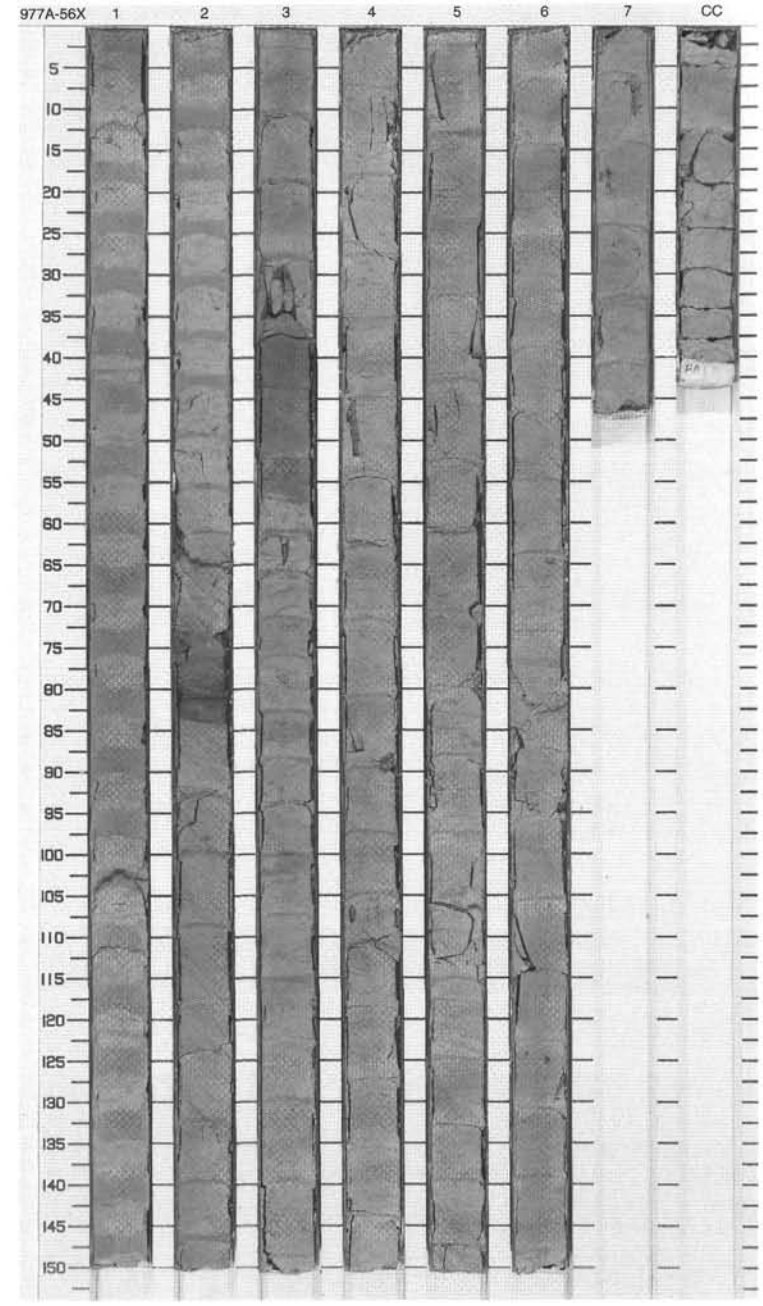
SITE 977 HOLE A CORE 55X CORED 511.8 - 521.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	early Pliocene				5GY 4/1	NANNOFOSSIL CLAY and CALCAREOUS CLAY TO CALCAREOUS SILTY CLAY Major Lithologies: The core consists of alternating beds of light olive gray (5Y 6/1) to olive gray (5Y 5/1) NANNOFOSSIL CLAY and olive gray (5Y 4/1) CALCAREOUS CLAY to CALCAREOUS SILTY CLAY. Contacts between these lithologies have been obscured by bioturbation. Minor Lithology: Olive gray (5Y 5/1) SANDY SILTY CLAY with scattered forminifers occurs at 96–103 cm in Section 4. General Description: *Zoophycos* burrows are common throughout the core.
							5Y 5/1	
		2					5Y 4/1	
							5Y 5/1	
		3					5Y 4/1	
							5Y 5/1	
		4				S	5GY 5/1	
						S S	5Y 4/1	
						S		
		5				S	5Y 5/1	
							5Y 5/1 To 5Y 6/1	
		6					5Y 4/1	
		7				S S	5Y 6/1	
		CC				M		



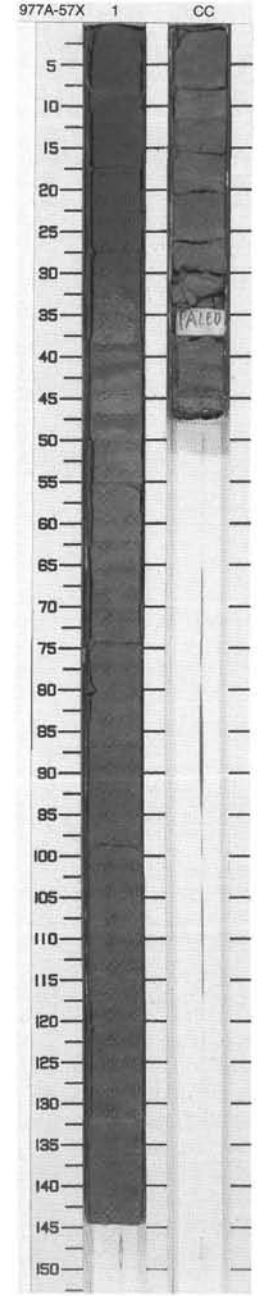
SITE 977 HOLE A CORE 56X CORED 521.4 - 531.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1–9		1	early Pliocene				5Y 6/1	NANNOFOSSIL CLAY Major Lithology: The major lithology is light olive gray (5Y 6/1) to olive gray (5Y 5/1) NANNOFOSSIL CLAY. One thin bed of dark greenish gray (5GY 4/1) NANNOFOSSIL CLAY in Section 3 has a lower carbonate content. Minor Lithology: Greenish gray (5GY 4/1) to brownish black (5YR 2/1) CLAY occurs at 73–83.5 cm in Section 2. General Description: A concentration of grayish black (N2) pyrite occurs at 25–26 cm in Section 7. Degree of bioturbation increases downcore; burrow types include *Zoophycos*, *Planolites*, and *Chondrites*.
		2				S S		
		3				S	5Y 6/1 To 5Y 5/1	
							5Y 6/1	
		4					5GY 4/1	
		5					5Y 6/1	
		6					5Y 6/1 To 5Y 5/1	
		7					5Y 6/1	
		CC				M		



SITE 977 HOLE A CORE 57X CORED 531.0 - 540.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1 CC	early Pliocene			S S M S	10Y 4/2 To 5GY 5/2	NANNOFOSSIL CLAY Major Lithology: The main sediment type is grayish olive (10Y 4/2) to dusky yellow green (5GY 5/2) NANNOFOSSIL CLAY which is weakly to strongly burrowed in places, and faintly to indistinctly laminated (probably due to burrowing). Foraminifers are abundant. *Chondrites* is the dominant trace fossil type with subordinate *Planolites*. Minor Lithologies: A 2-mm-thick FELDSPATHIC-QUARTZ SAND with a micritic cement is present in the Core Catcher at 46 cm. General Description: Drilling "biscuits" visible throughout.



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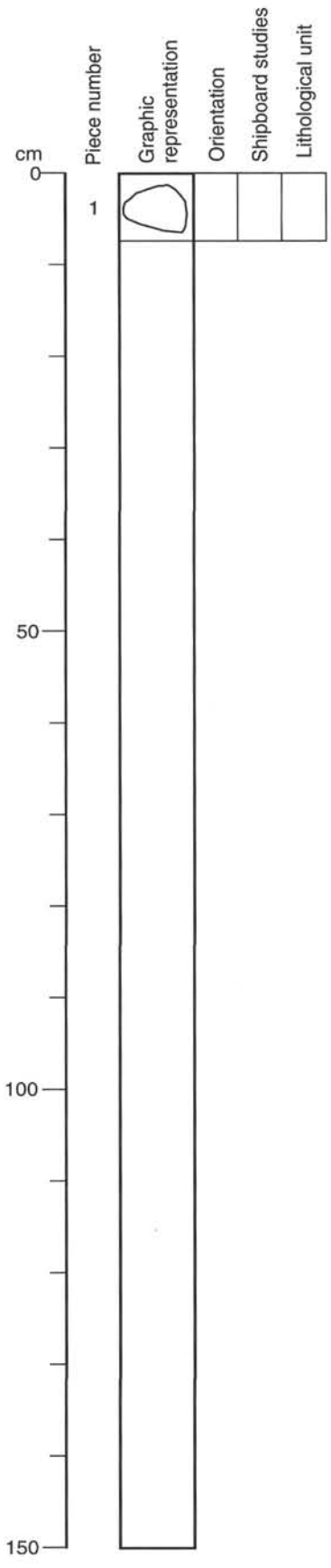
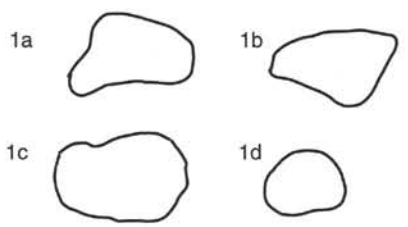


Pieces 1A-1D

ROCK TYPE: QUARTZ SANDSTONE
CONTACTS: None.
PHENOCRYSTS:
Quartz - 80%; <1 mm; equigranular.
Feldspar - 20%; <1 mm; equigranular.
GROUNDMASS: Fine-grained.
VESICLES: None.
COLOR: Gray.
SIZE: 41x28x20 mm; 31x30x21 mm; 31x25x17 mm; 17x14x9 mm.
SHAPE: Rounded to subrounded.
EDGE: Rounded to subangular.
ALTERATION: Chlorite rim cemented.
ADDITIONAL COMMENTS: Clasts are partly coated with sediment



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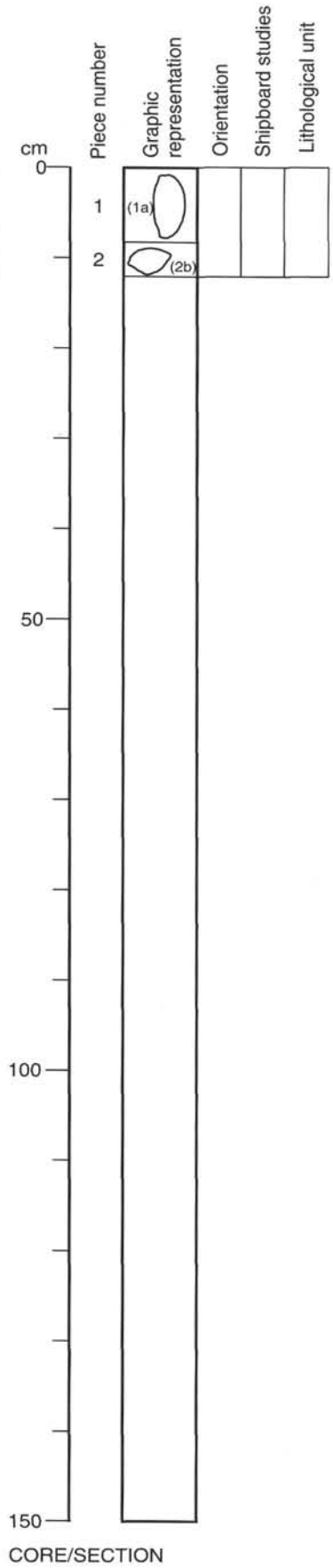
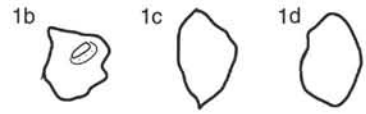


Pieces 1A-1D

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Phaneritic granulation.
Plagioclase - 10%; <5 mm; inequigranular.
Biotite - 5%; <4 mm; equigranular.
GROUNDMASS: Fine-grained, hypocrystalline.
VESICLES: 10%; <1 mm; angular; irregular
COLOR: Pale olive gray to light greenish gray.
SIZE: 57x34x18 mm; 36x31x17 mm; 59x36x19 mm; 49x33x14 mm.
SHAPE: Angular to subrounded.
EDGE: Angular.
ALTERATION: Smectite in a less content.
ADDITIONAL COMMENTS: Clast with a calcareous coating.



Pieces 2A-2D

ROCK TYPE: ANDESITIC BASALT(?)
CONTACTS: None.
PHENOCRYSTS:
Plagioclase - 10%; <4 mm; equigranular.
Biotite - 8%; <2 mm; inequigranular.
GROUNDMASS: Fine-grained, hypocrystalline, plagioclase-rich.
VESICLES: 10%; <3 mm; elongated; irregular; 50% of vesicles filled with zeolite.
COLOR: Olive gray to gray.
GERAIN SIZE: 36x27x26 mm, 32x24x17 mm.
SHAPE: Rounded to angular.
EDGE: Rounded to angular.

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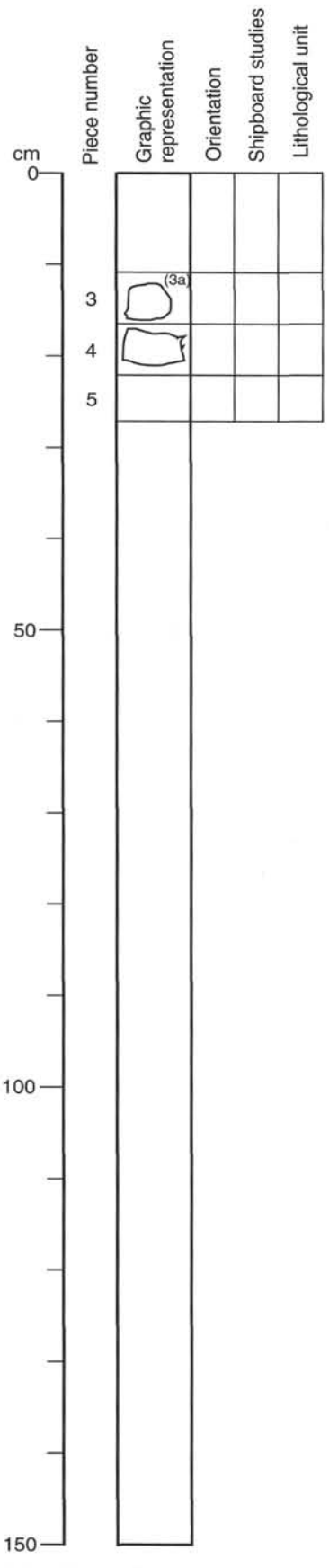

Pieces 3A-3D

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Phaneritic to aphanitic.
Olivine - 5%; 3 mm; fractured.
Pyroxene - 5%; <2 mm; inequigranular.
GROUNDMASS: Fine-grained, hypocrystalline.
VESICLES: 10%; up to 12x5 mm; rounded; irregular; vesicles partly filled with zeolite, calcareous cement, and volcaniclastic material.
COLOR: Gray to dark gray.
SIZE: 35x28x24 mm; 18x15x11 mm; 32x21x16 mm; 19x15x8 mm.
SHAPE: Subrounded to subangular.
ADDITIONAL COMMENTS: Volcanic rock fragments are partly coated with calcareous sediment.

Piece 4

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Aphaneritic.
Plagioclase - 30%; <2 mm; equigranular.
Biotite - 20%; <1 mm; equigranular.
GROUNDMASS: Fine-grained, hypocrystalline.
VESICLES: 10%; <1 mm; angular, irregular, vesicles marking eroded phenocrysts.
COLOR: Black to greenish gray.
SIZE: 42x24x19 mm.
SHAPE: Rounded to subrounded.
EDGE: Subrounded to angular.
ADDITIONAL COMMENTS: Porphyritic.

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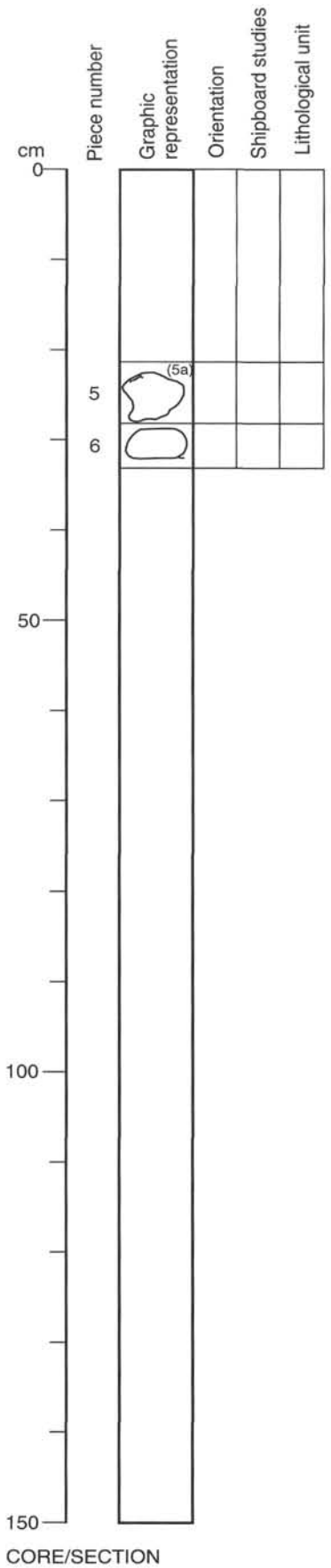
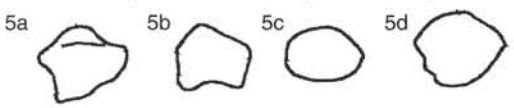


Pieces 5A-5D

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Phaneritic to aphanitic.
Plagioclase - 20%; <1 mm
Biotite - <10%; <1 mm
Amphibole - <5%; <1 mm
Pyroxene - <5%; <1 mm
Quartz - 1%; <1 mm
GROUNDMASS: Fine-grained.
VESICLES: <10%; <2 mm; subrounded, irregular, vesicles mostly filled with sediment, smectite, and zeolite.
COLOR: Gray to olive gray.
SIZE: 22x17x16 mm, 15x13x10 mm, 20x15x14 mm, 21x17x14 mm.
SHAPE: Rounded to subangular.
ALTERATION: Smectite, zeolite.
ADDITIONAL COMMENTS: Volcanic clasts with a quite similar content of phenocrysts. Clasts are partly coated by sediments including limestone fragments <8 mm.



Piece 6

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Aphanitic.
Plagioclase - <10%; <2 mm
Pyroxene - <5%; <1 mm
Amphibole(?) - <5%; 1 mm
Iron-oxide - <1%; <1 mm
GROUNDMASS: Fine-grained, hypocrystalline.
VESICLES: 5%; <1 mm; subangular; irregular; vesicles partly filled with calcareous sediment and zeolite.
COLOR: Olive gray.
SIZE: 46x39x26 mm.
SHAPE: Rounded.
ADDITIONAL COMMENTS: Well-rounded pebbles; partly fragmented; partly coated with calcareous sediment.

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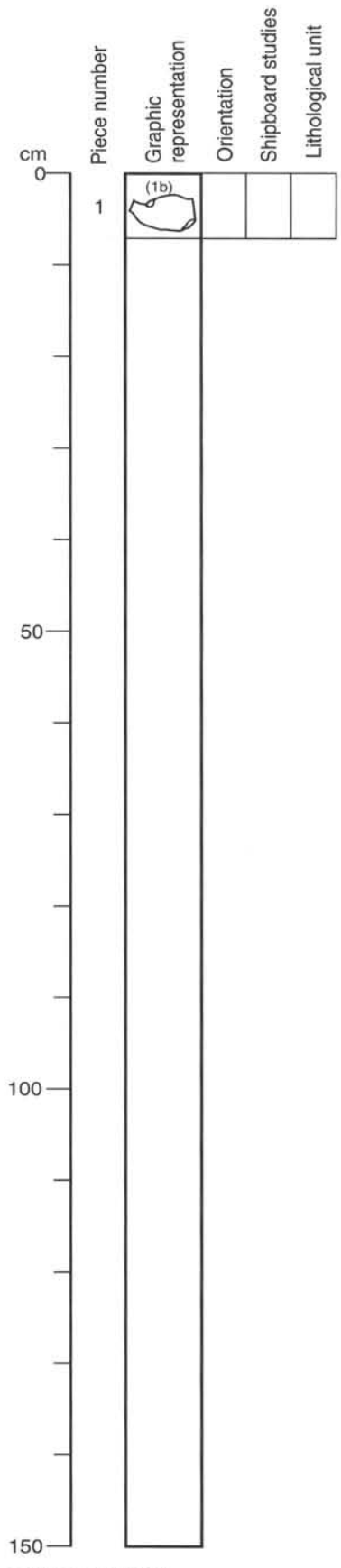

Pieces 1A and 1B

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Phaneritic.
Plagioclase - 10%; <8 mm; inequigranular.
Biotite - 5%; <2 mm; inequigranular.
Quartz(?) - 1%; 2 mm
Amphibole - <5%; <4 mm
GROUNDMASS: Fine-grained, holocrystalline.
VESICLES: 10%; <1 mm; rounded; irregular; mostly filled with sediment.
COLOR: Yellowish gray to pale olive.
SIZE: 69x43x36 mm; 53x34x28 mm.
SHAPE: Angular.
ADDITIONAL COMMENTS: Clasts are probably fragment of a larger rounded clast.

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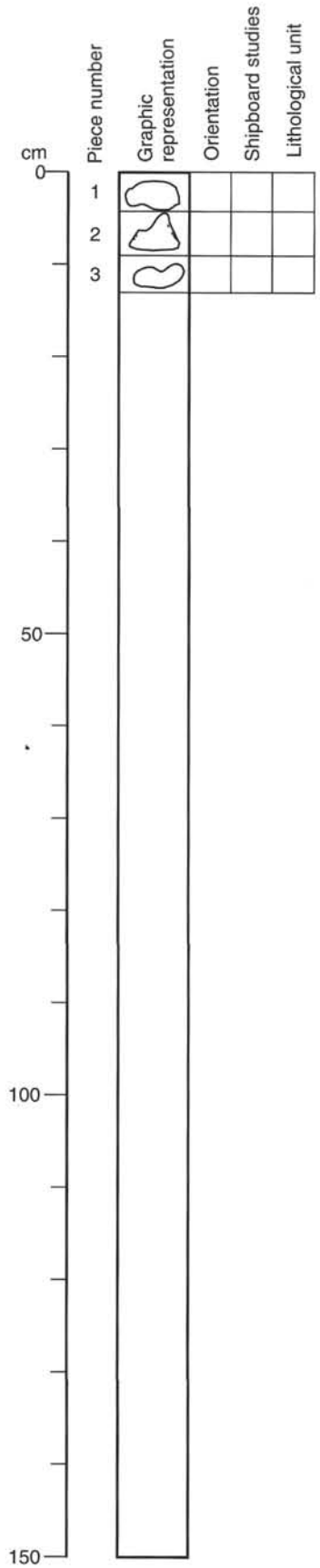


Piece 1

ROCK TYPE: DOLOMITE MUDSTONE
CONTACTS: None.
GROUNDMASS: Fine-grained; carbonate, micrite.
VESICLES: None.
COLOR: Pale olive gray.
SIZE: 33x21x16 mm.
ADDITIONAL COMMENTS: Fracture in the clast surface filled with microlitic material.

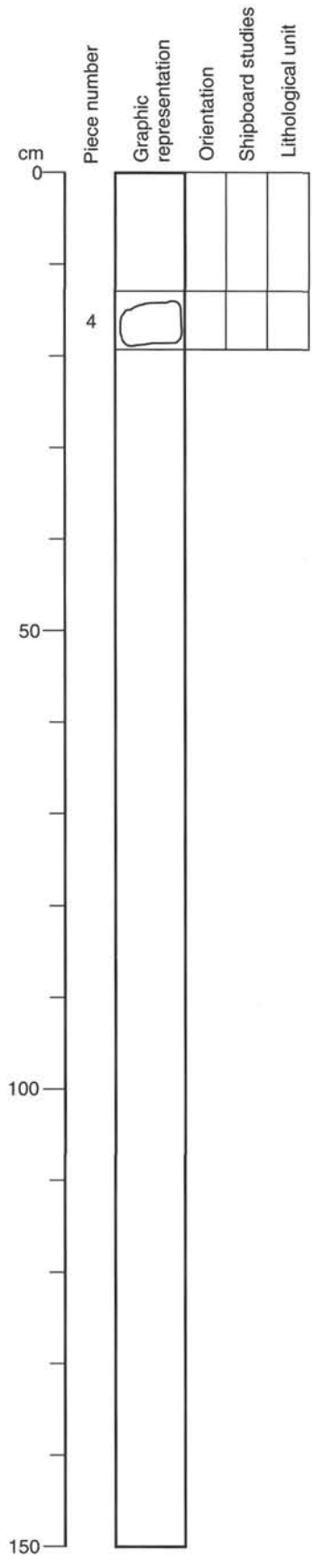
Piece 2

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Fine-grained; equigranular; aphanitic.
GROUNDMASS: Fine-grained, hypocrystalline.
VESICLES: 10%; <2 mm; subrounded, irregular, mostly filled with calcareous cement, zeolite, possible quartz.
COLOR: Olive gray to dark olive gray.
SIZE: 40x36x16 mm.
SHAPE: Subrounded to subangular.
ADDITIONAL COMMENTS: Clast is mostly coated with calcareous sediment.

Piece 3

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Aphanitic.
Plagioclase - >10%; <2 mm
Biotite - 5%; 1 mm
Quartz - 2%; <1 mm
GROUNDMASS: Fine-grained, holocrystalline.
VESICLES: None.
COLOR: Gray to olive dark gray.
SIZE: 48x39x18 mm, 26x21x17 mm, 24x21x13 mm.
SHAPE: Subrounded.
ADDITIONAL COMMENTS: All clasts with a similar structure and composition.

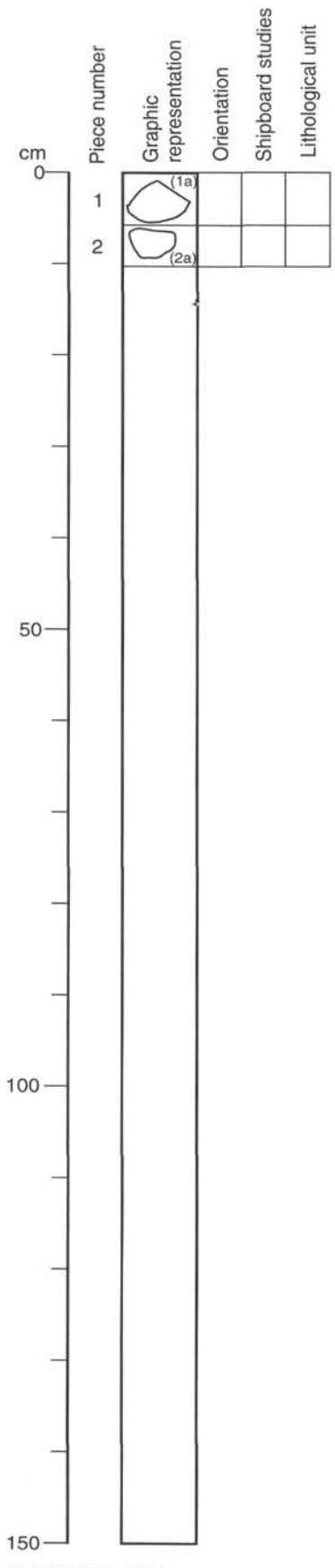
161-977A-62X-1



Piece 4

ROCK TYPE: RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS: Aphanitic.
Plagioclase - 10%; <4 mm
Pyroxene - 5%; 2 mm
GROUNDMASS: Fine-grained, hypocrystalline.
VESICLES: 40%; <2 mm; subrounded, irregular, compound vesicles, mostly filled with fine-grained material.
COLOR: Dark grayish blue.
SIZE: 44x36x26 mm.
SHAPE: Subrounded to subangular.

161-977A-63X-1



Pieces 1A-1C

ROCK TYPE: RHYODACITE(?) AND ANDESITIC BASALT(?)
CONTACTS: None.
PHENOCRYSTS: Fine-grained.
GROUNDMASS: Fine-grained.
VESICLES: None.
COLOR: Gray to olive gray.
SIZE: 35x25x21 mm, 39x34x30 mm, 23x20x10 mm;
SHAPE: Rounded.
ADDITIONAL COMMENTS: Limestones(?).

1b 

1c 

Pieces 2A and 2B

ROCK: ANDESITIC BASALT(?) AND RHYODACITE(?)
CONTACTS: None.
PHENOCRYSTS:
Plagioclase - 20%; <2 mm; inequigranular.
Biotite - <5%; <1 mm; equigranular.
Quartz - 1%; 1 mm
Iron-oxide - <1%; <1 mm
Amphibole - <1%; <1 mm
Biotite alterated to Chlorite(?).
GROUNDMASS: Fine-grained, greenish matrix, hypocrystalline.
VESICLES: 30%; <1 mm; subangular; irregular.
COLOR: Black gray to olive gray.
SIZE: 18x16x13 mm, 33x28x18 mm.
SHAPE: Subangular.
ADDITIONAL COMMENTS: Clast are with a quite similar composition; surface partly coated with calcareous cement.

2b