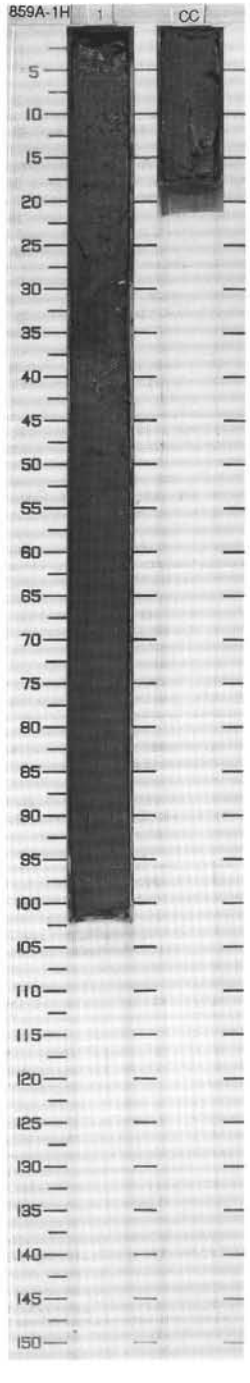
SITE 859 HOLE A CORE 1H CORED 0.0 - 1.2 mbsf

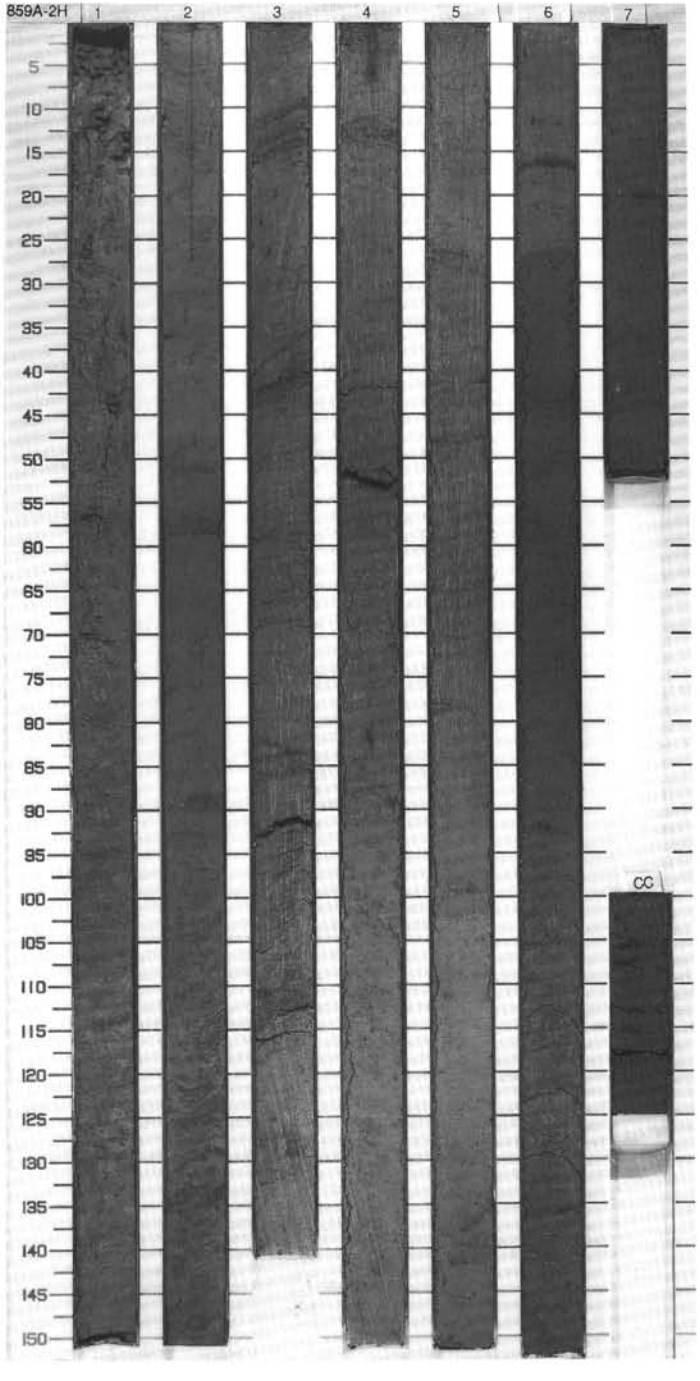
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 CC	Quaternary		○	S S M	5GY 3/2	SILTY CLAY TO CLAYEY SILT WITH DIATOMS Major Lithology: Section 1 and core catcher contain structureless grayish olive green (5GY 3/2) SILTY CLAY TO CLAYEY SILT WITH DIATOMS. Minor Lithology: The uppermost two centimeters of the core consist of soupy, dusky yellow green (5GY 5/2) CLAYEY SILT WITH RADIOLARIANS.

Information on Core Description Forms, for ALL sites, represents field notes taken aboard ship. Some of this information has been refined in accord with post-cruise findings, but production schedules prohibit definitive correlation of these forms with subsequent findings. Thus, the reader should be alerted to the occasional ambiguity or discrepancy.



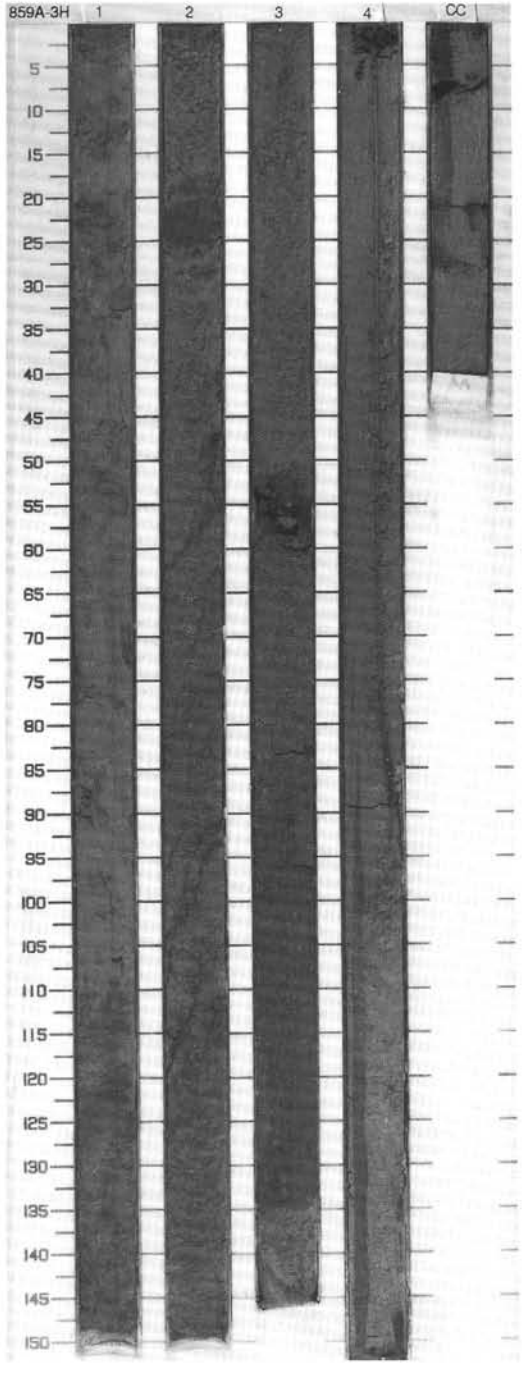
SITE 859 HOLE A CORE 2H CORED 1.2 - 10.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 6 7 CC	upper Pleistocene			S S S IW S S S S S S M	5GY 5/2 To 5GY 3/2 10GY 5/2 5GY 3/2	SILTY CLAY TO CLAYEY SILT WITH RADIOLARIANS AND DIATOMS Major Lithology: The core consists predominantly of mottled dusky yellow green (5GY 5/2) to grayish olive green (5GY 3/2)SILTY CLAY TO CLAYEY SILT WITH RADIOLARIANS AND DIATOMS. In Sections 2, 3, and 4 are laminae and concentrations of black (N1) CLAYEY SILT. Black (N1) CLAYEY SILT also occurs as isolated circular concentrations in Sections 3, 20-25 cm and 4, 20-30 cm and 80-85 cm. Minor Lithologies: Intervals of grayish olive green (5GY 3/2) SILTY CLAY occur in Section 2, 48-123 cm; Section 7, 0-15 cm and the core catcher, 0-22 cm. One bed of grayish green (10GY 5/2) NANNOFOSSIL SILTY CLAY occurs in Sections 5 and 6. Two concentrations of bioclastic debris occur in Section 6, 72-73 cm and 104-105 cm. These bioclasts include foraminifers and echinoid spines. General Description: "Bedding" consists of inclined layers that are defined by laminae and concentrations of dark silt, closely associated with recumbent isoclinal fold noses, in Sections 2, 3, and 4.



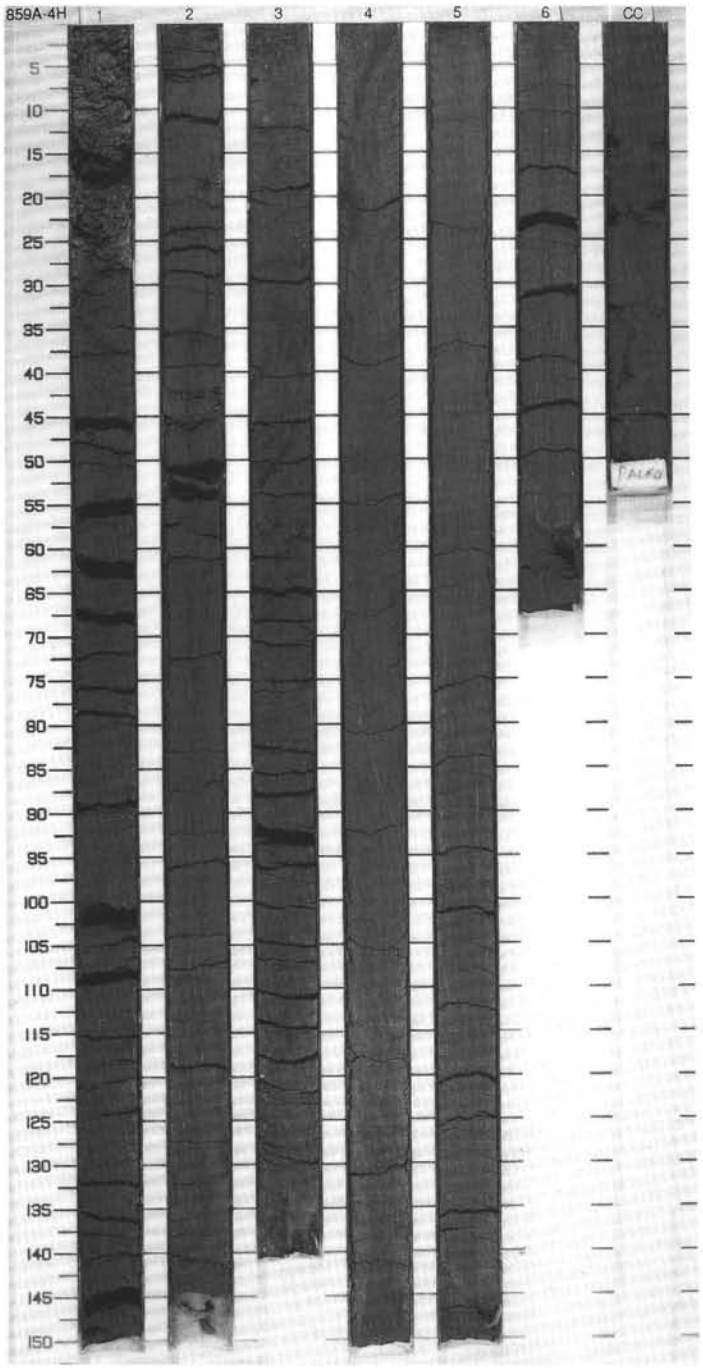
SITE 859 HOLE A CORE 3H CORED 10.7 - 16.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 CC	upper Pliocene			S S S S I M	5Y 4/1 To 5Y 2/1	CLAYEY SILT TO SILTY CLAY Major Lithology: The core consists of olive green (5Y 4/1) to olive black (5Y 2/1) CLAYEY SILT TO SILTY CLAY. The contact at Section 3, 135 cm is the base of sections containing sparse, steeply dipping, thin laminations of brownish black (5YR 2/1) CLAYEY SILT. Minor Lithology: A bed of brownish black (5YR 2/1) VERY FINE SILTY SAND occurs in Section 2, 20-25 cm. General Description: Deformed intervals occur at: Section 1, 24-121 cm; Section 2, 25-150 cm; Section 3, 90-135 cm; and throughout Section 4 and the core catcher. The contact at Section 3, 135 cm may be a tectonic contact juxtaposing an interval containing sparse steeply dipping thin laminations onto a largely structureless and horizontal interval. Between Section 4, 60 cm and CC, 25 cm, brown silty veins are parallel to the core sides.



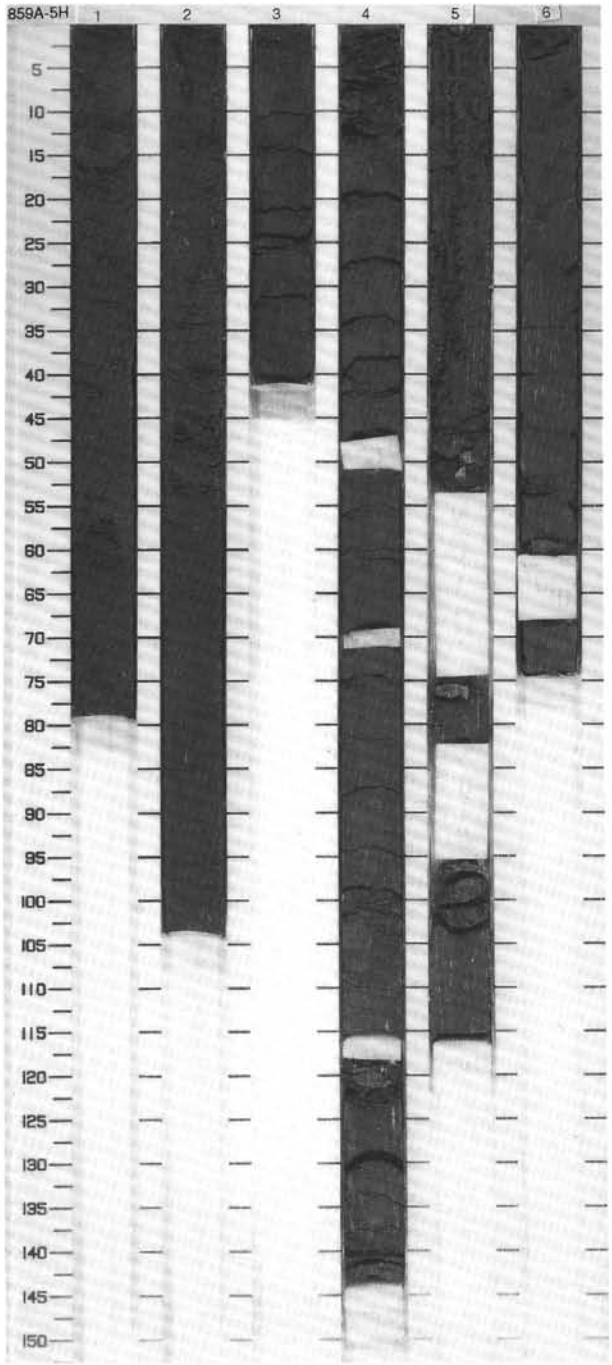
SITE 859 HOLE A CORE 4H CORED 16.7 - 25.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1	upper Pliocene		W	S	5Y 2/1 To 5G 2/1	SILTY CLAY Major Lithology: Structureless olive black (5Y 2/1) to greenish black (5G 2/1) SILTY CLAY. General Description: Spicules occur in section 1. Lower portions of the core contain a few diatoms and spicules. Small black (N1) silty concretion occurs in Section 2, 17-18 cm. Small (0.5 cm) concretion of brownish (10YR 5/4) fragmentary carbonate in Section 2, 83-84 cm. Thin vertical joint containing fragmentary carbonate in Section 2, 124-131 cm.
		2		⊙ ©		S		
		3				IW		
		4						
		5				S		
		6						
		CC				M		



SITE 859 HOLE A CORE 5H CORED 25.2 - 34.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 Void 6	upper Pliocene			S S S S S S I S S S	5GY 4/1 5Y 3/2	SILTY CLAY TO CLAYEY SILT Major Lithology: Core consists of grayish olive green (5GY 3/2) SILTY CLAY and olive gray (5Y 3/2) CLAYEY SILT. Minor Lithologies: Core has thin interbeds and patches of grayish olive green (5GY3/2) CLAYEY SILT, light olive gray (10Y4/2) CLAYEY SILT with nannofossils, olive gray (5Y3/2) SILTY SAND, and dispersed spots of white (N2) SPICULITE. General Description: The interval from Section 1, 33 cm to Section 4, 80 cm, is disturbed with isolated inclined interbeds and fold noses of probable slump origin. Near-vertical sandy veins (or fragments of beds?) of possible clastic dike origin occur in Section 4, 45-145 cm; Section 5, 100-120; and Section 6, 55-72 cm.

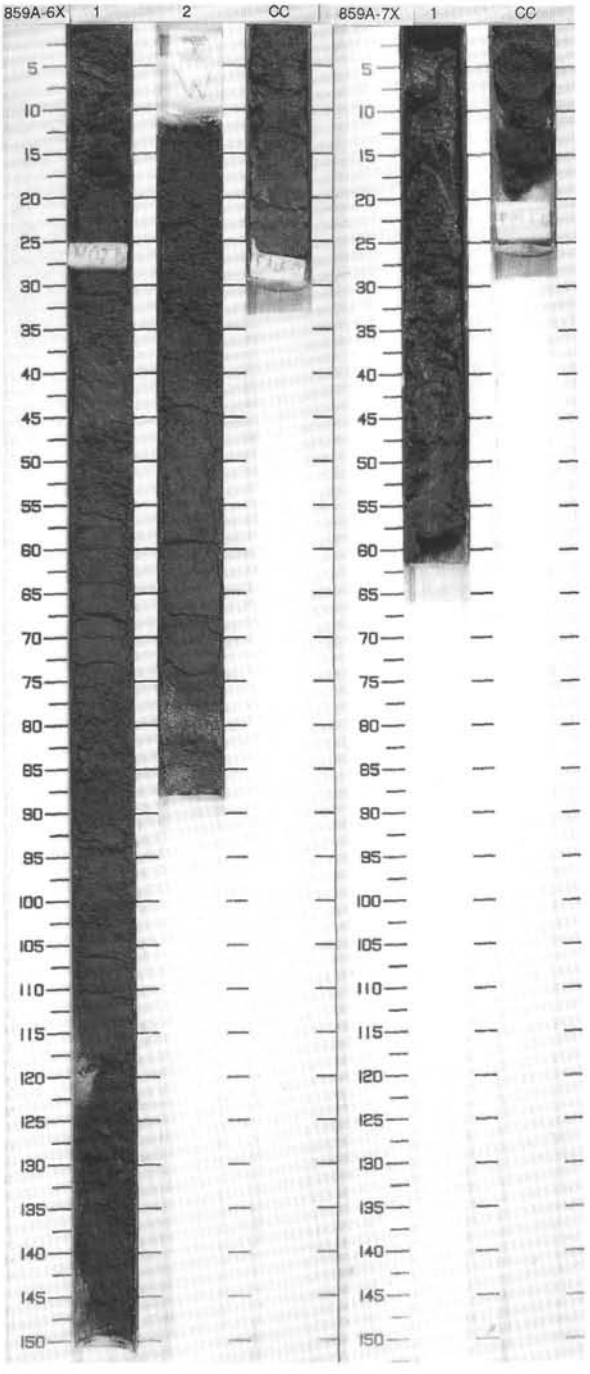


SITE 859 HOLE A CORE 6X CORED 34.7 - 41.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 CC	upper Plio cene	©		S S S IW S S S S M	5Y 3/2	SILTY CLAY TO CLAYEY SILT Major Lithology: Sections 1 and 2 consist dominantly of olive gray (5Y 3/2) structureless SILTY CLAY. Section CC consists of grayish olive green CLAYEY SILT. Minor Lithologies: A few pods and one interbed of silty sand occur in Section 1 (95-115 cm). Sections 2 and CC contain dispersed clots of greenish gray (5GY 6/1) calcareous silt with small concretions.

SITE 859 HOLE A CORE 7X CORED 41.0 - 49.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5		1 CC	uPlio			S S M	5Y 3/2	CLAYEY SILT Major Lithology: Core consists of structureless olive gray (5Y 3/2) CLAYEY SILT.



SITE 859 HOLE A CORE 8X CORED 49.0 - 57.4 mbsf

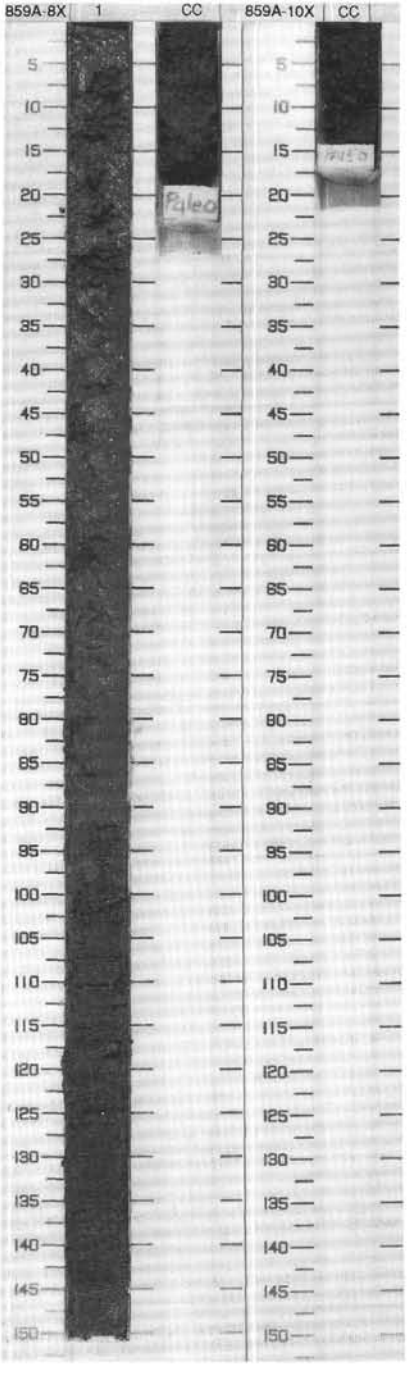
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 CC	upper Pliocene		WWWWW	S M	5Y 3/2	CLAYEY SILT Major Lithology: The entire core consists of structureless olive gray (5Y 3/2) CLAYEY SILT.

859A-9P Entire core given to paleontologists.

SITE 859 HOLE A CORE 10X CORED 58.4 - 68.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.1		CC	upper Plio.		WWWWW	S M	N3	SILTY CLAY Major Lithology: Core consists of dark gray (N3) SILTY CLAY.

Note expanded vertical scale.

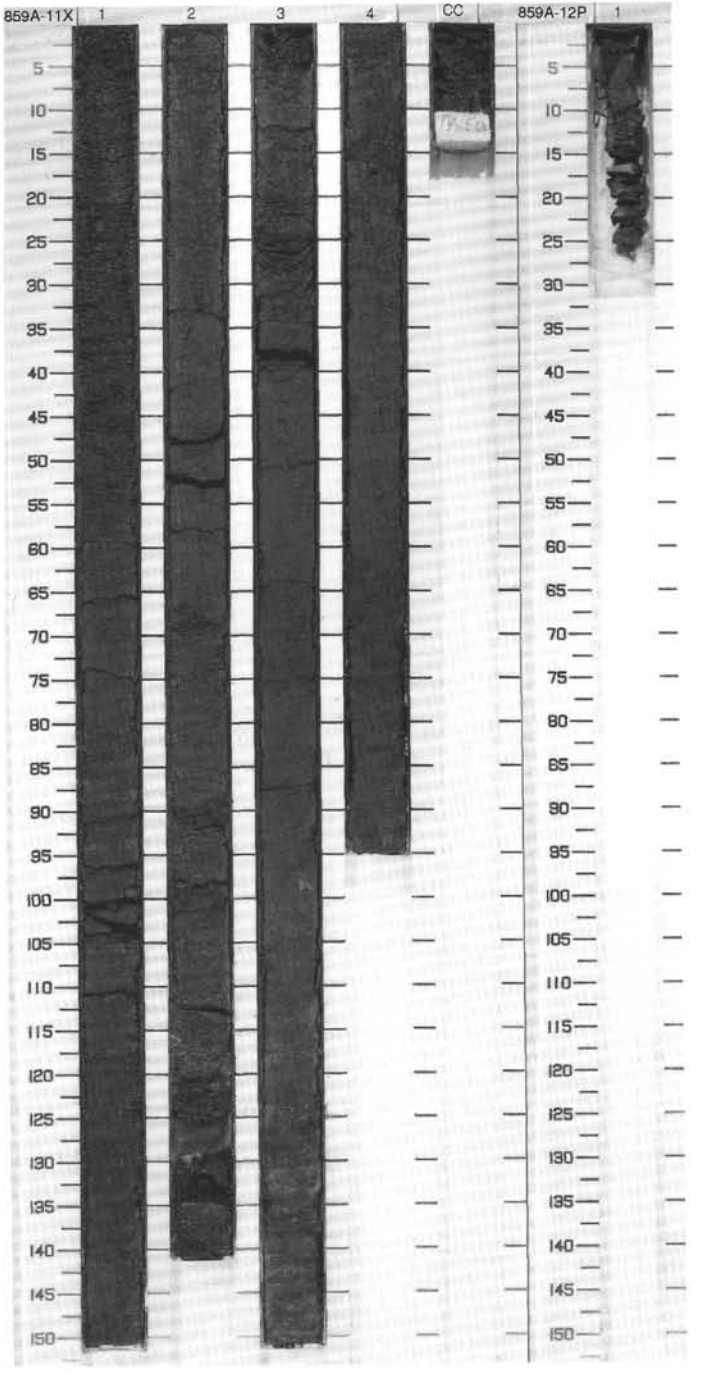


SITE 859 HOLE A CORE 11X CORED 68.3 - 77.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 CC	upper Pliocene			S S I S S M	5Y 2/1	SILTY CLAY TO CLAYEY SILT Major Lithology: Core composed of structureless olive black (5Y 2/1) SILTY CLAY TO CLAYEY SILT. Minor Lithologies: A small (1 cm) pod of SILTY CLAY WITH NANNOFOSSILS occurs in Section 3, 100 cm. The lower half of Section 3 and the middle part of Section 4 contain small (0.5 cm), circular concentrations of FINE SILTY SAND which may be burrow fillings.

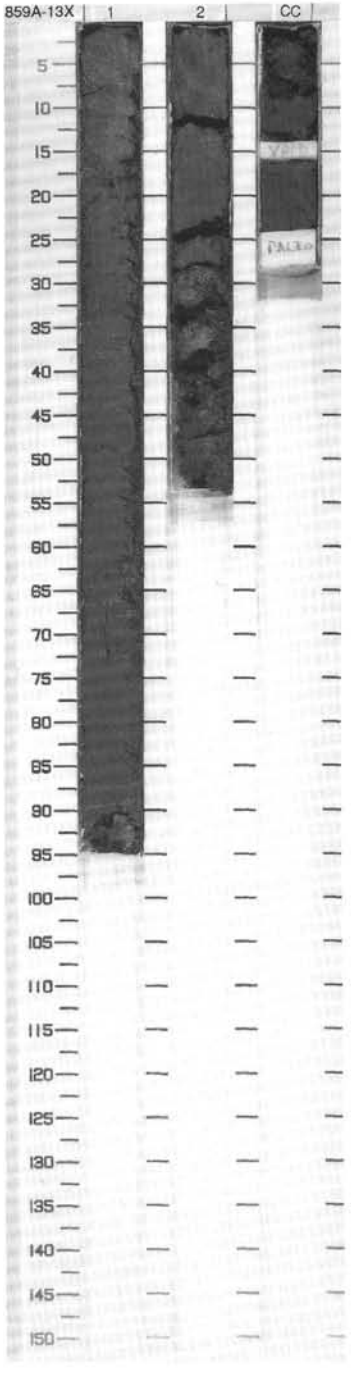
SITE 859 HOLE A CORE 12P CORED 77.0 - 78.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.2		1	upper Pliocene			S	N3	SILTY CLAY Major Lithology: Core consists of dark gray (N3), structureless SILTY CLAY.



SITE 859 HOLE A CORE 13X CORED 78.0 - 87.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 CC	upper Pliocene			S S IW S S M	5Y 4/1 To N 4	CLAYEY SILT TO SILTY CLAY Major Lithology: Core consists of thinly interbedded olive gray (5Y 4/1) CLAYEY FINE SILT and medium dark gray (N 4) SILTY CLAY. Silt beds range in thickness from 0.7 cm to 3 cm, and clay from 0.2 to 0.7 cm. General Description: The dark gray silty clay interbeds are more indurated. Section CC, 1.7-2.3 cm, contains a breccia of consolidated mud, clay, and silt clasts.

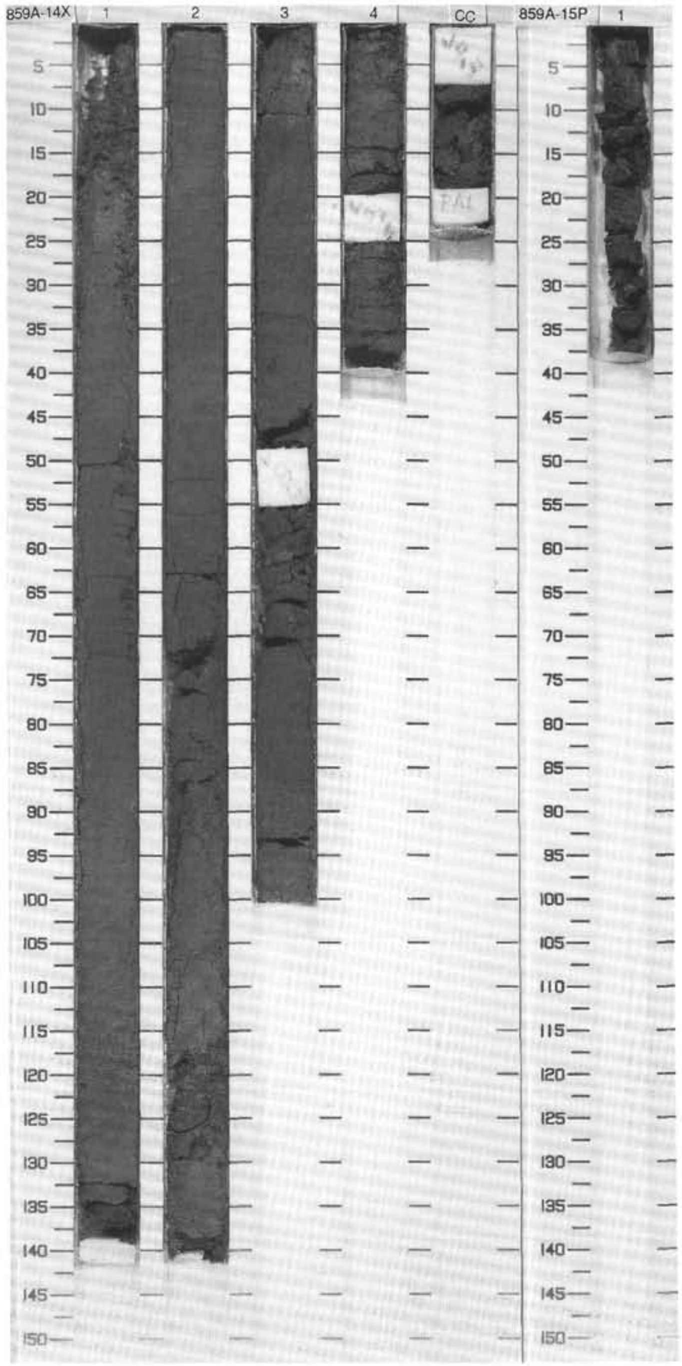


SITE 859 HOLE A CORE 14X — CORED 87.6 - 97.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5, 1.0		1, 2, 3, 4, CC	upper Pliocene			S, S, S, I S, S, S, M	5Y 4/1 To N 4	CLAYEY SILT TO SILTY CLAY Major Lithology: Core consists of thinly interbedded olive gray (5Y 4/1) CLAYEY fine SILT and medium dark gray (N4) SILTY CLAY. Beds of clayey fine silt range in thickness from 0.5 cm to 3 cm, and silty clay from 0.2 to 0.7 cm. General Description: The dark gray silty clay interbeds are more indurated. Isolated pebbles are found in Section 3, intervals 25-42 cm and 85-92 cm. No post -depositional structures are preserved (excluding possible drilling disturbance).

SITE 859 HOLE A CORE 15P — CORED 97.3 - 100.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.1, 0.3		1	upper Pliocene			S	5GY 2/1	CLAYEY SILT Major Lithology: Core consists of greenish black (5GY 2/1) CLAYEY SILT. General Description: Core exhibits a fissility in horizontal plane which is probably due to special nature of recovery in pressure core barrel.

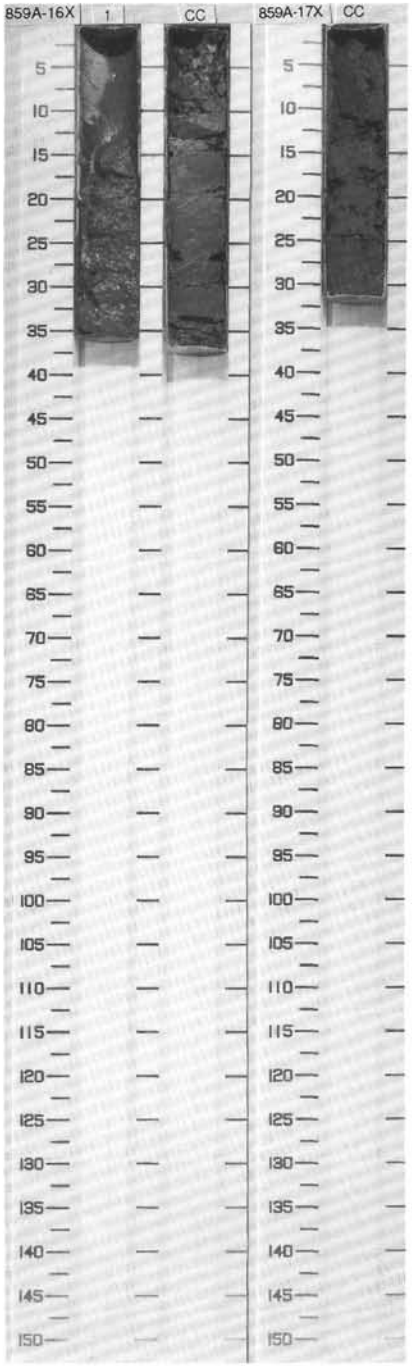


SITE 859 HOLE A CORE 16X CORED 100.2 - 106.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5		1 CC	uPli		VY	S M S S	5Y 4/1	CLAYEY SILT AND SILTY CLAY Major Lithology: The core consists of thinly interbedded olive gray (5Y 4/1) CLAYEY SILT beds that locally display reverse grading, and medium dark gray (N4) SILTY CLAY. Clayey silt beds are approximately 1 to 2 cm thick, silty clay intervals approximately 0.3 to 0.7 cm. General Description: The bedding characteristics in this core are very similar to some patterns of core disturbance known as "drill biscuits" or "biscuiting". However, the intervals here have grain size variations at the scale of the observed interbeds. The interbeds of silty clay are stiffer than the clayey silt and show uniform thicknesses across the central portions of each core. However, other cores in this hole (e.g., 141-859A-19X) have soft clayey intervals consistent with a "biscuit" model.

SITE 859 HOLE A CORE 17X CORED 106.9 - 116.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.1 0.2		CC	upper Pliocene		S M	S S	N3	SANDY SILT TO SILTY CLAY Major Lithology: Dark gray (N3) SANDY SILT to SILTY CLAY. Olive gray (5Y 4/1) CLAYEY SILT between 16-18 cm. Lower portions mostly SILTY CLAY. General Description: Core is totally disturbed by drilling, consisting of soupy and biscuited material.



SITE 859 HOLE A CORE 18X CORED 116.5 - 126.2 mbsf

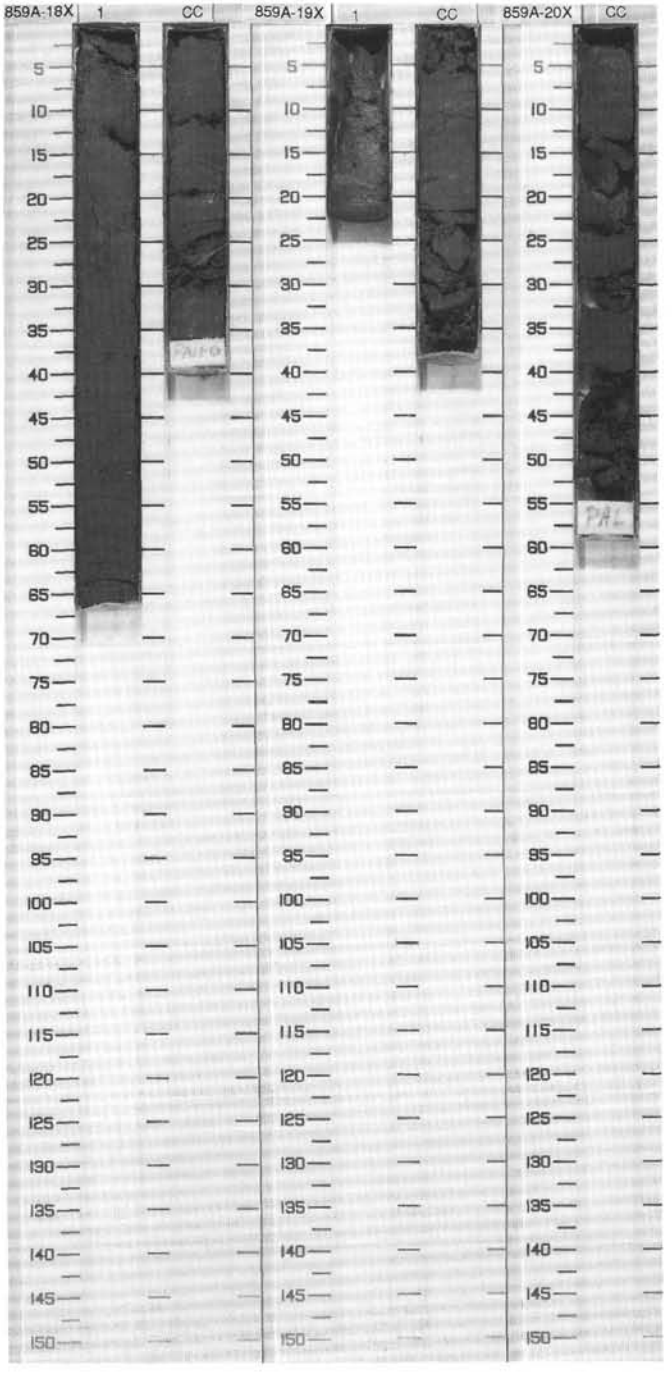
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 CC	uPli		W W W W O O	S S M	N3	SILTY CLAY Major Lithology: Core is interbedded dark gray (N3) and olive gray (5Y 4/1) SILTY CLAY. General Description: Core is highly disturbed by drilling and exhibits drilling biscuits.

SITE 859 HOLE A CORE 19X CORED 126.2 - 135.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5		1 CC	uPlio.		W O	S M	N3	SILTY CLAY TO CLAY Major Lithology: Dark gray (N3) SILTY CLAY to CLAY. Cores show drilling biscuits.

SITE 859 HOLE A CORE 20X CORED 135.9 - 145.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5		CC			W	S S M	5Y 4/1	CLAYEY SILT TO SILTY CLAY Major Lithology: The less disturbed portions of this core consist of thinly interbedded olive gray (5Y 4/1) CLAYEY SILT and medium dark gray (N4) SILTY CLAY.



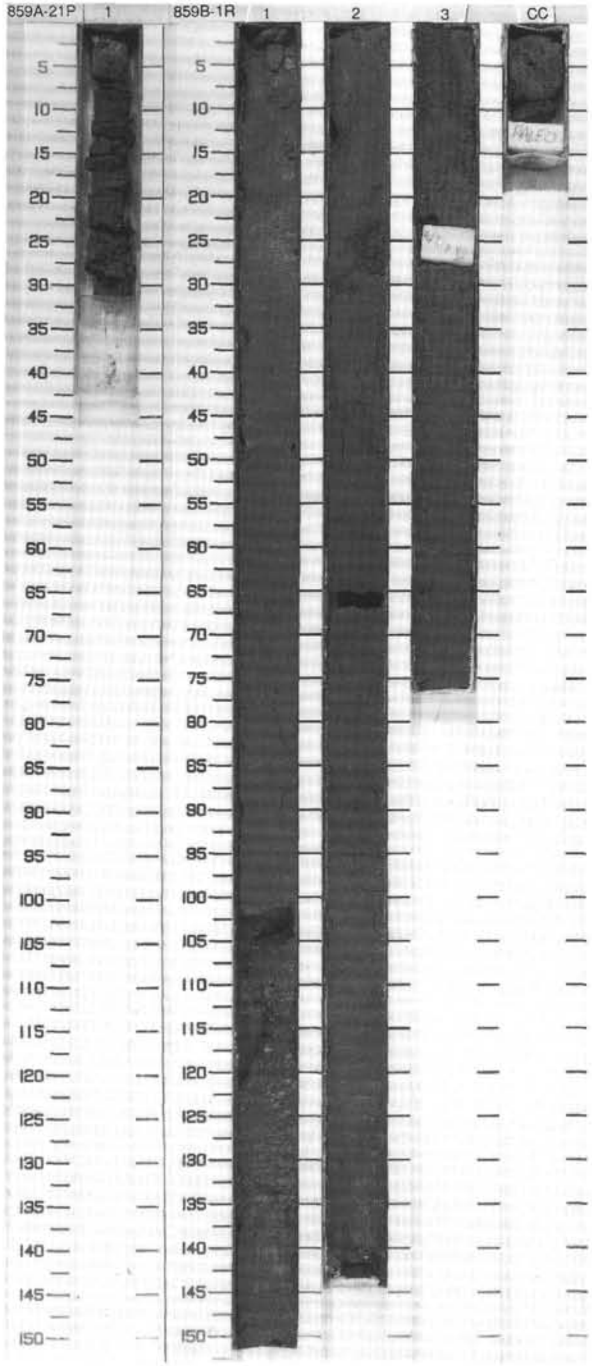
SITE 859 HOLE A CORE 21P CORED 145.5 - 146.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.1 0.2		1			≷		5GY 4/1	SILTY CLAY TO CLAYEY SILT Major Lithology: The core consists of dark greenish gray (5 GY 4/1) coarse CLAYEY SILT layers interlayered with medium dark gray (N4) SILTY CLAY layers. The apparent interlayering may be due to drilling disturbance.

DRILLED 0.0-52.0 mbsf

SITE 859 HOLE B CORE 1R CORED 52.0 - 61.6 mbsf

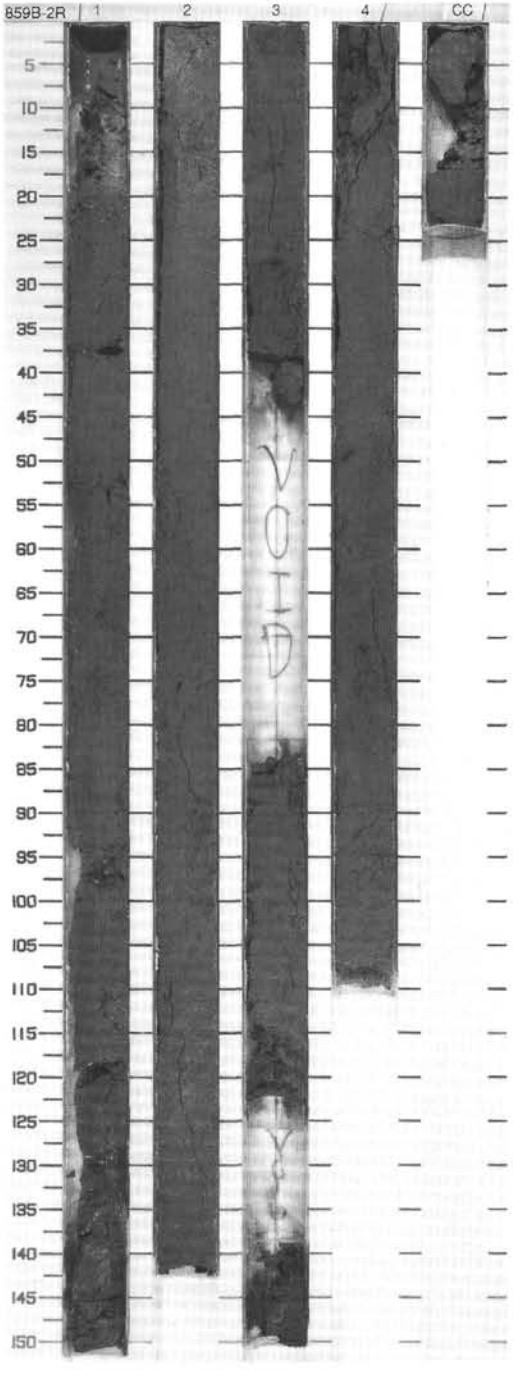
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 CC	upper Pliocene	◇	≷	S S S I M	5GY 2/1	CLAYEY SILT Major Lithology: The core consists of structureless greenish black (5GY 2/1) CLAYEY SILT. Minor Lithology: There are several fragments of olive gray (5Y 3/2), carbonate-cemented SILTSTONE in Section 1, 0 to 2 cm, which may be fragments of a carbonate concretion. General Description: The core is extremely fragmented and probably consists of soft drilling breccia.



SITE 859 HOLE B CORE 2R CORED 61.6 - 71.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 CC	upper Pliocene			S S S I W S S S S M S	5Y 4/1 To 5GY 4/1	SILTY CLAY to CLAYEY SILT Major Lithology: This core consists entirely of olive gray (5Y 4/1) to dark greenish gray (5GY 4/1) SILTY CLAY to CLAYEY SILT. A mottled appearance due to variations in color and grain size occurs throughout the core. General Description: The core is extremely disrupted by drilling and may be a drilling breccia, although a clear separation between matrix and clasts is not possible. Some medium dark gray (N4) concretions resembling small subangular pebbles are dispersed throughout the core. A complete shell and other partial shell fragments are visible at Section 1, 55-58 cm. Although variations in both texture and composition occur, true bedding contacts do not appear to be preseved.

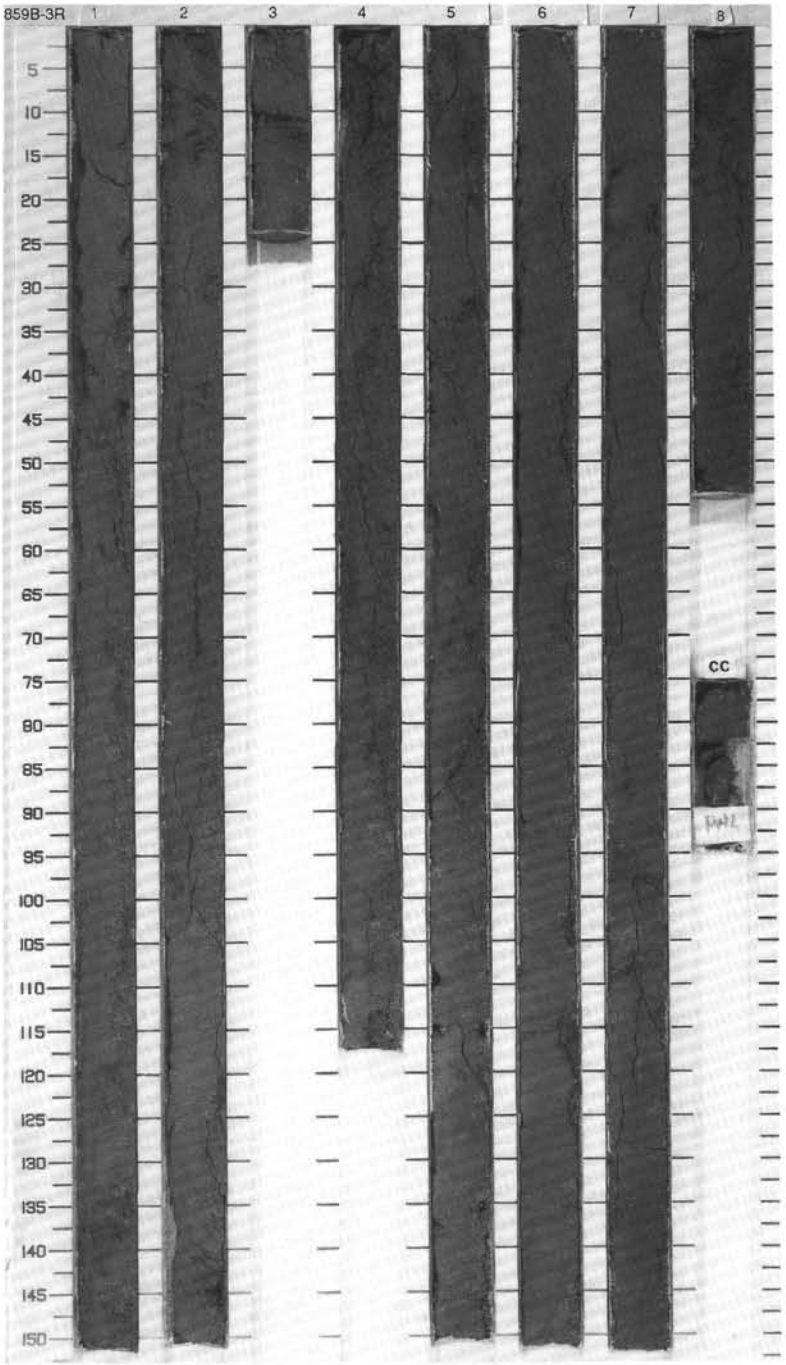
Void



SITE 859 HOLE B CORE 3R CORED 71.3 - 80.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 6 7 8 CC	upper Pliocene		W W W	S S S S I S S S	5Y 4/1	SILTY CLAY TO CLAYEY SILT Major Lithology: Core consists of mottled grayish olive (5Y 4/1) SILTY CLAY to CLAYEY SILT. Minor Lithologies: Abundant clots, partial laminae, and streaks of medium dark gray (N4) silty clay occur throughout the core. General Description: The core, despite zones of moderate to intense drilling disturbance, has several intervals that exhibit aligned concretions and dark gray streaks of silty clay that demonstrate the partial preservation of bedding. Some mottled textures may be due to burrowing (Section 6, 0-150 cm). Beds defined by dark clay layers and by stringers of aligned concretions are steeply inclined and locally folded.

DRILLED 80.9-140.0 mbsf



SITE 859 HOLE B CORE 4R CORED 140.0 - 148.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 CC	upper Pliocene			S I S M S	5Y 2/1	CLAYEY SILT Major Lithology: Olive black (5Y 2/1) structureless CLAYEY SILT. General Description: The lower parts of Section 2 also contain small clasts of very fine sand. Small areas of dark greenish gray (5GY 4/1) CLAYEY SILT with traces of spicules and volcanic glass occur at Section 2, 72-76 cm and Section 2, 86-87 cm.

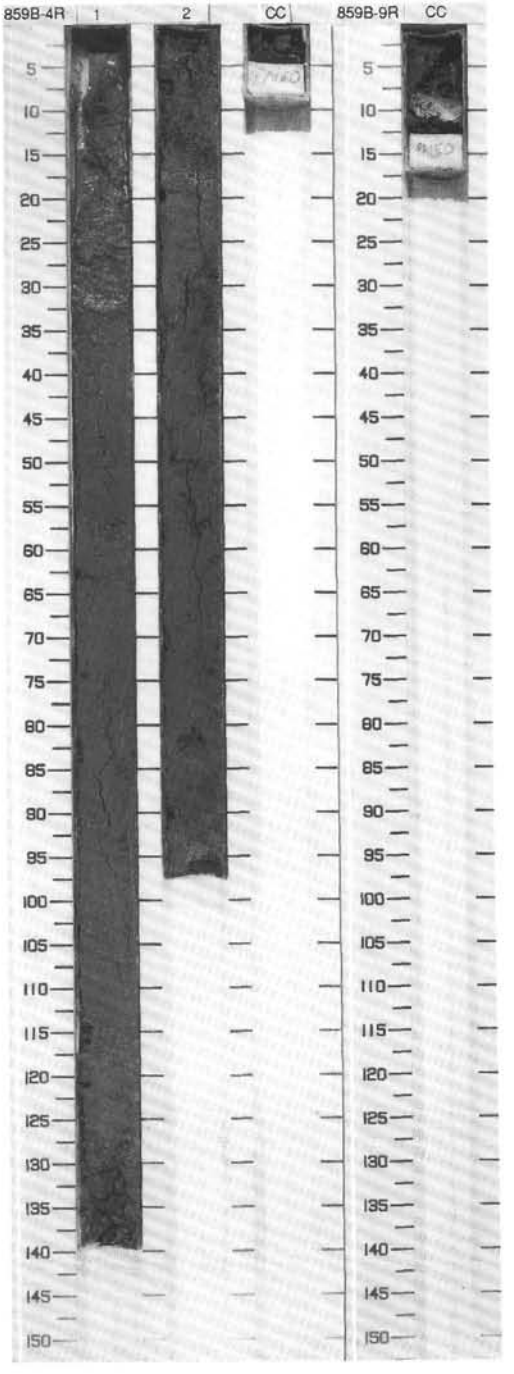
859B-5R Entire core given to paleontologists.

859B-6R THROUGH 8R NO RECOVERY

SITE 859 HOLE B CORE 9R CORED 187.1 - 196.7 mbsf

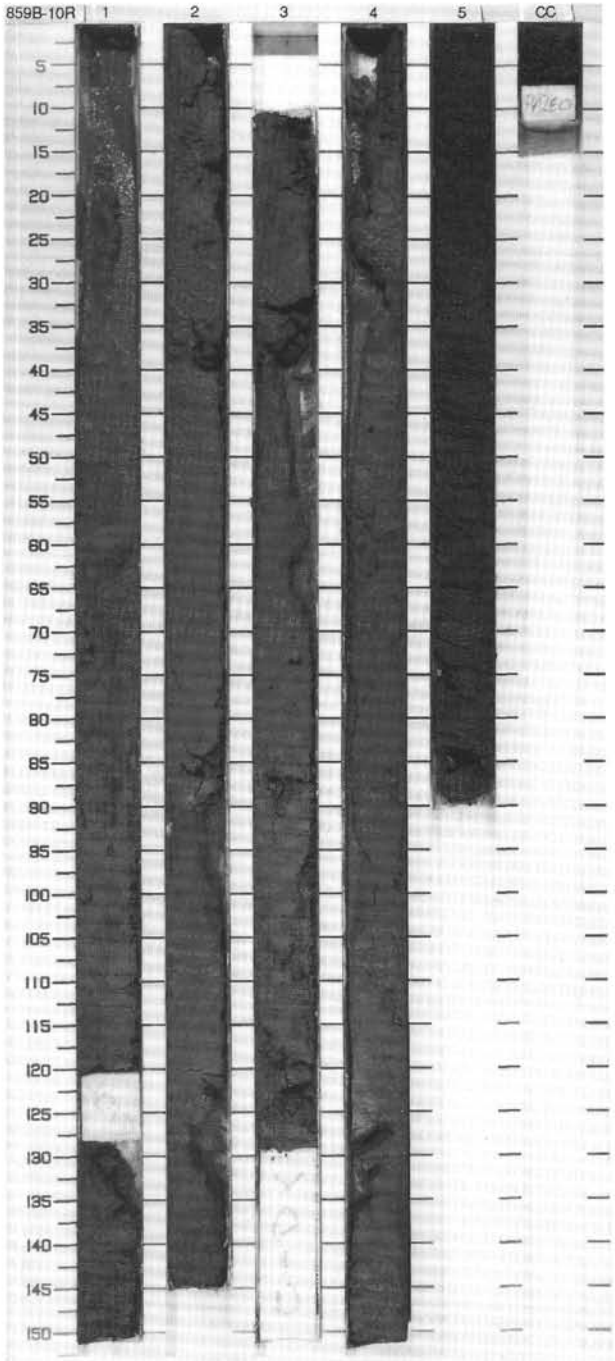
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.1		CC	u. Pli.			S M	N3	SILTY CLAY Major Lithology: Fragments of dark gray (N3) SILTY CLAY.

Note expanded vertical scale.



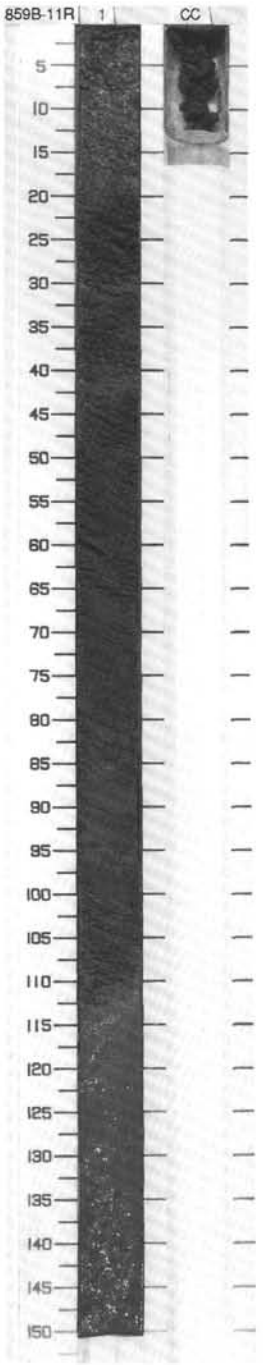
SITE 859 HOLE B CORE 10R CORED 196.7 - 206.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0	Void	1 2 3 4 5 CC	upper Pliocene			S I W S S M	N3 To N4	SILTY CLAY TO CLAYEY SILT Major Lithology: Core consists of dark gray (N3) and medium dark gray (N4) structureless SILTY CLAY to CLAYEY SILT. General Description: The upper parts of Section 1 contain a small percentage of very fine-grained sand. In Sections 3, 4, 5, and CC, clay content is higher than in Sections 1 and 2. The core is highly disturbed by drilling and contains mostly drilling fragments of clay and silty clay with some loose silt. Sections 5 and CC were opened by wire cutter, producing a difference in apparent surface structure.



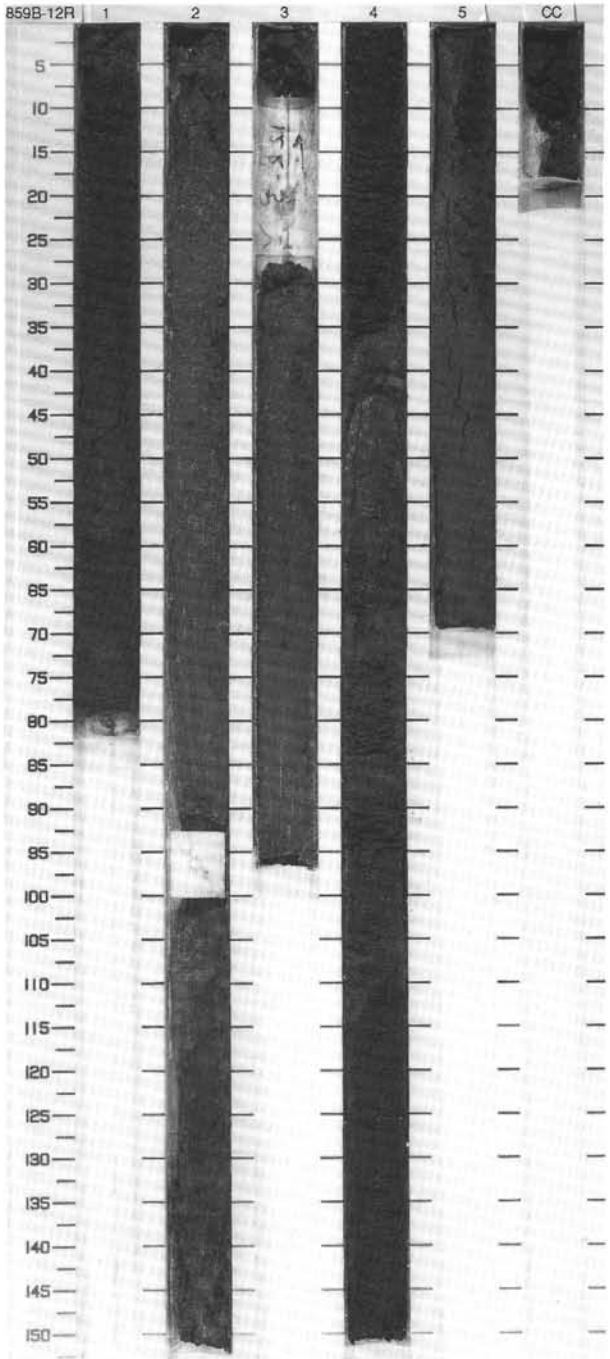
SITE 859 HOLE B CORE 11R CORED 206.4 - 216.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 CC	upper Pliocene		W OO WWWWW	S S M	5GY 4/1	SILTY CLAY to CLAYEY SILT Major Lithology: This core consists of dark greenish gray (5GY 4/1) CLAYEY SILT and SILTY CLAY. General Description: The core is totally disrupted by drilling. Large fractures apparently were caused by gas expansion upon core removal. Fractures are not perpendicular to core sides because of diagonal orientation of wire cutter.



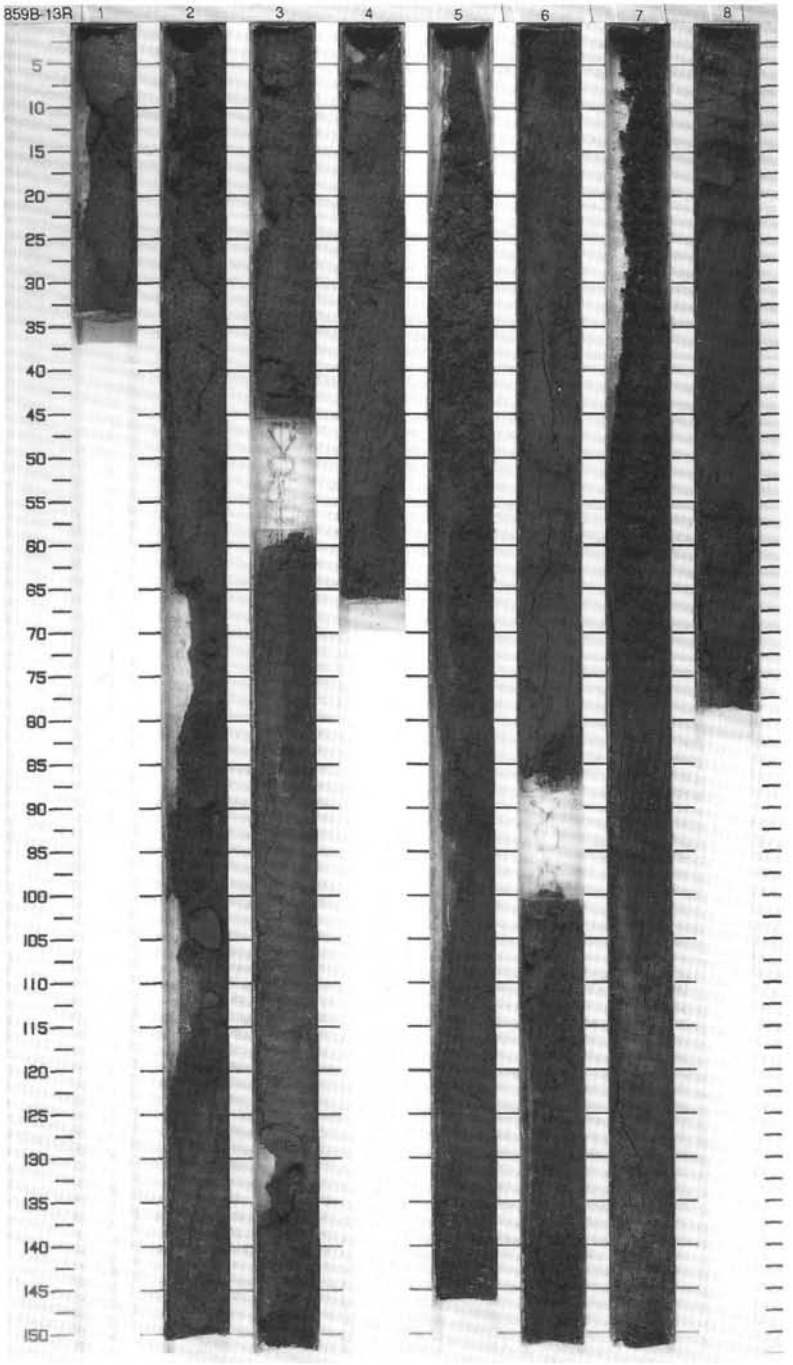
SITE 859 HOLE B CORE 12R CORED 216.0 - 225.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5		1	upper Pliocene	©		S	5GY 4/1	SILTY CLAY to CLAYEY SILT Major Lithology: This core consists of dark greenish gray (5GY 4/1) to grayish olive green (5Y 3/2) SILTY CLAY to CLAYEY SILT. General Description: A small yellowish spot of calcareous sediment occurs at Section 1, 29 cm. The core is totally disrupted by drilling and by gas expansion fractures perpendicular to edge of core. Sections 1, 4, and CC were cut by wire; Sections 2, 3, and 5 were cut by saw, resulting in different surface textures.
1.0		2				S		
	Void					S		
		3				S		
						S		
						I		
		4				S	5Y 3/2	
						S		
		5				S		
		CC				M		



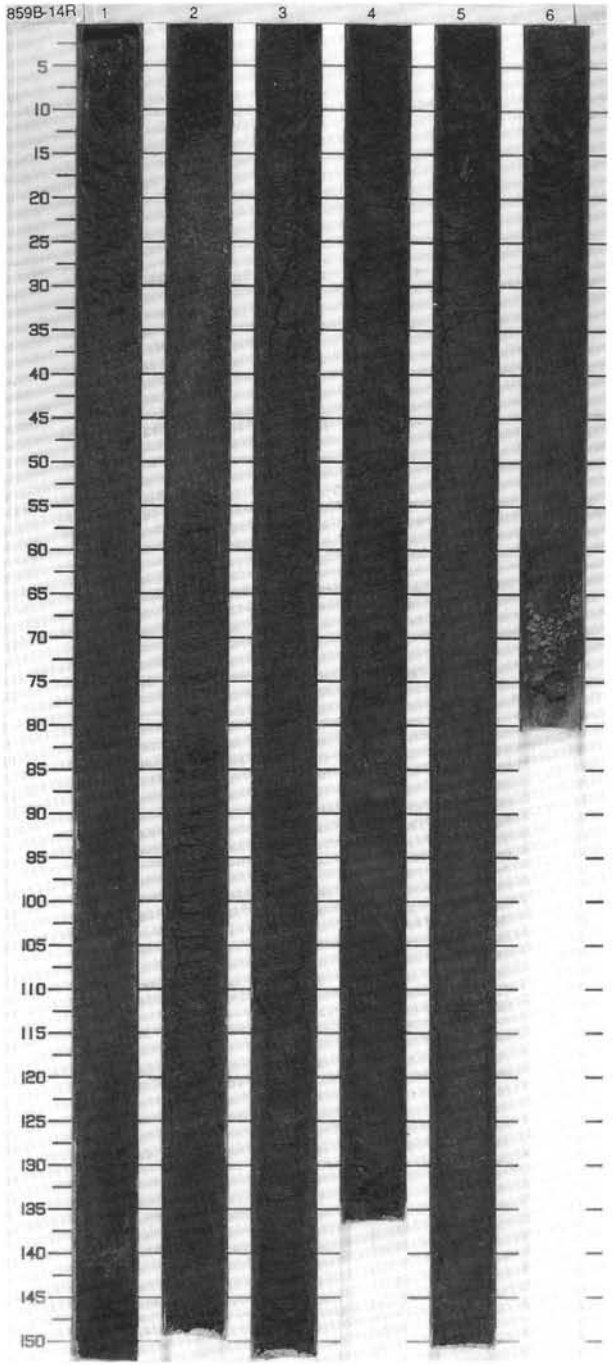
SITE 859 HOLE B CORE 13R CORED 225.6 - 235.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 6 7 8	upper Pliocene	◇ ◇ ◇	W	S S S T S T S S S W S S	5Y 3/2	SILTY CLAY TO CLAYEY SILT Major Lithology: This core consists of olive gray (5Y 3/2) SILTY CLAY to CLAYEY SILT. General Description: Two subangular fragments of micritic limestone are found at Section 2, 86 and 96 cm. The core is largely disrupted by drilling, except in two intervals: Section 2, 69-83 cm and Section 8, 25-60 cm. In the first of these intervals, semicoherent claystone fragments preserve nearly original orientation across fractures. In the second interval, bedding defined by color and textural changes is crosscut by normal to vertical microfaults. All of core catcher (3 cm) went to paleontology.



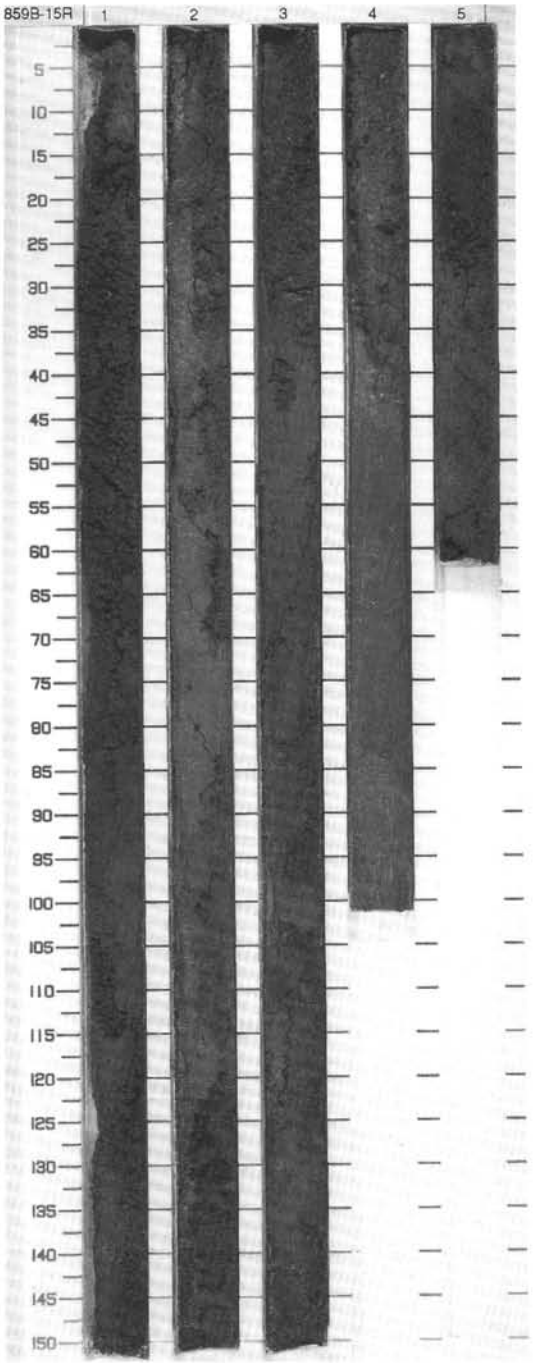
SITE 859 HOLE B CORE 14R CORED 235.3 - 245.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 6	upper Pliocene			S S S S I W S S S_M	5Y 3/2	CLAYEY SILTSTONE to SILTY CLAYSTONE Major Lithology: This core consists of olive gray (5Y 3/2) SILTY CLAYSTONE to CLAYEY SILTSTONE. General Description: Most of the core exhibits gas expansion fractures perpendicular to core sides. Sections 4 and 5 contain intervals of semi-coherent claystone chips that fit together across fractures. Bedding is not preserved due to disruption by drilling and splitting of the core.



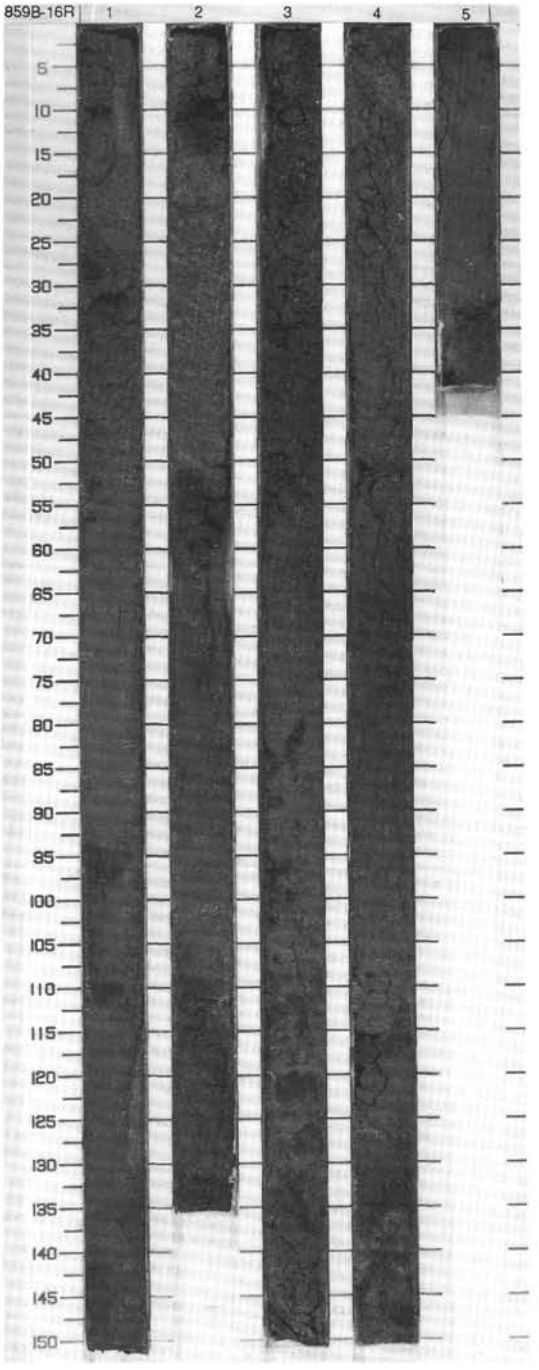
SITE 859 HOLE B CORE 15R CORED 245.0 - 254.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 CC	upper Pliocene			S S S S S M	5Y 3/2 5GY 2/1 5Y 3/2	SILTY CLAYSTONE Major Lithology: This core consists of olive gray (5Y 3/2) to greenish black (5GY 2/1) SILTY CLAYSTONE. General Description: From Section 1, 1 cm to Section 2, 95 cm, the core is totally disrupted by drilling and splitting of the core. Semi-coherent zones of highly fractured fissile SILTY CLAYSTONE occur from Section 2, 95-135 cm, cut by a subhorizontal anastomosing array of cracks filled with bubbly froth. These fractures probably represent gas expansion along incipient fissility or fracture cleavage. Below Section 2, 135 cm, the core is totally disrupted by drilling.



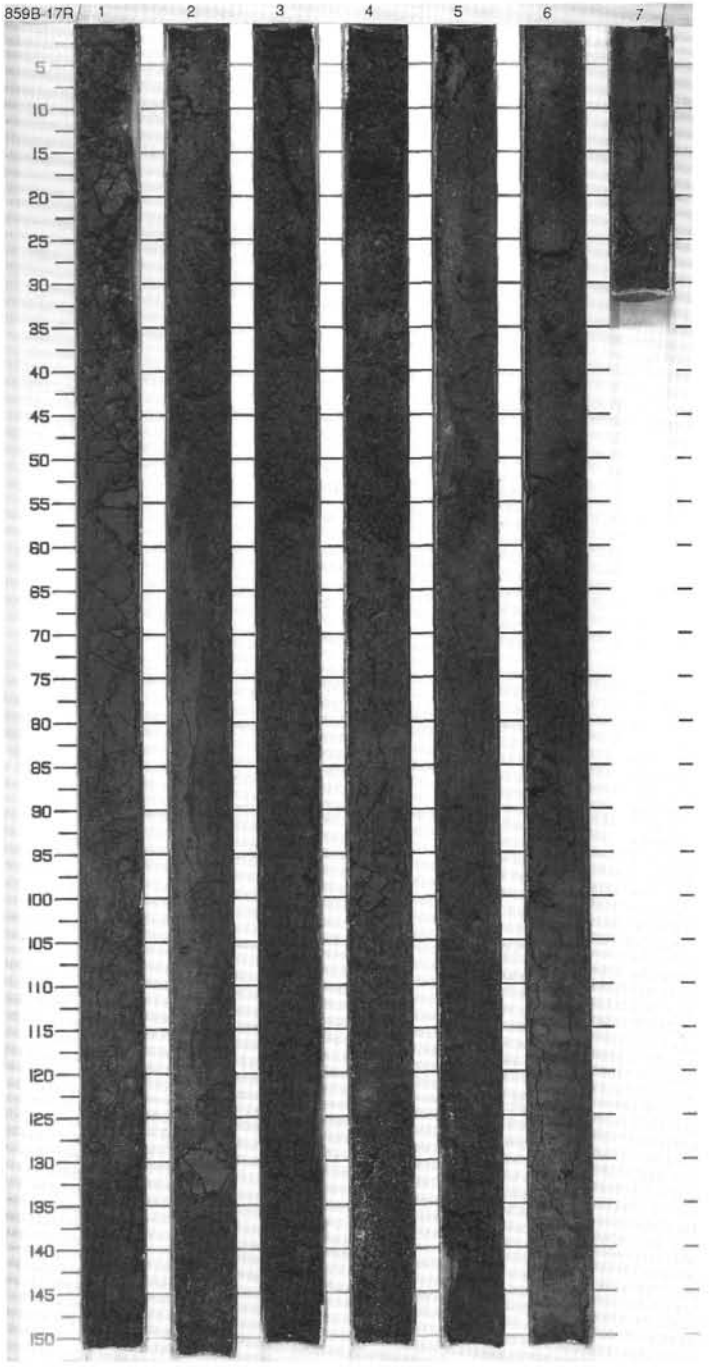
SITE 859 HOLE B CORE 16R CORED 254.6 - 264.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 CC	upper Pliocene			S I W S S S M	N3	SILTY CLAYSTONE TO CLAYSTONE Major Lithology: This core consists of dark gray (N3) SILTY CLAYSTONE to CLAYSTONE. Sections 4, 5, and CC are more clay-rich than the upper portions of the core. Minor Lithology: Dark gray (N3) very fine-grained massive SILTY SANDSTONE occurs as an interbed from Section 3, 125 to Section 4, 30 cm. The upper and lower contacts of this bed are gradational over an interval of a few centimeters. General Description: The core is highly disturbed by drilling. It contains mostly drilling fragments of claystone and silty claystone with loose sand and silt and some coherent pieces of fine-grained sandstone. Isolated intervals of semi-coherent material exhibit anastomosing fracture cleavage spaced 1-2 mm apart with a wavelength of 3-8 mm.



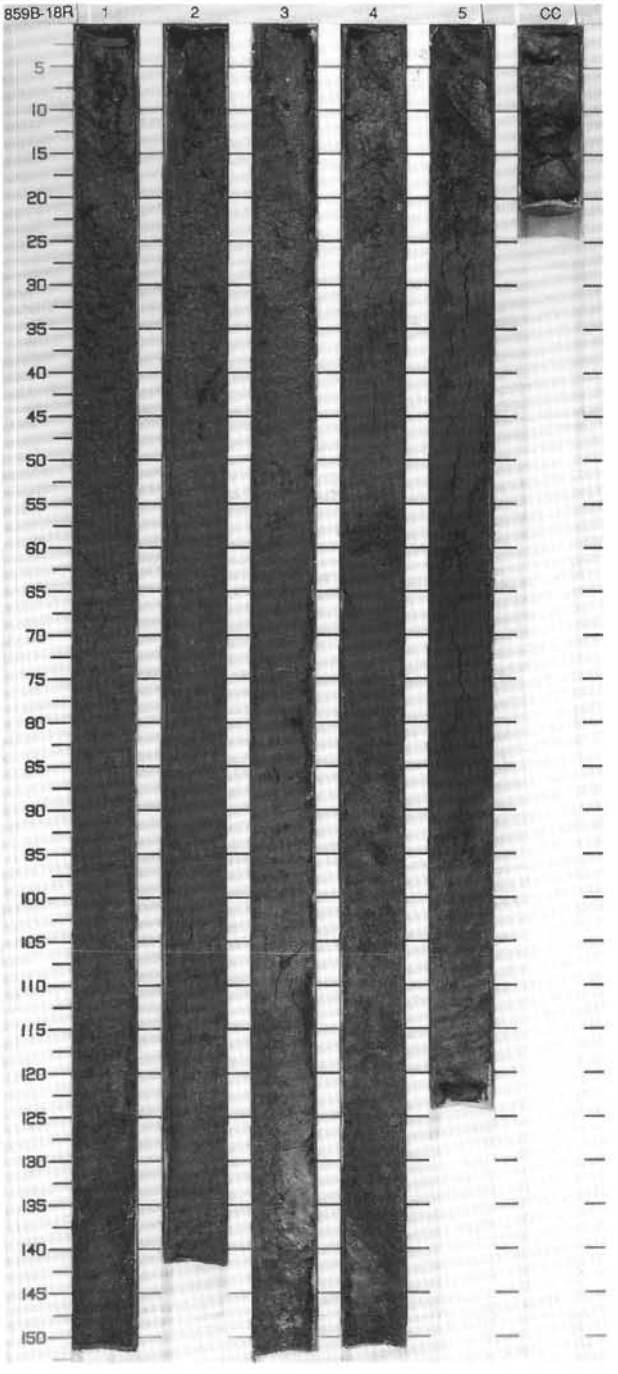
SITE 859 HOLE B CORE 17R CORED 264.3 - 274.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 6 7 CC	upper Pliocene			S S S S M	5YR 2/1, N3 to N2	CLAYEY SILTSTONE TO SILTY CLAYSTONE Major Lithology: The core consists of brownish black (5YR 2/1), to medium dark gray (N3), to grayish black (N2) CLAYEY SILTSTONE TO SILTY CLAYSTONE. Minor Lithology: At Section 1, 53-55 cm a brecciated zone occurs which consists of fragments of medium dark gray (N3) carbonate-cemented SANDY SILTY CLAYSTONE cross-cut by fine calcite veins. A carbonate-cemented zone also occurs at Section 1, 129-139 cm.



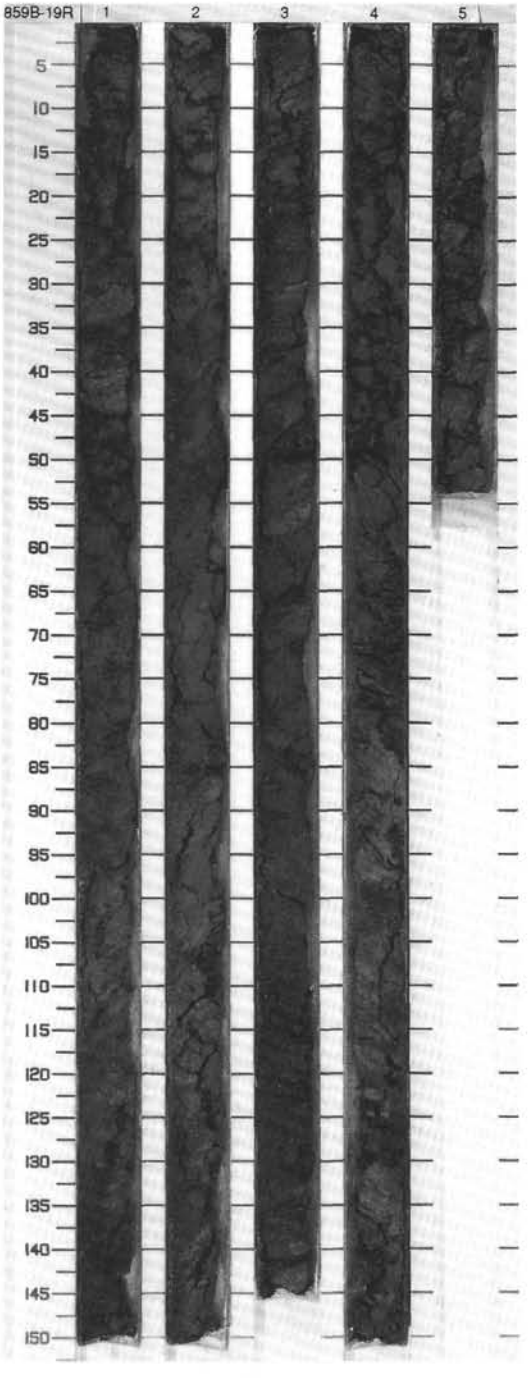
SITE 859 HOLE B CORE 18R CORED 274.0 - 283.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 CC	upper Pliocene	◇		S I S S S S M	N3	SILTY CLAYSTONE Major Lithology: The core consists of dark gray (N3) SILTY CLAYSTONE. General Description: One fragment (1 by 5 cm) of olive gray (5Y 4/1) calcareous micrite-cemented sediment occurs at Section 1, 0.5-1.5 cm. Section 2, 20-71 cm is finer grained than the rest of the section. Coherent slightly inclined intervals of clayey siltstone occur at Section 3, 50-83 cm and 98-140 cm. Section 4, 33-48 cm and 60-62 cm; and Section 5, 40-43 cm and 101-110 cm are grayish black (N2) silty claystone. Section 5, 72-95 cm is coarser grained than the claystones above and is slighty faulted and fractured. The core is highly disturbed by drilling. It contains mostly drilling breccia of silty claystone with some loose silt. Below Section 5, 25 cm, some layers exhibit layer-parallel extension. Minor fractures or veins occur in the coarser lithologies.



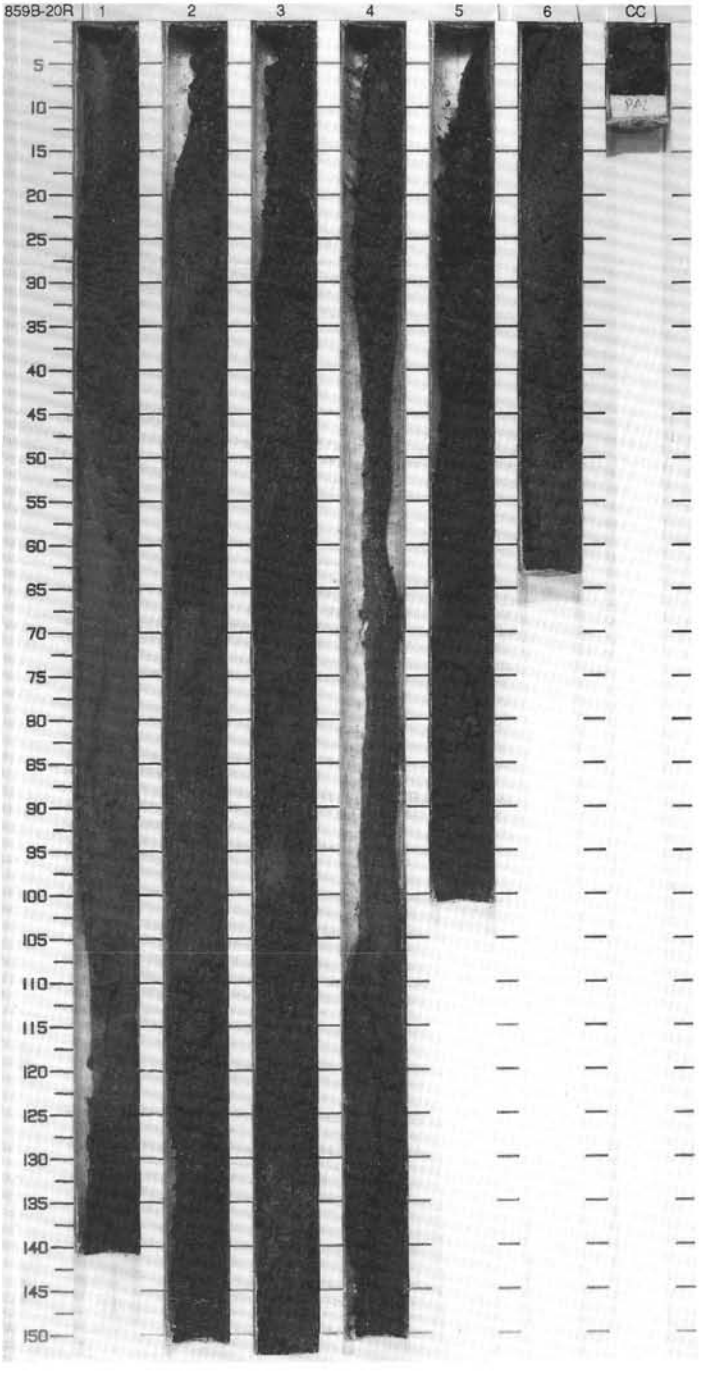
SITE 859 HOLE B CORE 19R CORED 283.5 - 293.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 CC	upper Pliocene	◇		S S S S I S M	5Y 2/1	SILTY CLAYSTONE Major Lithology: Core consists of olive black (5Y 2/1) SILTY CLAYSTONE. Minor Lithology: A more coherent section of olive black (5Y 2/1) SANDY SILTSTONE occurs at Section 1, 72 to 83 cm . General Description: A 1-cm, dark greenish gray (5GY 4/1), foram-bearing calcareous fragment occurs at Section 2, 50 cm. Most of the core consists of drilling breccia, but within relatively coherent intervals the following structures are preserved: fault or small shear zone at Section 1, 32 cm; block of silty material with polished surfaces at Section 3, 50 cm; two sets of fracture cleavage, sub-perpendicular to each other, at Section 3, 80-145 cm and Section 4, 70-80 cm. Spacing of the fracture cleavage is 2-5 mm with a wavelength of 3-20 mm.

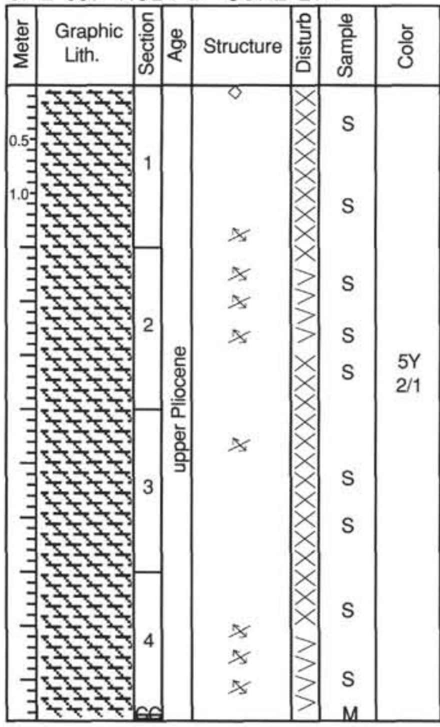


SITE 859 HOLE B CORE 20R CORED 293.2 - 302.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 6 CC	upper Pliocene			S S I S S S S S S S S S S M	5Y 2/1	SILTY CLAYSTONE Major Lithology: This core consists of olive gray (5Y 2/1) SILTY CLAYSTONE. General Description: The core is disrupted by drilling. Two semi-coherent intervals, at Section 3, 45-55 cm and 108-126 cm, contain two sets of fracture cleavage that are nearly perpendicular to each other. In the best preserved intervals, the two sets of fracture cleavage are subhorizontal and subvertical.



SITE 859 HOLE B CORE 21R CORED 302.8 - 312.2 mbsf

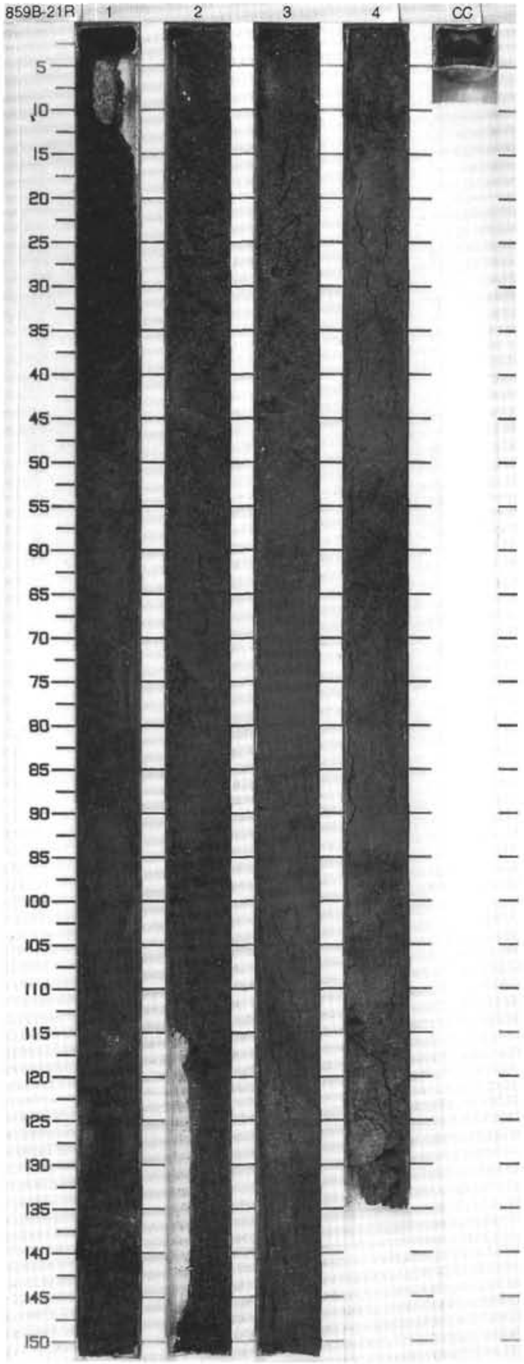


Description

SILTY CLAYSTONE

Major Lithology:
This core consists of olive black (5Y 2/1) SILTY CLAYSTONE.

General Description:
At Section 1, 0-7 cm, a dropstone of diorite occurs. Its position at the top of the core suggests that it may have fallen into the core from higher in the sequence. At Section 3, 101-102 cm, a smear slide indicates the presence of inorganic calcite within the claystone. Sections 2 (15-80 cm) and 4 (50-80 cm) consist of semi-coherent claystone chips that fit together along a closely spaced fracture cleavage. Small intervals of semi-coherent, highly fractured silty claystone occur in Sections 1 and 3.



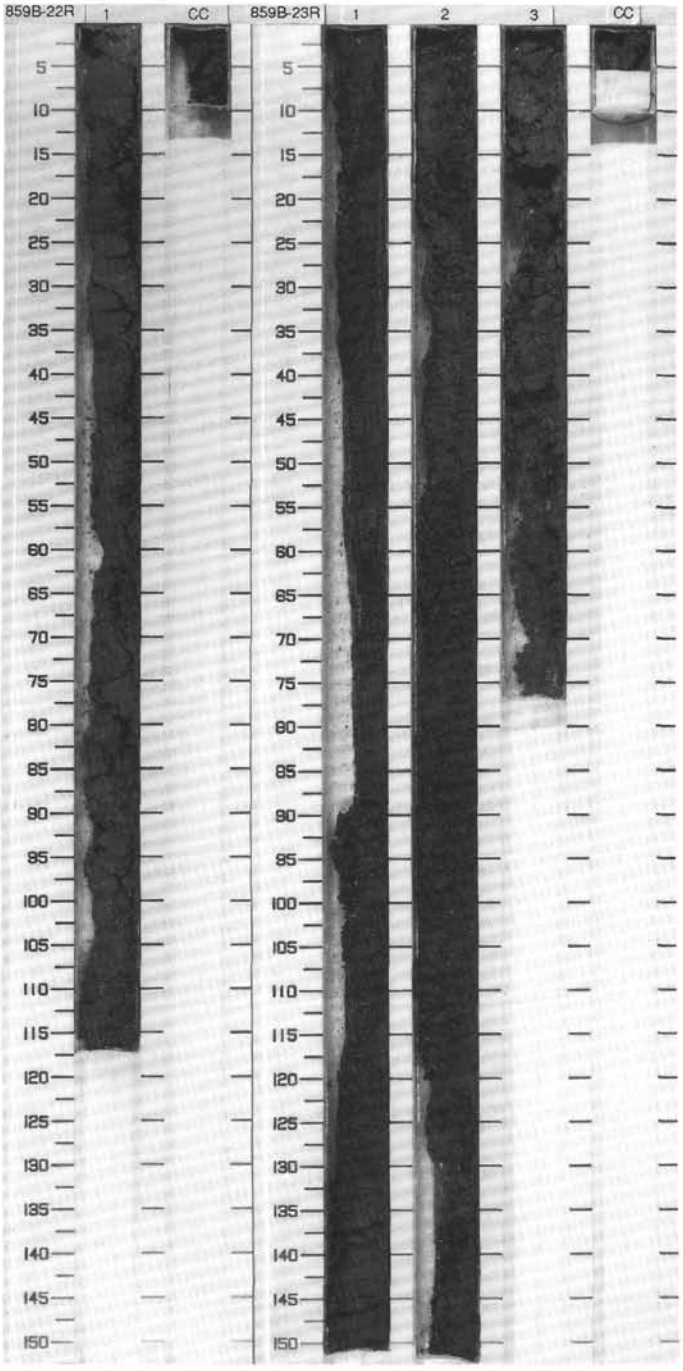
SITE 859 HOLE B CORE 22R CORED 312.2 - 321.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1	upper Pliocene			S S S S S I W W M	5Y 2/1	CLAYSTONE Major Lithology: This core consists of olive black (5Y 2/1) CLAYSTONE. General Description: A very faintly defined structure of dark gray wispy stringers may represent bedding; several subparallel features are offset slightly along microfractures.

SITE 859 HOLE B CORE 23R CORED 321.9 - 331.5 mbsf

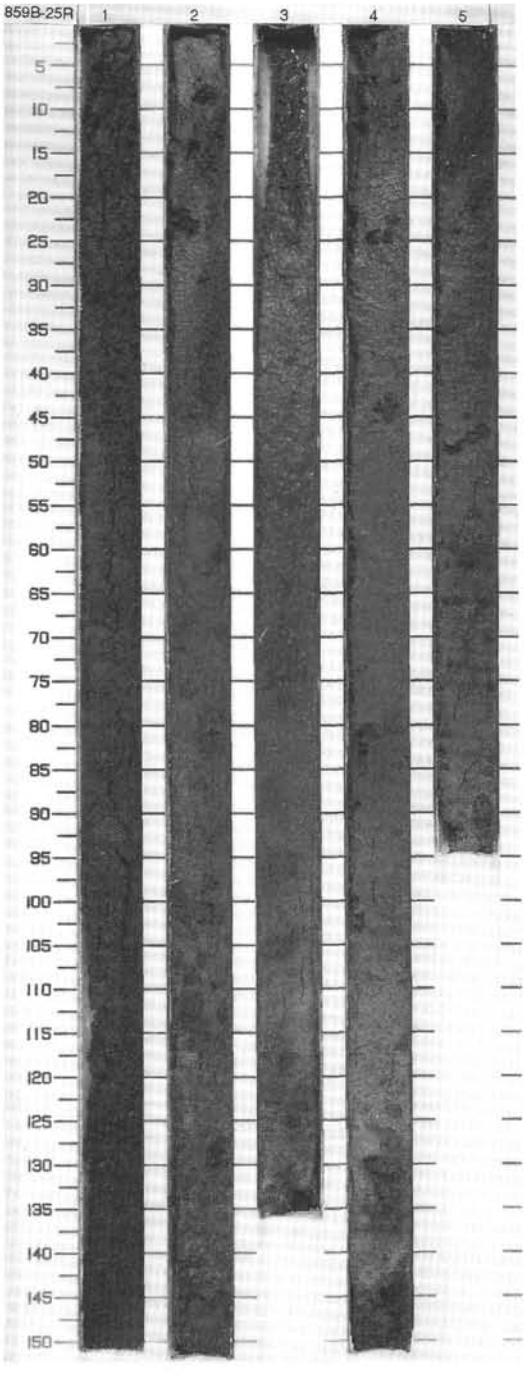
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3	upper Pliocene			S S S S S S S M	5Y 2/1	CLAYSTONE Major Lithology: This core consists of olive black (5Y 2/1) CLAYSTONE. General Description: The core is disrupted by drilling. A fine (<0.4 cm diameter) drilling breccia is found throughout the core except in Section 3, 0-12 cm and 23-38 cm.In those intervals, at least two subhorizontal sets of fracture cleavage occur that are nearly perpendicular to each other; a third set of subvertical fractures is locally present.

859B-24R NO RECOVERY



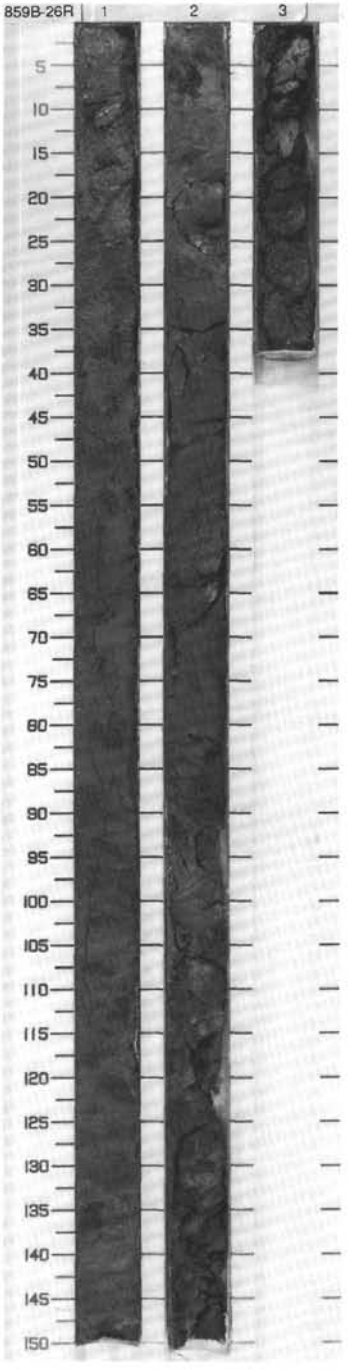
SITE 859 HOLE B CORE 25R CORED 341.2 - 350.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 CC	upper Pliocene			S S S W I S S M S	5Y 2/1	SILTY CLAYSTONE TO CLAYEY SILTSTONE Major Lithology: Core consists of olive black (5Y 2/1) SILTY CLAYSTONE TO CLAYEY SILTSTONE. General Description: The entire section (except for Section 5, 78-95 cm) consists of a drilling breccia. Although the core at Section 5, 78-95 cm is more coherent, no distinct sedimentary structures are present; local mottling in this interval may be a drilling artifact.



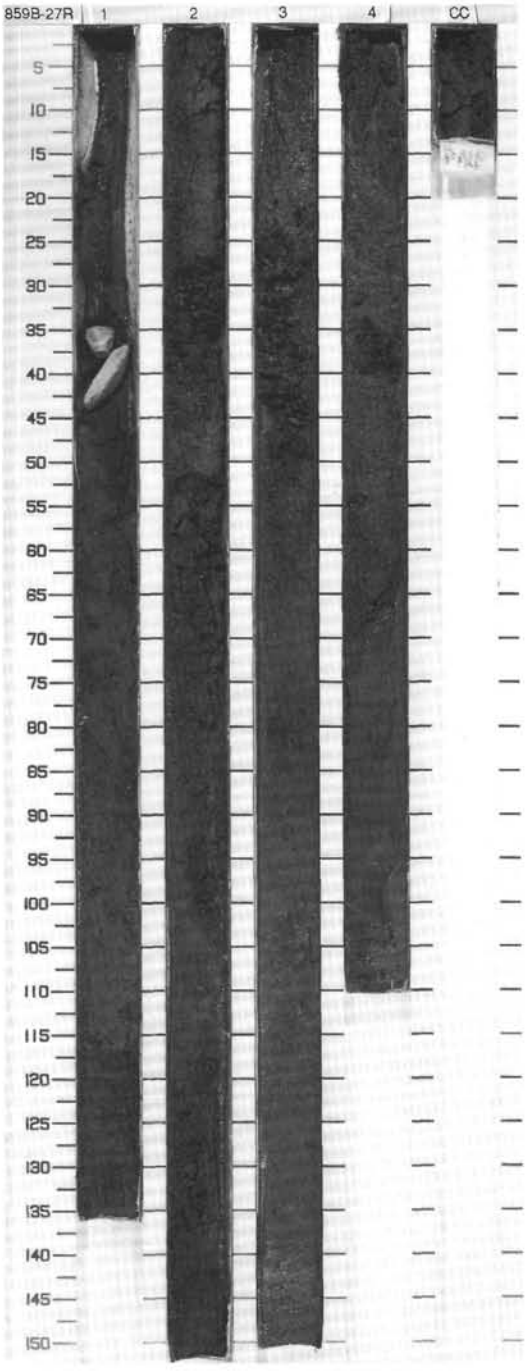
SITE 859 HOLE B CORE 26R CORED 350.8 - 360.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3	upper Pliocene			S S M	N3 To N2	SILTY CLAYSTONE TO CLAYSTONE Major Lithology: Dark gray (N3) to grayish black (N2) SILTY CLAYSTONE to CLAYSTONE. *General Description:* Some parallel laminae of clay and silty clay are seen in Section 1, 139-140 cm and 129-132 cm and in Section 2, 30-32 cm. Sections 2 and 3 are slightly finer-grained than Section 1. Highly disturbed portions of the core contain mostly fragments of silty claystone to claystone and some loose silt.



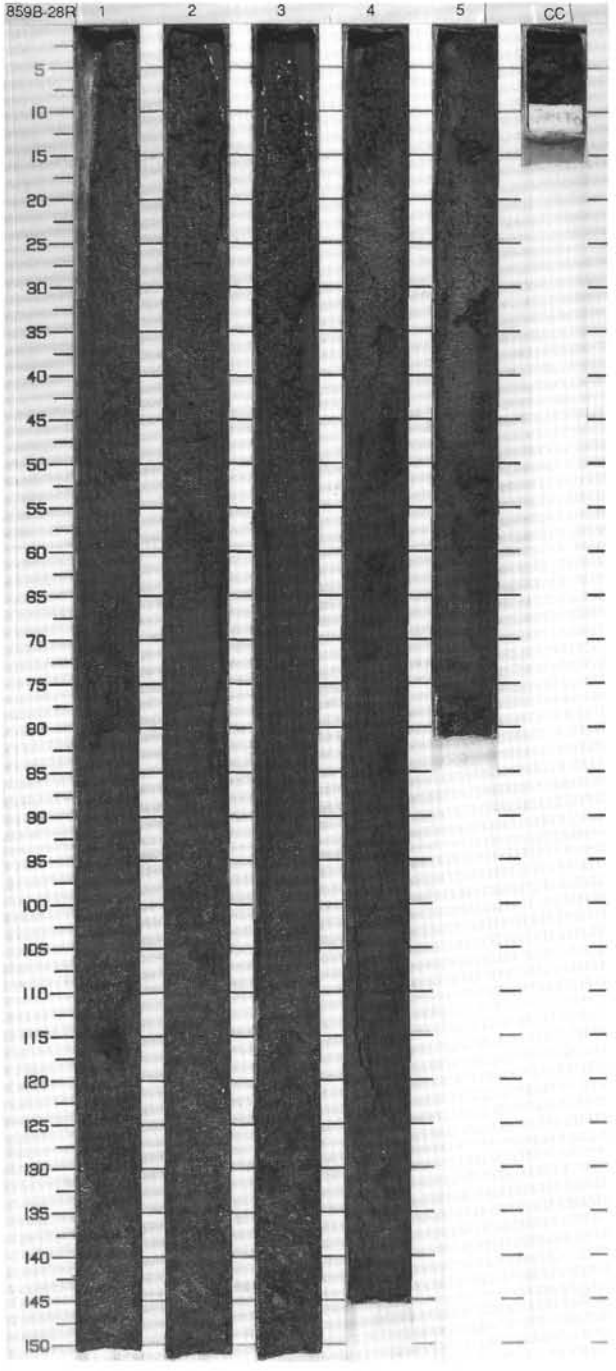
SITE 859 HOLE B CORE 27R CORED 360.4 - 370.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 CC	upper Pliocene	◇ ◇		S S M	5Y 2/1	SILTY CLAYSTONE Major Lithology: The core consists of olive black (5Y 2/1) SILTY CLAYSTONE. General Description: Sections 3, 4, and CC are slightly more clay-rich than Sections 1 and 2. Two fragments (1 by 1 cm and 1 by 4 cm) of greenish gray (5GY 6/1) calcareous micrite-cemented sediment occur in Section 1, 35-44 cm. The lower parts of the Section 1 contain traces of organic matter. More coherent intervals occur in Sections 2, 122-138 cm; Section 3, 26-48 cm and Section 4, 34-43 cm. Due to drilling the core is fractured into fragments of silty claystone and claystone with some loose silt.



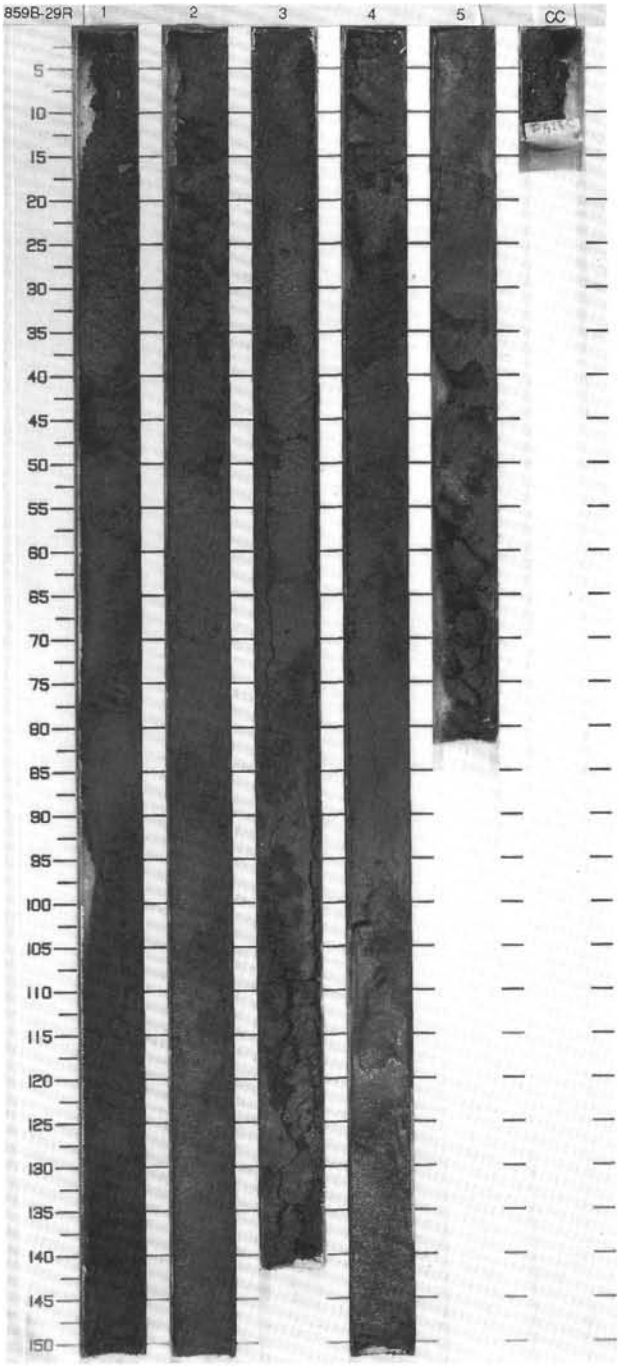
SITE 859 HOLE B CORE 28R CORED 370.1 - 379.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 CC	upper Pliocene			S S W S M	5Y 2/1	SILTY CLAYSTONE Major Lithology: The core consists of olive black (5Y 2/1) SILTY CLAYSTONE. General Description: The core is highly disrupted, but there are some semi-coherent intervals: Section 1, 70-82 cm; Section 2, 95-105 cm; Section 3, 141-148 cm; Section 4, 45-120 cm; and throughout Section 5. The composition of these semi-coherent zones is similar to surrounding drilling breccia.



SITE 859 HOLE B CORE 29R CORED 379.5 - 389.2 mbsf

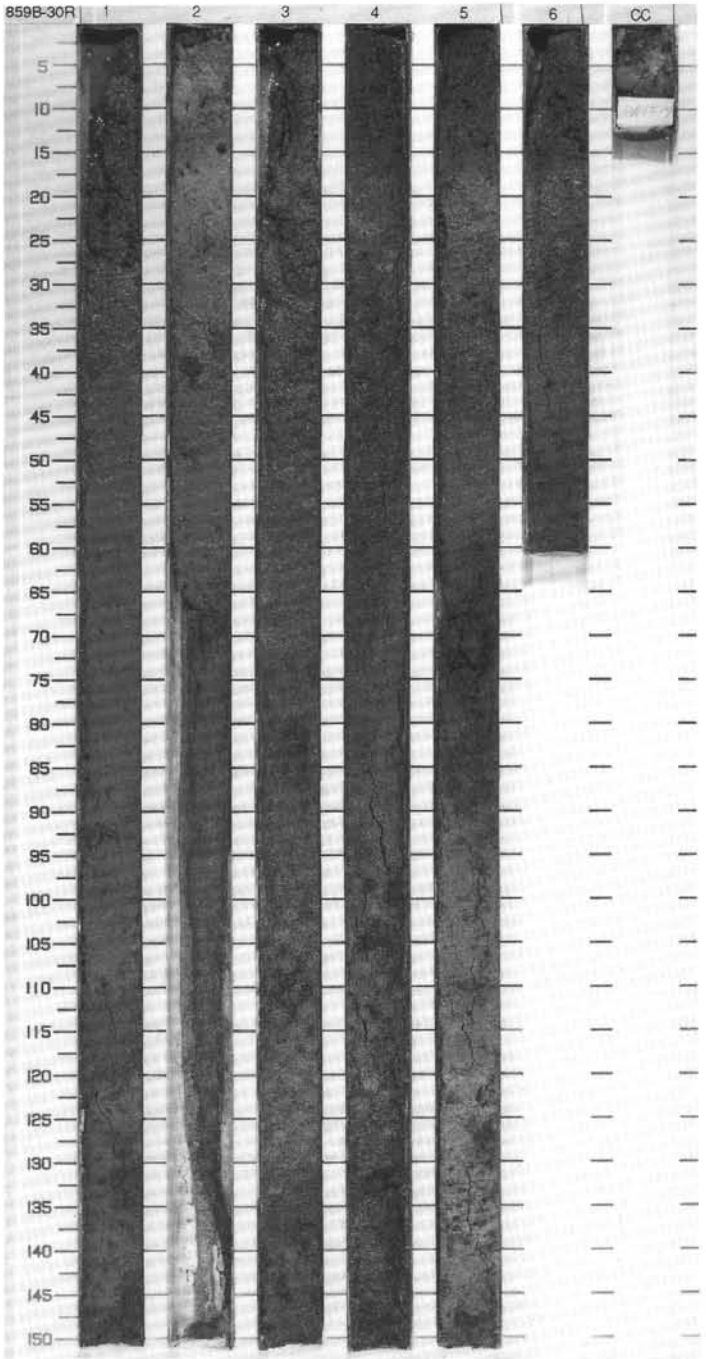
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5		1	upper Pliocene			S	5G 2/1	SILTY CLAYSTONE TO CLAYSTONE Major Lithology: This core consists of greenish black (5G 2/1) SILTY CLAYSTONE to CLAYSTONE. General Description: A fragment of olive gray (5Y 4/1) fine grained calcite exists at Section 1, 15-17 cm. Although the entire core is highly fractured drilling breccia, short intervals of semi-coherent material exhibit fracture cleavage sets of consistent orientation.
1.0						S		
						S		
						S		
		2				S		
						S		
						S		
		3				S		
						S		
						—		
						S		
		4				S		
						S		
		5				S		
		CC				S		



SITE 859 HOLE B CORE 30R CORED 389.2 - 398.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 5 6 CC	upper Pliocene			S S S S S S S S S S S M	5GY 2/1	CLAYSTONE TO SILTY CLAYSTONE Major Lithology: This core consists of greenish black (5GY 2/1) CLAYSTONE to SILTY CLAYSTONE. General Description: This core alternates between intervals of massive soft clay with claystone fragments, and highly fractured claystone with two sets of fracture cleavage that are sub-perpendicular to each other. A single wispy bed of dark clay occurs at Section CC, 5 cm.

859B-31R NO RECOVERY



SITE 859 HOLE B CORE 32R CORED 408.6 - 418.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color
0.5		1	upper Pliocene			S	5Y 4/1 To 5G 2/1
1.0		2				S	
		CC				W S S M S	

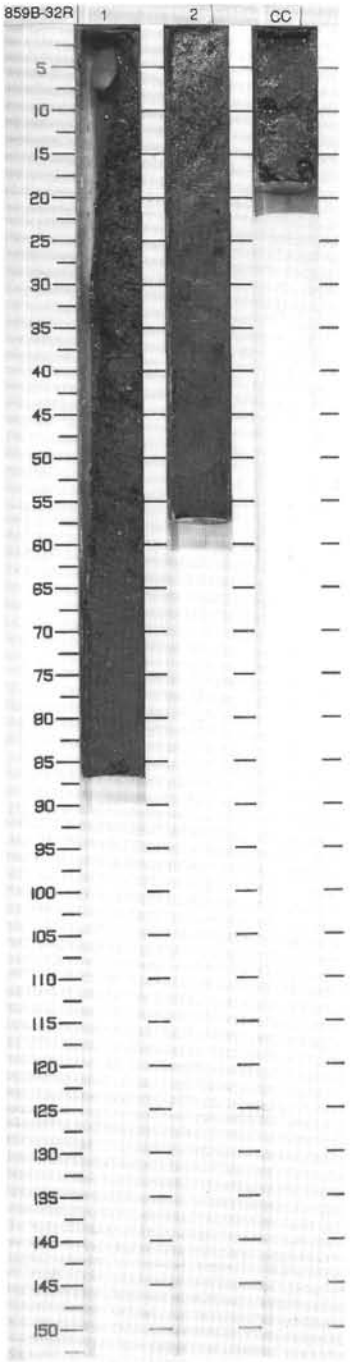
Description

SILTY CLAYSTONE TO CLAYEY SILTSTONE

Major Lithology:
The upper part of this core (to approximately Section 1, 100 cm) is composed of olive gray (5Y 4/1) to greenish black (5GY 2/1) SILTY CLAYSTONE. The lower part is composed of interbedded olive gray (5Y 4/1) to greenish black (5GY 2/1) SILTY CLAYSTONE and olive gray (5GY 4/1) CLAYEY SILTSTONE.

Minor Lithologies:
The lower part of the core has interbeds of olive gray (5Y 4/1) CLAYEY SILTSTONE that are 1-5 cm thick.

General Description:
Layering is highly disturbed, and thicknesses vary considerably across the core. The more brittle intervals of claystone have both east-dipping and west-dipping sets of fracture cleavage. In Sections 2 and CC, wispy dark clay layers exhibit variable orientation and undulatory contacts between clayey and silty intervals.



SITE 859 HOLE B CORE 33R CORED 418.3 - 427.9 mbsf

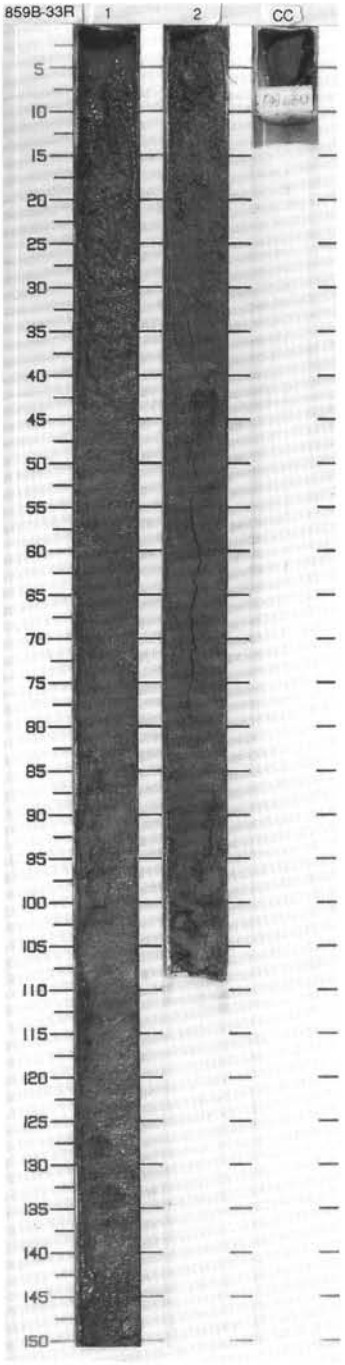
Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color
0.5		1	upper Pliocene			S	N 4 to 5G 4/1
1.0						S	
		2				S S S S M	N 4

SILTY CLAYSTONE

Major Lithology:
The upper part of the core is composed of mottled medium dark gray (N4) to greenish black (5G 2/1) SILTY CLAYSTONE.The lower part of the core consists of this lithology interbedded with the minor lithologies.

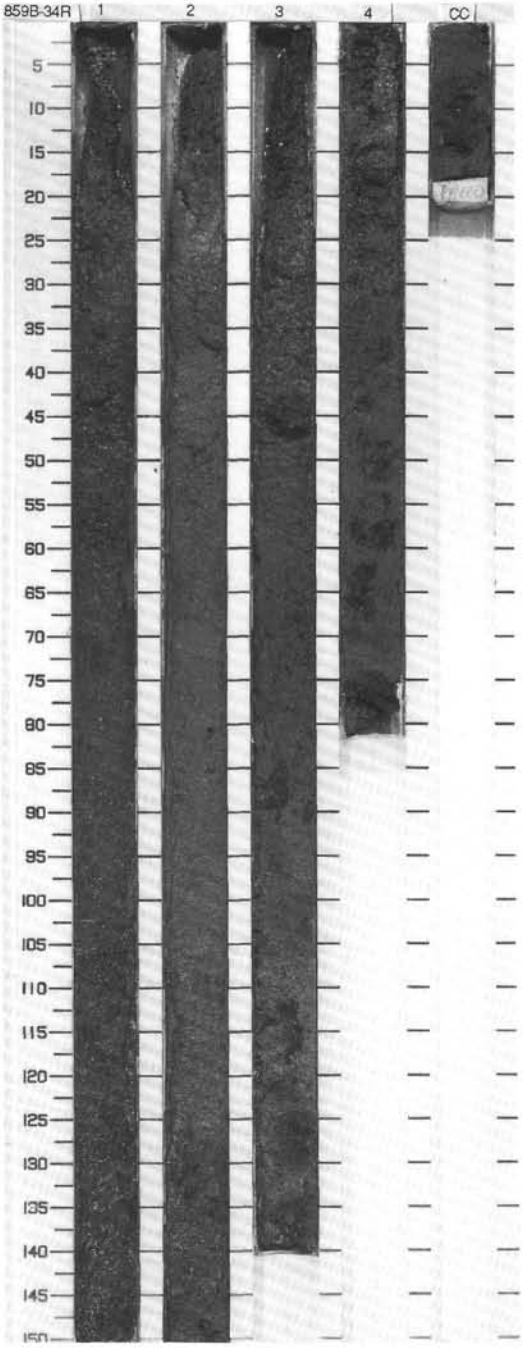
Minor Lithologies:
Sections 2 and CC consist of the dominant lithology interbedded to interlaminated with light medium gray (N3) coarse SILTSTONE TO CLAYEY SILTSTONE.

General Description:
The claystone has at least two sets of fracture clavage sub-perpendicular to each other. In Section 2, 15 cm to 90 cm, silty fragments in clayey matrix exhibit layer-parallel extension and pull-aparts along discontinuous normal microfaults. The silty layer or bed at Section 2, 58-68 cm is characterized by deformation bands consisting of dark seams 0.5-1 mm thick spaced 5-10 mm apart. The upper and lower boundaries of this layer dip towards each other, defining a phacoidal shape.



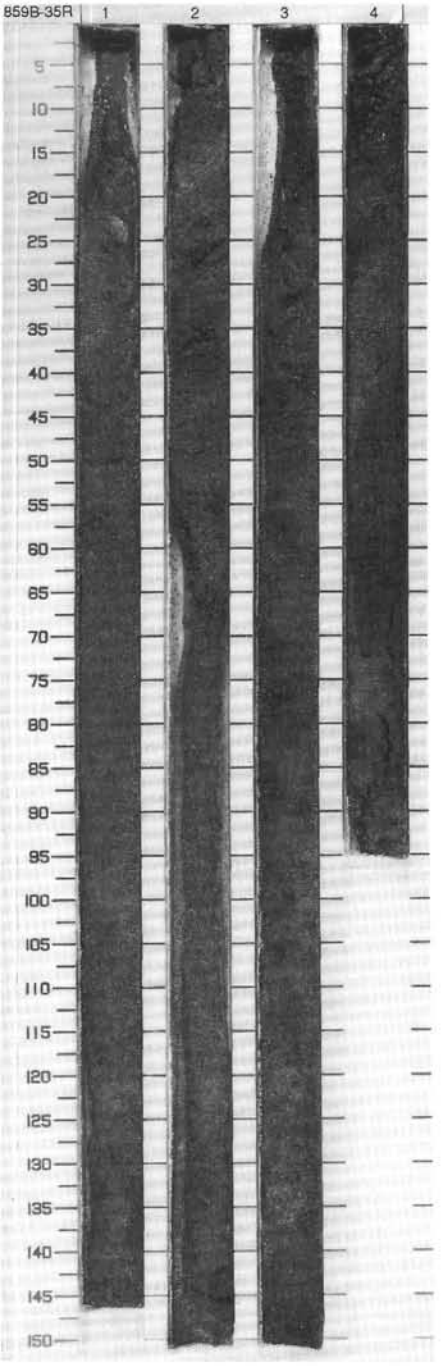
SITE 859 HOLE B CORE 34R CORED 427.9 - 437.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1	upper Pliocene	◇		S	5Y 2/1	SILTY CLAYSTONE TO CLAYEY SILTSTONE Major Lithology: Core consists of olive black (5Y 2/1) SILTY CLAYSTONE to dark gray (N3) CLAYEY SILTSTONE. Poorly defined layering is present in Section 4, 15 cm.
		2				S	N3	
		3		⋋			5Y 2/1	Minor Lithology: The lower part of Section 4 consists of mottled dark gray (N3) SILTY CLAYSTONE to olive black (5Y 2/1) CLAYSTONE. A single fragment of micritic limestone (1 by 2 cm) occurs in Section 1, 2-4 cm.
		4		⋋ ⋋		I S S	5Y 2/1 To N3	General Description: Although most of the core consists of highly fractured drilling breccia, some semi-coherent intervals occur in Section 3, 42-49 cm and Section 4, 25-70 cm. These exhibit systematic microfractures and web structure (calcite-filled veinlets along fractures).
		CC				M		



SITE 859 HOLE B CORE 35R CORED 437.6 - 447.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 3 4 CC	upper Pliocene			S S I S M	5Y 2/1	SILTY CLAYSTONE Major Lithology: Core consists of olive black (5Y 2/1) SILTY CLAYSTONE. Minor Lithology: An interval of olive black (5Y 2/1) SILTSTONE occurs from 0-10 cm in Section 4. General Description: The core consists of drill cuttings with isolated semi-coherent zones in the following intervals: Section 2, 35-43 cm; Section 3, 40-45 cm and 75-78 cm; and Section 4, 0-10 cm. No structures are preserved.

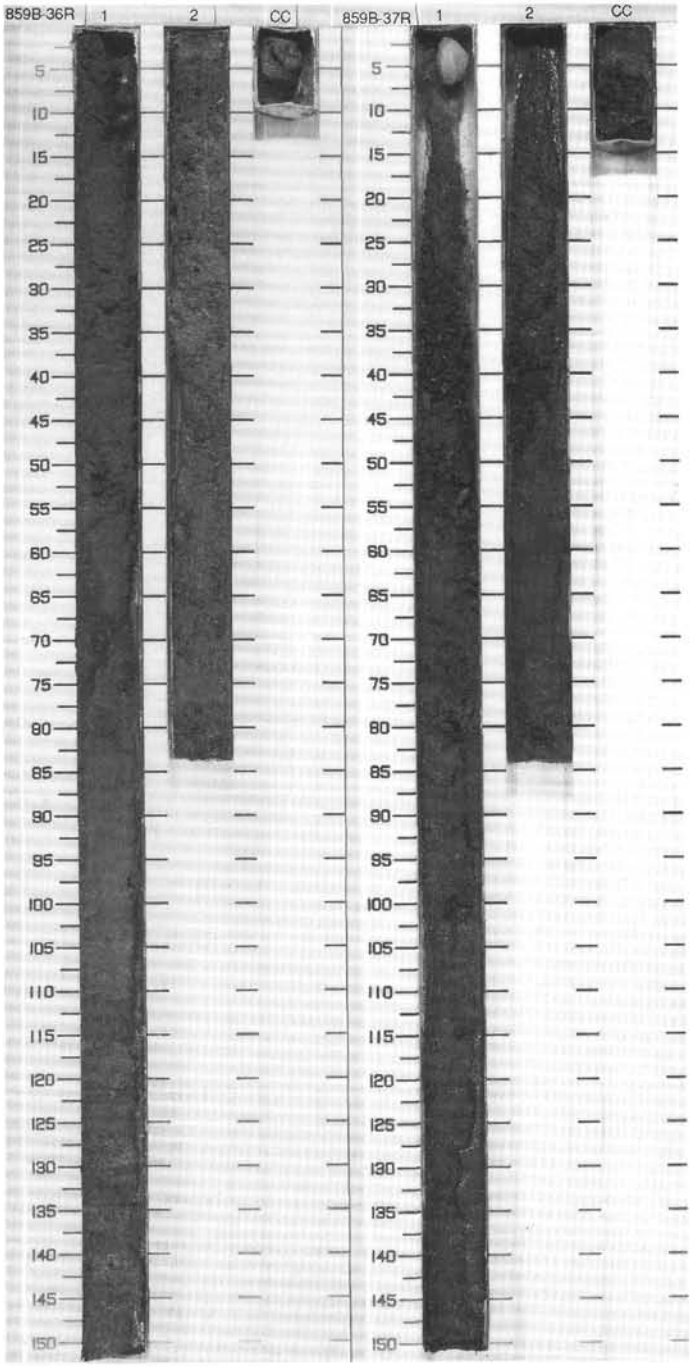


SITE 859 HOLE B CORE 36R CORED 447.1 - 456.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 CC	upper Pliocene			S S M	5Y 2/1	SILTY CLAYSTONE and MICRITIC SILTY CLAYSTONE Major Lithologies: Section 1 consists of olive black (5Y 2/1) SILTY CLAYSTONE, and Section 2 consists of olive black (5Y 2/1) MICRITIC SILTY CLAYSTONE. Amount of carbonate in cuttings increases down core, with a significant change at the boundary between Sections 1 and 2. General Description: The core is structureless and consists entirely of drill cuttings.

SITE 859 HOLE B CORE 37R CORED 456.7 - 466.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5 1.0		1 2 CC	upper Pliocene	◇		S S M	N3	CLAYSTONE Major Lithology: The core consists of dark gray (N3) CLAYSTONE. Minor Lithology: A thin interbed of CLAYEY SILT with sharp lower and gradational upper contacts occurs in Section CC, 2-4 cm. General Description: Silt grains are partially coated with thin rims of recrystallized clay. A fragment (2 by 4 cm) of micritic limestone with foraminifers and pyrite concretions occurs at the top of Section1.



SITE 859 HOLE B CORE 38R CORED 466.4 - 476.1 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
0.5		1	upper Pliocene	◇		S	5Y 2/1	SILTY CLAYSTONE and SANDY SILTY CLAYSTONE Major Lithologies: The core predominantly consists of olive black (5Y 2/1) SILTY CLAYSTONE (Section 1, 5-150 cm) and SANDY SILTY CLAYSTONE (Section 2, 15-90 cm).
1.0		2				I W S		
		CC		=		S M S		Minor Lithologies: The base of the core (Section CC, 10-15 cm) consists of interlaminated, olive black (5Y 2/1) SILTY SAND, CLAYEY SILT, and SILTY CLAY. A 3 cm fragment of dark greenish gray (5GY 4/1) foram-bearing micrite occurs at the top of Section 1. General Description: The core consists of drilling breccia, except for a relatively undisturbed semi-lithified zone in Section CC, 10-15 cm.