SITE 761 HOLE A CORE 1H CORED INTERVAL 0.0-9.92 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
QUATERNARY	A/G N22 - N23	A/G NN21	MIDDLE - UPPER QUATERNARY						1	0.5				*
										1.0				*
									2					*
														*
									3					*
									4					*
									5					*
									6					
									7					

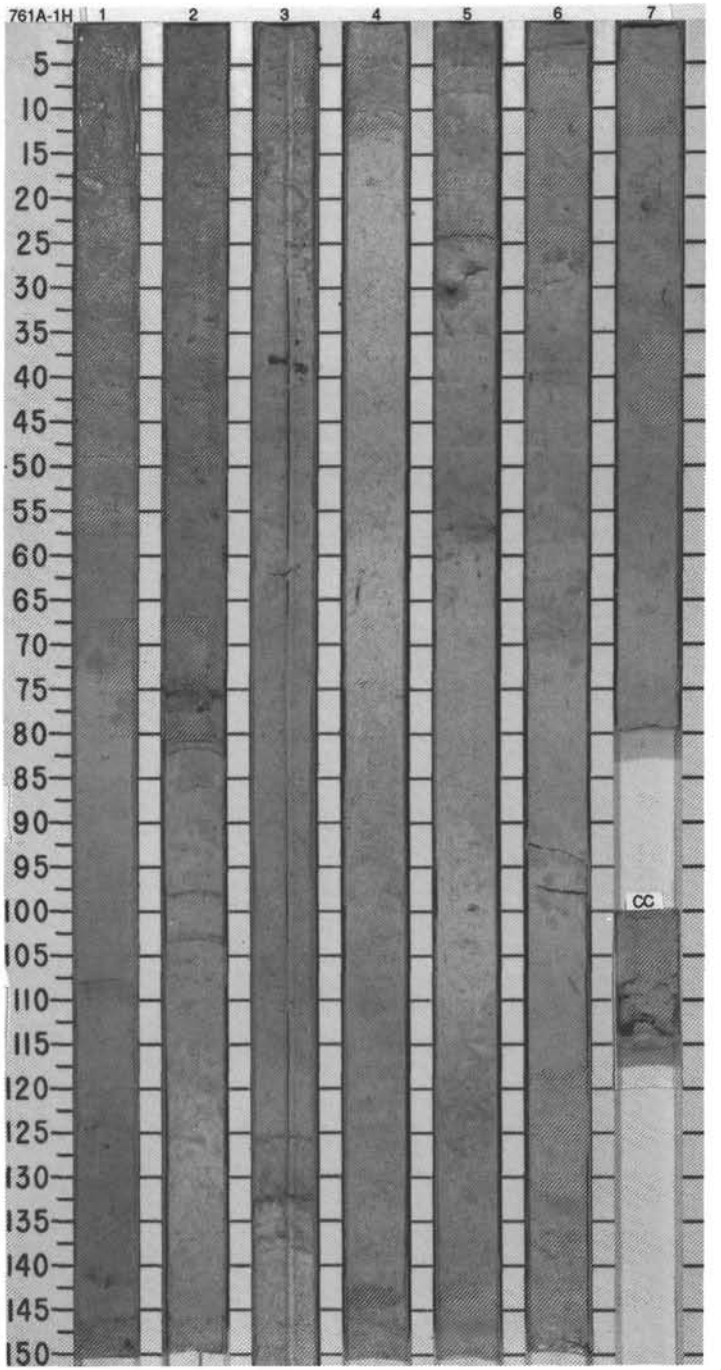
LITHOLOGIC DESCRIPTION

FORAMINIFER NANNOFOSSIL OOZE

Major lithology: FORAMINIFER NANNOFOSSIL OOZE with cyclic color changes. Pink (5YR 8/3) dominant color, Section 1, 0-108 cm; very pale brown (10YR 7/3) Section 1, 108-150 cm, interlayered with light gray (2.5Y 7/2) bands, 1-3 cm thick. Light gray (5Y 7/1) or white (10YR 8/2, 10YR 8/1, or 5Y 8/1) Sections 2 and 3; Sections 4 through CC also include pale green (5G 7/2, 6/1) to dark greenish gray (10Y 5/2) color bands (5-10 cm thick), typically interlayered with gray (N 6/0) and minor light greenish gray (10Y 7/2) color bands. Weak to moderate bioturbation, Section 5, 120-130 cm, Section 6, 0 to Section 7, 80 cm.

SMEAR SLIDE SUMMARY (%):

	1, 83 D	1, 126 D	1, 141 M	2, 50 D	2, 103 M	4, 7 D	5, 58 D
TEXTURE:							
Sand	—	—	—	—	10	—	15
Silt	—	—	—	—	10	—	15
Clay	—	—	—	—	80	—	70
COMPOSITION:							
Calcispheres	—	—	—	—	—	1	—
Carbonate	—	—	—	—	3	1	Tr
Clay	—	—	—	—	1	—	—
Fish	—	—	—	—	Tr	—	1
Foraminifers	25	35	30	25	35	25	25
Mica	—	—	—	—	—	—	—
Nannofossils	75	60	62	75	60	70	67
Radiolarians	—	—	—	—	—	1	4
Silicoflagellates	—	—	3	—	—	1	1
Spicules	—	5	5	—	Tr	1	1



SITE 761 HOLE B CORE 1H CORED INTERVAL 0-4.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
QUATERNARY	N22 - N23	NN20	B. invaginata / C. tuberosa			Brunhes Chronozone	● Φ=72.4 ρ=1.49 V=1.66	● $CaCO_3$=83.3% TOC=0.04%	1	0.5, 1.0				*
UPPER QUATERNARY			UPPER QUATERNARY				V=1.566 ● Φ=69.8 ρ=1.55	● $CaCO_3$=82.8%	2					* * IW
	A/G		A/G		Barren				3					*
									CC					

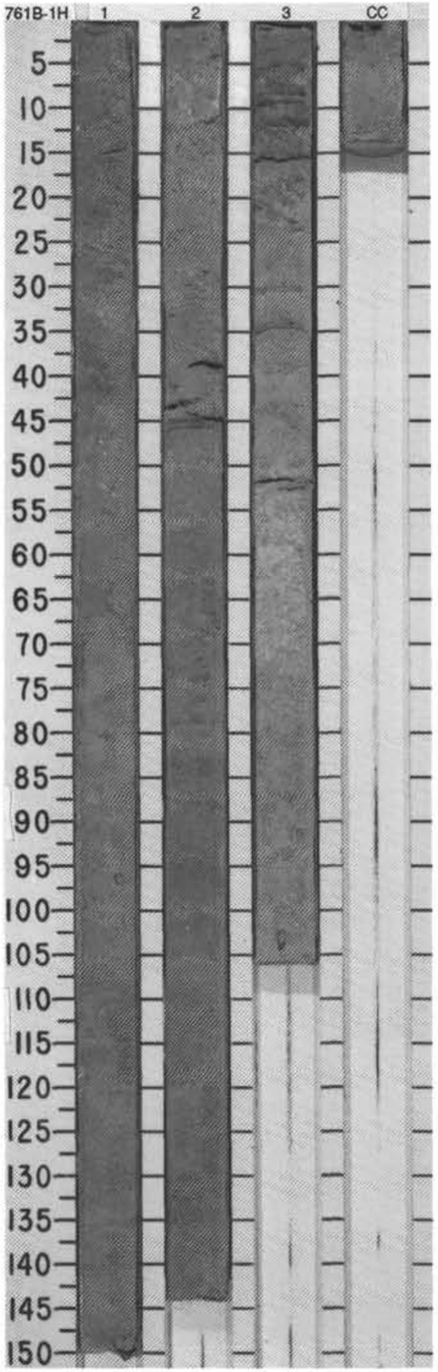
LITHOLOGIC DESCRIPTION

FORAMINIFER NANNOFOSSIL OOZE

Major lithology: FORAMINIFER NANNOFOSSIL OOZE with cyclic color changes. Section 1, 0 cm to Section 2, 0-44 cm, pink (5YR 8/3-8/4) and moderately bioturbated. Section 2, 44 cm to Section 3, 35 cm, cyclic color changes from light greenish gray (10Y 6/4) to gray (5Y 6/1) or light gray (5Y 7/2). Below Section 3, 35 cm, white (5Y 8/1) and light gray (5Y 7/2) color bands, about 20 cm thick are interlayered and moderately bioturbated.

SMEAR SLIDE SUMMARY (%):

	1, 80 D	2, 46 M	2, 112 D	3, 53 D
COMPOSITION:				
Clay	—	10	—	—
Diatoms	—	3	—	—
Foraminifers	35	30	25	30
Glass	—	—	—	Tr
Nannofossils	65	50	70	67
Quartz	—	—	Tr	—
Radiolarians	Tr	2	2	Tr
Rock fragment	—	—	Tr	—
Silicoflagellates	—	2	3	—
Spicules	Tr	3	—	3



SITE 761 HOLE B CORE 2H CORED INTERVAL 4.2-13.7 mbsf

TIME-ROCK UNIT: QUATERNARY

BIOSTRAT. ZONE/FOSSIL CHARACTER:
- FORAMINIFERS: A/G
- NANNOFOSSILS: A/G
- RADIOLARIANS: LOWER QUATERNARY *A. ypsilon / A. angulare* Zones | UPPER QUATERNARY *B. invaginata* or *C. tuberosa* Zones
- DIATOMS: Barren
- PALYNOMORPHS:

PALEOMAGNETICS: Brunhes Chronozone

PHYS. PROPERTIES: ●Ø=72.4 V=1.565 ρ=1.58; ●Ø=71.5 V=1.538 ρ=1.52; ●Ø=69.5 V=1.565 ρ=1.56

CHEMISTRY: ● $CaCO_3$=81.5%; ● $CaCO_3$=80.1% TOC=0.09%; ● $CaCO_3$=92.1%

SECTION: 1, 2, 3, 4, 5, 6, 7, CC

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

NANNOFOSSIL OOZE WITH FORAMINIFERS

Major lithology: NANNOFOSSIL OOZE with FORAMINIFERS, structureless or moderately mottled, predominantly light gray (5Y 7/1) to white (5Y 8/1), including cyclical color bands. The cyclic color changes characterized by light greenish-gray (10Y 6/4) bands, 2-10 mm thick, observed within Section 1, 10-15 cm and 136-150 cm, Section 2, 0-38 cm, Section 3, 0-53 cm, Section 4, 0-107 cm, and Section 6, 80-140 cm. Greenish-gray bands are associated with light gray (5Y 7/2) and minor gray (5Y 6/1) bands, 1-15 mm thick. Color band couplets are 15-25 cm thick.

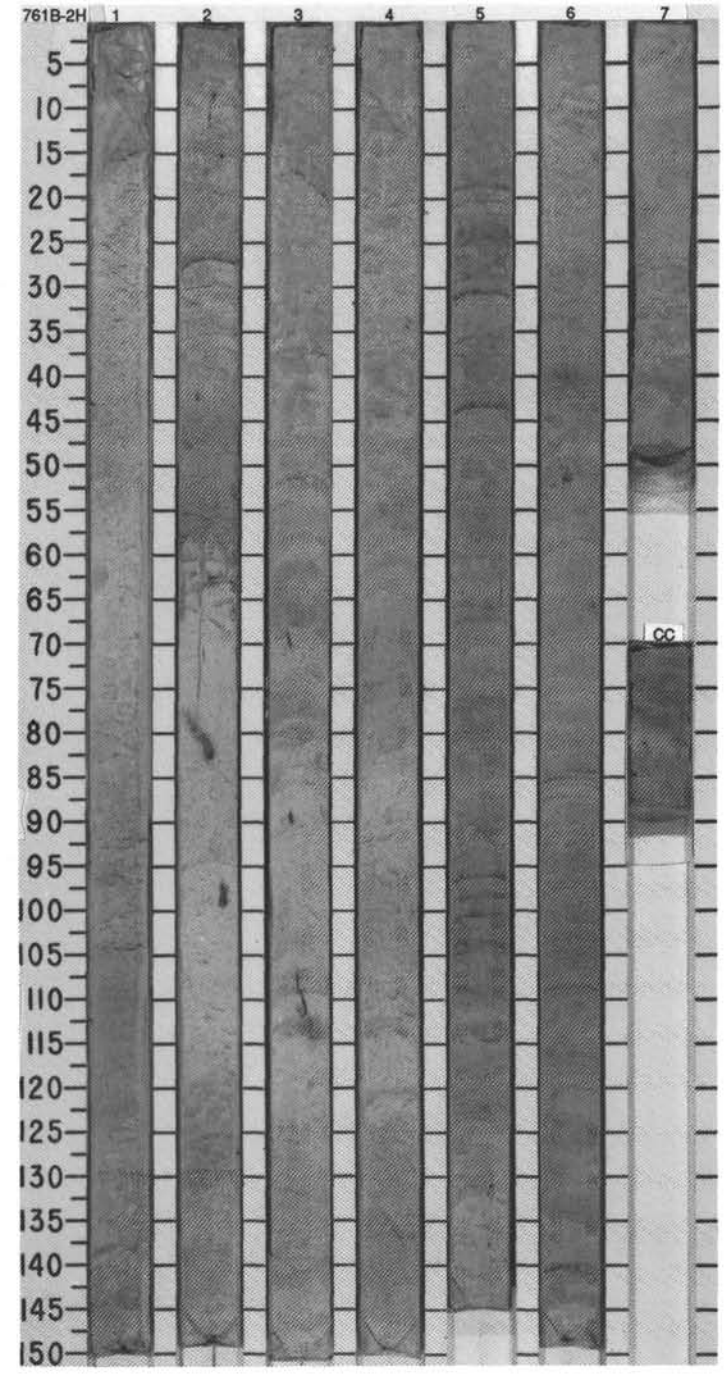
Minor lithologies:.
a. Foraminifer nannofossil ooze is observed in the major lithology, but also shows the cyclic color changes.
b.Foraminifer nannofossil ooze with clay, 1-3 mm thick, dark greenish gray (10Y 5/4) laminae, Section 2, 26 cm; Section 3, 18, 37, and 52 cm, and Section 5, 19, 21, 31, 44, 96, 98, 101, and 104 cm.

SMEAR SLIDE SUMMARY (%):

	1, 42 D	1, 112 D	1, 143 M	2, 26 M	2, 45 D	2, 87 D	2, 128 M
COMPOSITION:							
Clay	—	7	—	15	—	—	—
Foraminifers	15	35	20	25	20	15	30
Nannofossils	85	58	78	60	80	85	70
Quartz	—	—	Tr	—	Tr	Tr	—
Spicules	Tr	Tr	—	Tr	—	Tr	Tr
Zeolite	—	—	2	—	—	—	—

SMEAR SLIDE SUMMARY (%):

	4, 100 D	5, 23 D	5, 140 D	6, 70 D	6, 99 D	7, 38 D
COMPOSITION:						
Fish	Tr	—	—	—	—	—
Foraminifers	16	19	19	30	17	20
Glass	Tr	Tr	—	Tr	Tr	—
Nannofossils	81	78	74	63	80	76
Radiolarians	—	—	2	—	—	2
Silicoflagellates	Tr	—	Tr	5	—	Tr
Spicules	3	3	5	2	3	2



SITE 761 HOLE B CORE 3H CORED INTERVAL 13.7-23.2 mbsf

TIME-ROCK UNIT: QUATERNARY

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS: A/G; NANNOFOSSILS: N22, NN19-NN21, A/G; RADIOLARIANS: Barren; DIATOMS: LOWER QUATERNARY- *A. ypsilon* / *A. angulare* Zones; PALYNOMORPHS: Barren

(Jaramillo Subchronozone) — (Brunhes Chronozone)

Matuyama Chronozone — Matuyama Chronozone

PALEOMAGNETICS: V-1.528 Ø-72.3 ● P-1.54; V-1.53 ● Ø-70.3 P-1.56; V-1.558 Ø-69.9 P-1.59

PHYS. PROPERTIES

CHEMISTRY: $CaCO_3$=79.9%●TOC=0.01%; ●$CaCO_3$=77.5%; TOC=78.8%

SECTION: 1, 2, 3, 4, 5, 6, 7, CC

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: OG

LITHOLOGIC DESCRIPTION

NANNOFOSSIL OOZE AND NANNOFOSSIL OOZE WITH FORAMINIFERS

Major lithology: NANNOFOSSIL OOZE and NANNOFOSSIL OOZE with FORAMINIFERS, light gray (5Y 7/1), light greenish-gray (10Y 7/1), and white (5Y 8/1) color bands 10-200 cm thick, Section 5, 63-73 cm, white (10YR 8/2). Light gray to light greenish-gray bands, Section 1, 0-150 cm and Section 3, 0-128 cm. Light gray and white bands, 15-100 cm thick, alternate from Section 3, 128 cm to Section CC, 18 cm.

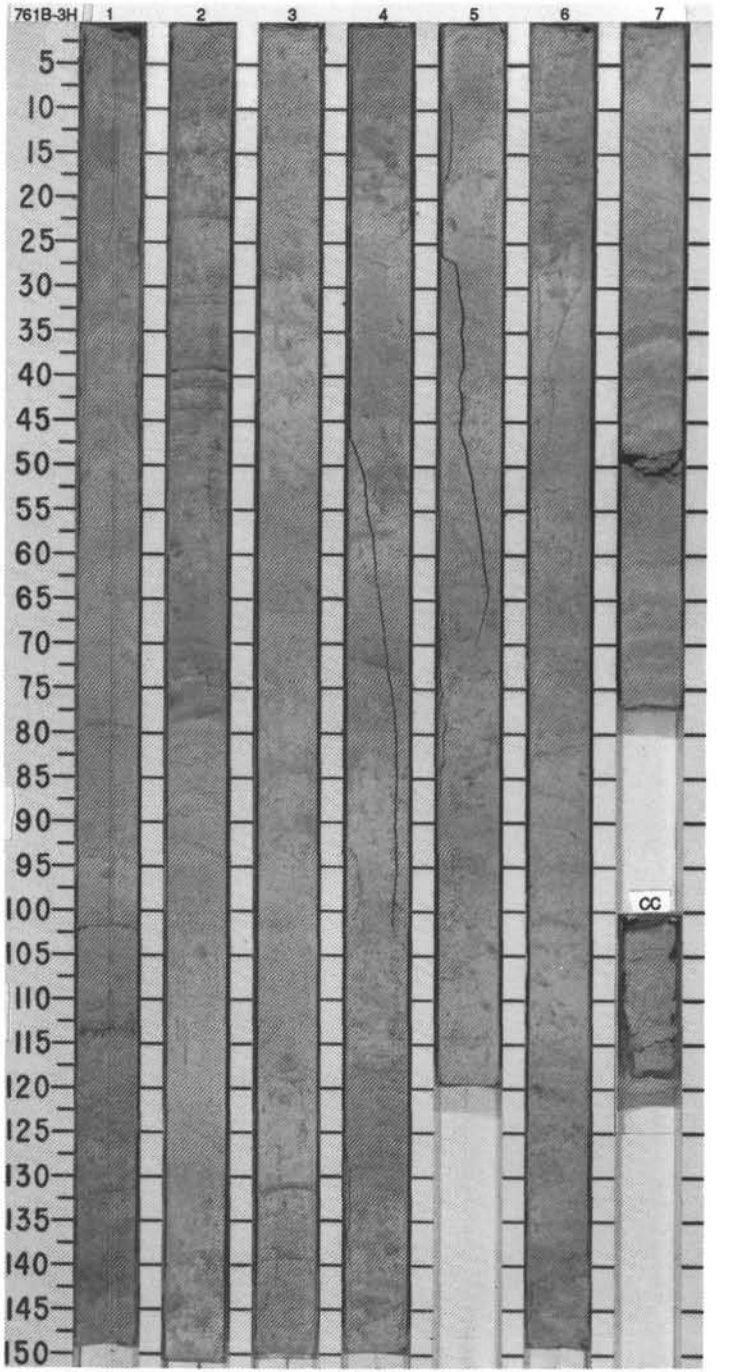
Minor lithology: Foraminifer nannofossil ooze, white (10YR 8/2) band at Section 5, 63-73 cm. Contacts between foraminifer nannofossil ooze, and nannofossil ooze with foraminifers or nannofossil ooze are gradational.

SMEAR SLIDE SUMMARY (%):

	1, 65 D	1, 101 M	2, 64 D	2, 114 D	3, 72 D	4, 127 D	5, 69 D
COMPOSITION:							
Bioclast	5	—	4	3	3	4	7
Feldspar	Tr	—	—	—	—	—	—
Foraminifers	10	15	13	5	7	8	40
Mica	Tr	—	1	—	Tr	—	—
Nannofossils	82	82	79	90	88	84	50
Opaques	—	—	1	—	—	—	—
Radiolarians	3	3	2	2	2	2	2
Silicoflagellates	—	—	—	—	—	1	1
Spicules	—	—	—	—	—	1	—

SMEAR SLIDE SUMMARY (%):

	6, 97 D	CC, 9 D
COMPOSITION:		
Bioclast	7	—
Foraminifers	17	12
Mica	—	2
Nannofossils	74	86
Radiolarians	2	—
Silicoflagellates	Tr	—



SITE 761 HOLE B CORE 4H CORED INTERVAL 23.2-32.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER PLIOCENE	A/G	N21												
UPPER MIOCENE	N14-N17	NN8												
MIDDLE MIOCENE	A/G	A/G	Barren		Barren									

PHYS. PROPERTIES: ρ=65.4 γ=1.597 ρ=1.64; ρ=63.3 γ=1.612 ρ=1.73; ρ=65.5 γ=1.564 ρ=1.64

CHEMISTRY: $CaCO_3$=80.3%; $CaCO_3$=87.3 TOC=0.04%; $CaCO_3$=93.3%

SECTION: 1, 2, 3, 4, 5, 6, 7, CC

METERS: 0.5, 1.0

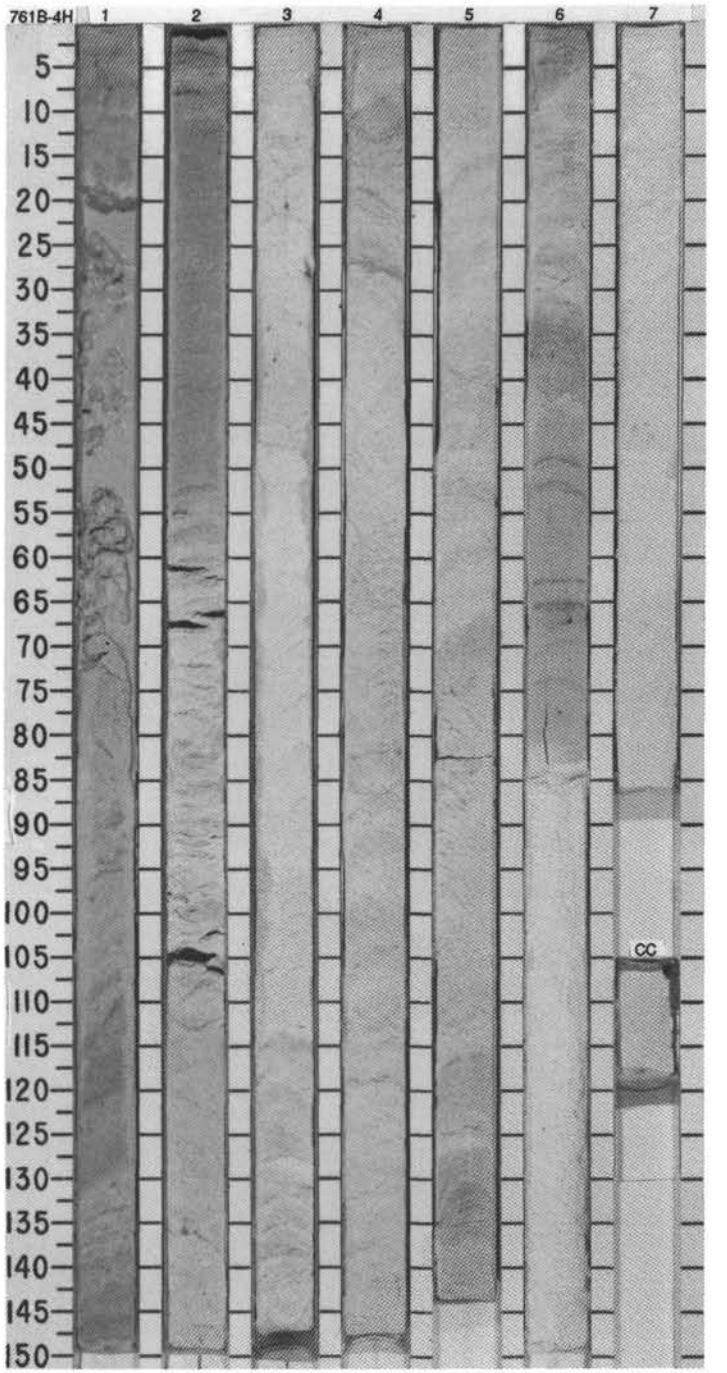
LITHOLOGIC DESCRIPTION

FORAMINIFER NANNOFOSSIL OOZE, NANNOFOSSIL OOZE WITH FORAMINIFERS, AND NANNOFOSSIL OOZE

Major lithology: FORAMINIFER NANNOFOSSIL OOZE, NANNOFOSSIL OOZE with FORAMINIFERS, and NANNOFOSSIL OOZE, color banded, with white (5Y 8/1), light gray (N7 and 5Y 7/1), and light greenish-gray (10Y 7/1). Section 1, 0 to Section 2, 58 cm, is light greenish-gray. Section 3, 114-150 cm, and at Section 6, 0-32 cm, contain alternating white and light gray or light greenish-gray bands, 2-5 cm thick; elsewhere color banded intervals 10-100 cm thick. Section 6, 83 cm, paleontological unconformity, corresponds to a color boundary, light greenish-gray foraminiferal ooze above, and white, homogeneous foraminifer-nannofossil ooze below.

SMEAR SLIDE SUMMARY (%):

	1, 98 D	2, 98 D	3, 79 D	4, 18 D	5, 134 D	6, 68 D	7, 57 D
COMPOSITION:							
Bioclast	8	4	3	3	6	6	6
Clay	—	—	—	—	2	—	5
Foraminifers	20	8	6	5	18	27	37
Mica	Tr	Tr	—	—	2	Tr	—
Nannofossils	69	86	89	91	69	64	50
Quartz	Tr	—	—	—	—	—	—
Radiolarians	3	2	2	1	2	3	2
Spicules	—	—	—	—	1	—	—



SITE 761 HOLE B CORE 5H CORED INTERVAL 32.7-42.2 mbsf

TIME-ROCK UNIT: MIDDLE MIOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER:
- FORAMINIFERS: A/G
- NANNOFOSSILS: A/G
- RADIOLARIANS: Barren
- DIATOMS: Barren
- PALYNOMORPHS:

PALEOMAGNETICS:
- N11
- NN4 - NN5

PHYS. PROPERTIES:
- ρ=62.8 V=1.612 ρ=1.68
- ρ=65.8 V=1.589 ρ=1.72
- ρ=65.8 V=1.612 ρ=1.81

CHEMISTRY:
- $CaCO_3$=88.0%
- $CaCO_3$=84.5% TOC=0.01%
- $CaCO_3$=83.7%

SECTION: 1, 2, 3, 4, 5, 6, 7, CC

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

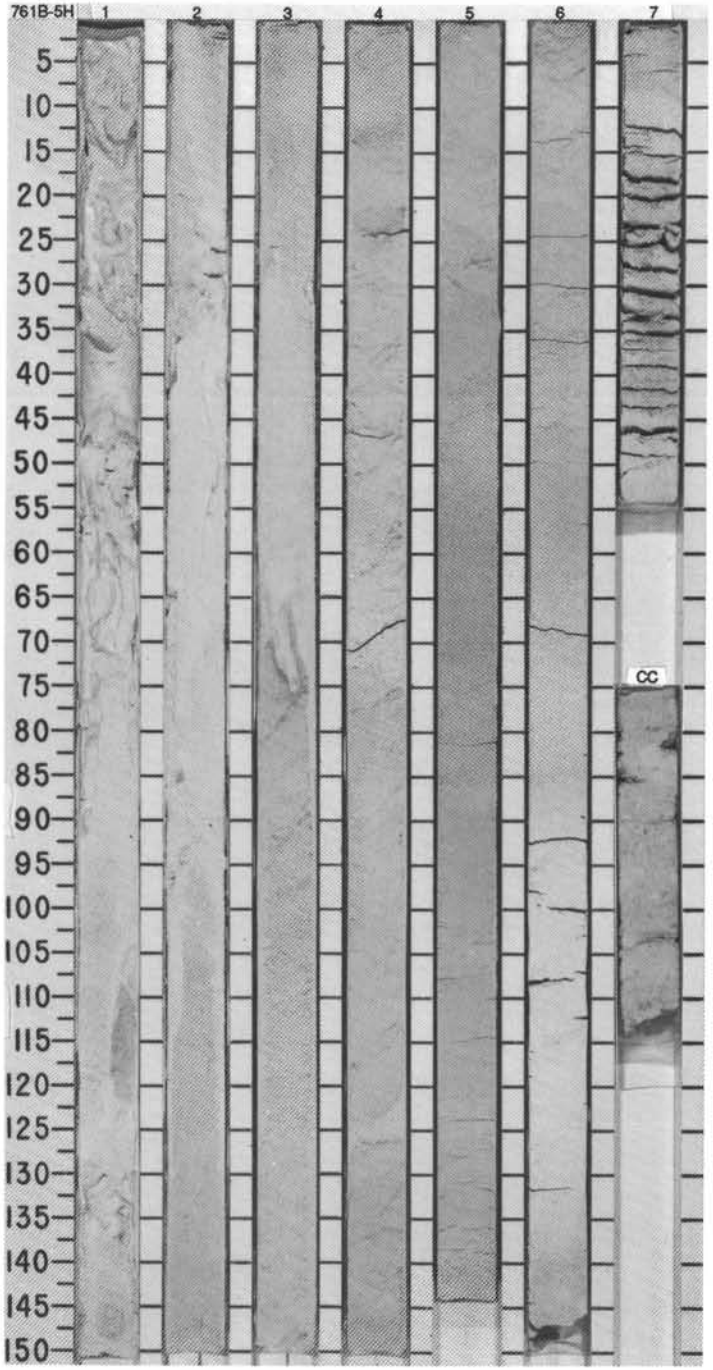
LITHOLOGIC DESCRIPTION

NANNOFOSSIL OOZE WITH FORAMINIFERS

Major lithology: NANNOFOSSIL OOZE with FORAMINIFERS, structureless, greenish white (10Y 8/1, 10Y 8/2, 5Y 8/2, 10 YR 8/2), to very pale brown (10YR 8/3). Core is moderately disturbed.

SMEAR SLIDE SUMMARY (%):

	1, 90 D	2, 90 D	3, 90 D	4, 90 D	5, 90 D	6, 90 D	7, 42 D
COMPOSITION:							
Accessory minerals	—	Tr	Tr	—	—	—	
Clay	—	1	—	—	—	—	—
Foraminifers	20	18	20	20	25	25	15
Inorganic calcite	—	1	1	—	—	—	—
Mica	—	—	—	Tr	Tr	Tr	Tr
Nannofossils	80	80	79	80	75	75	85



SITE 761 HOLE B CORE 6H CORED INTERVAL 42.2-51.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
LOWER MIOCENE / MIDDLE MIOCENE	A/G	A/G	Barren		Barren		●Φ=63.8 P=1.68 V=1.561	●$CaCO_3$=84.5%	1	0.5				*
	N5-N7	NN7								1.0				*
									2					*
							●Φ=59.7 P=1.73 V=1.56	●$CaCO_3$=91.3 TOC=0.02%	3					*
									4					*
							●Φ=60.7 P=1.73 V=1.621	●$CaCO_3$=79.8%	5					*
									6					*
									7					*
									CC					CC

LITHOLOGIC DESCRIPTION

NANNOFOSSIL OOZE WITH FORAMINIFERS

Major lithology: NANNOFOSSIL OOZE with FORAMINIFERS, light gray (2.5Y 7/2, 10YR 7/2), darkening downcore to light brownish gray (10YR 6/2) with white (10YR 8/2) mottles, clay content to 5%. Dark grayish brown (10YR 4/2) and black speckles are clay- and pyrite-rich, in Sections 3, 7, and CC. Core is moderately disturbed.

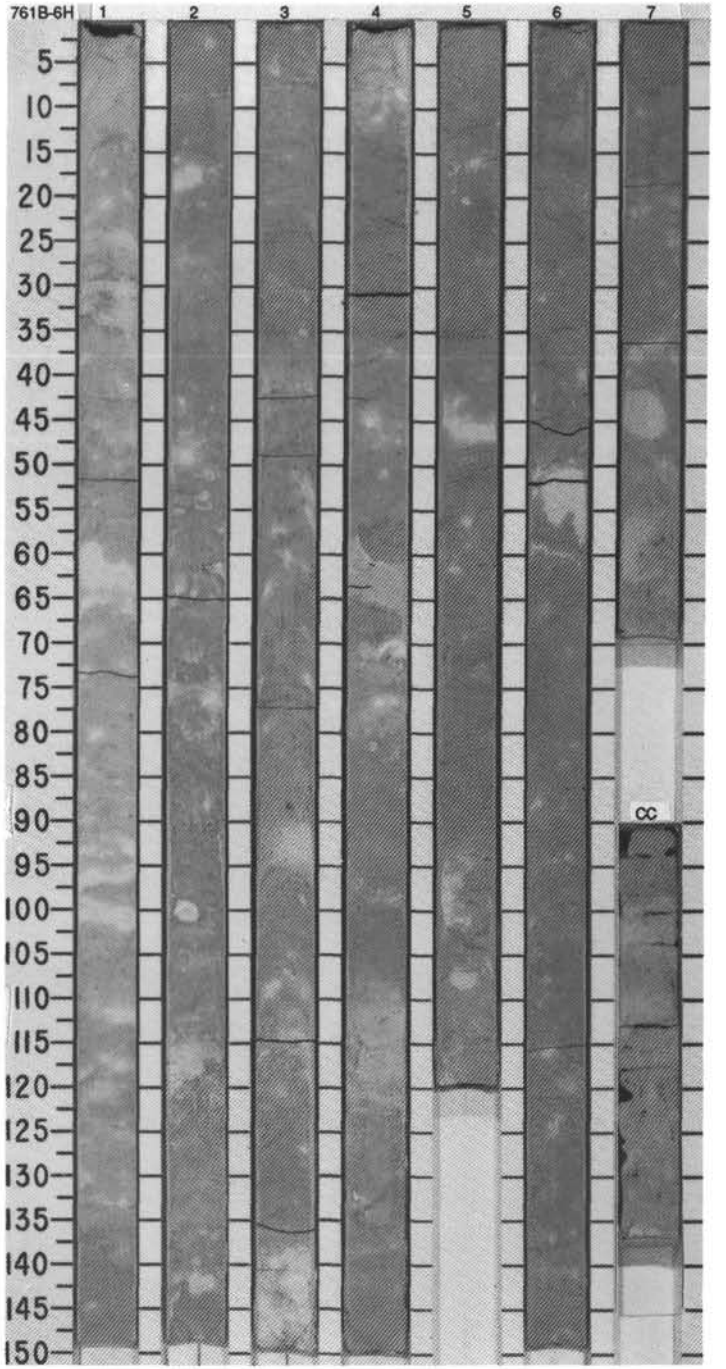
Minor lithology: Foraminifer nannofossil ooze, minor increase in foraminifer abundance, not visibly distinguishable.

SMEAR SLIDE SUMMARY (%):

	1, 61 M	1, 77 D	2, 68 D	2, 117 M	3, 80 D	3, 142 M	5, 61 D
COMPOSITION:							
Clay	5	5	5	5	—	5	—
Dolomite	—	—	—	—	5	Tr	—
Feldspar	Tr	Tr	Tr	Tr	Tr	Tr	—
Foraminifers	30	20	15	20	20	10	25
Nannofossils	65	75	80	75	75	83	75
Spicules	—	—	—	—	Tr	2	—

SMEAR SLIDE SUMMARY (%):

	6, 86 D
COMPOSITION:	
Clay	7
Foraminifers	30
Nannofossils	63



SITE 761 HOLE B CORE 7H CORED INTERVAL 51.7-61.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER OLIGOCENE / LOWER MIOCENE	A/G P22 / N4	A/G NP25	Barren		Barren		●ϕ=58.8 V=1.616 P=1.76 ●ϕ=57.3 V=1.588 P=1.78 ●ϕ=59.8 V=1.601 P=1.80	●$CaCO_3$=86.1% TOC=0.01% ●$CaCO_3$=78.8%	1 2 3 4 5 6 7 CC	0.5 1.0	VOID			* * *

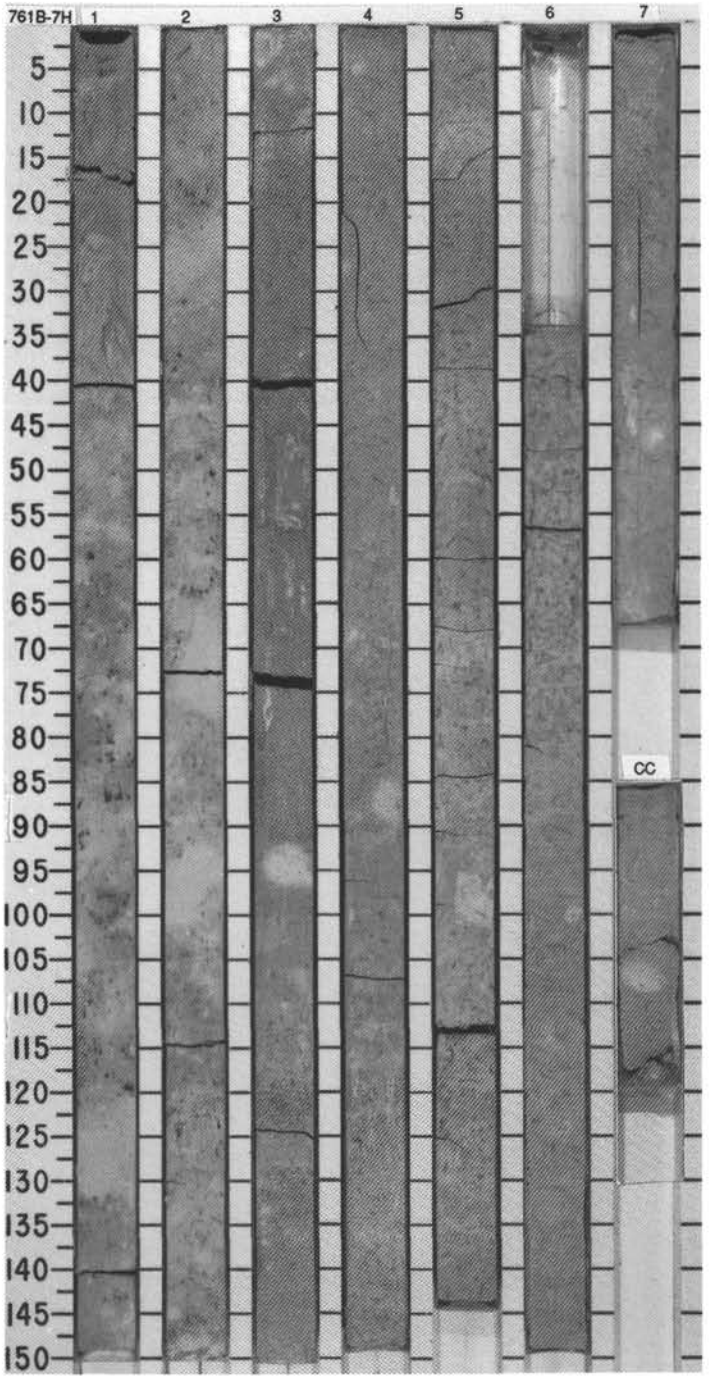
LITHOLOGIC DESCRIPTION

NANNOFOSSIL OOZE WITH FORAMINIFERS TO NANNOFOSSIL OOZE

Major lithologies:
NANNOFOSSIL OOZE with FORAMINIFERS to NANNOFOSSIL OOZE, color-banded very pale brown (10YR 7/3, 10YR 7/4, 10YR 8/4, and 10YR 8/3) and light yellowish-brown (10YR 6/4), with small (< 5 mm diameter), ubiquitous dark brown (10YR 3/3) flecks that penetrate approximately 5 mm into the core. Color bands, faintly to moderately developed, and generally disturbed by drilling; minor mottling occurs, and may be related to drilling disturbance. Color bands Section 1, 0 cm to Section 2, 102 cm, 10-80 cm thick. Section 2, 102 cm to Section 5, 20 cm, light yellowish-brown (10YR 6/4). Section 5, 20-63 cm, very faint color bands (10YR 7/4) and 10YR 6/4). Section 5, 63 cm through CC, homogeneous light yellowish-brown (10YR 6/4), with dark brown flecks.

SMEAR SLIDE SUMMARY (%):

	1, 57 D	3, 94 D	5, 52 D	6, 83 D
COMPOSITION:				
Clay	5	—	2	—
Fish	Tr	—	—	—
Foraminifers	15	20	2	10
Mica	Tr	Tr	Tr	Tr
Nannofossils	80	80	94	90
Quartz	Tr	Tr	—	—
Spicules	Tr	Tr	2	—



SITE 761 HOLE B CORE 8H CORED INTERVAL 61.2-70.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER OLIGOCENE / MIDDLE EOCENE	A/G	P21 / P11-P12	A/G	NP16	MIDDLE EOCENE *T. cryptocephala - P. ampla*	Barren								

PHYS. PROPERTIES: V=1.528 ●0-60.8% P=1.72; V=1.528 ●0-60.2 P=1.76; V=1.550 ●0-64.4 P=2.03; V=1.554 ●0-60.5 P=1.80; V=1.53 ●0-59.4 P=1.77

CHEMISTRY: ●$CaCO_3$=88.0%; $CaCO_3$=91.2%●TOC=0.01%; ●$CaCO_3$=93.2%

SECTION: 1, 2, 3, 4, 5, 6, 7, CC

METERS: 0.5, 1.0

LITHOLOGIC DESCRIPTION

NANNOFOSSIL OOZE WITH FORAMINIFERS AND NANNOFOSSIL OOZE

Major lithology: NANNOFOSSIL OOZE with FORAMINIFERS, very pale brown (10YR 7/3), Section 1, 0-138 cm, homogeneous to slightly bioturbated, nearly 20% foraminifers. NANNOFOSSIL OOZE with FORAMINIFERS and NANNOFOSSIL OOZE, Section 1, 138 cm to Section 5, 0 cm, white (10YR 8/2), homogeneous to moderately bioturbated, 7% to 13% foraminifers. Minor clay (<5%), and a few pale shadowed zones (due to diffuse opaque clay-size minerals such as pyrite) also present. This NANNOFOSSIL OOZE, light gray (2.5Y 7/4), shadowed and mottled by bioturbation, foraminifers <5%, Section 6, 8 cm through CC.

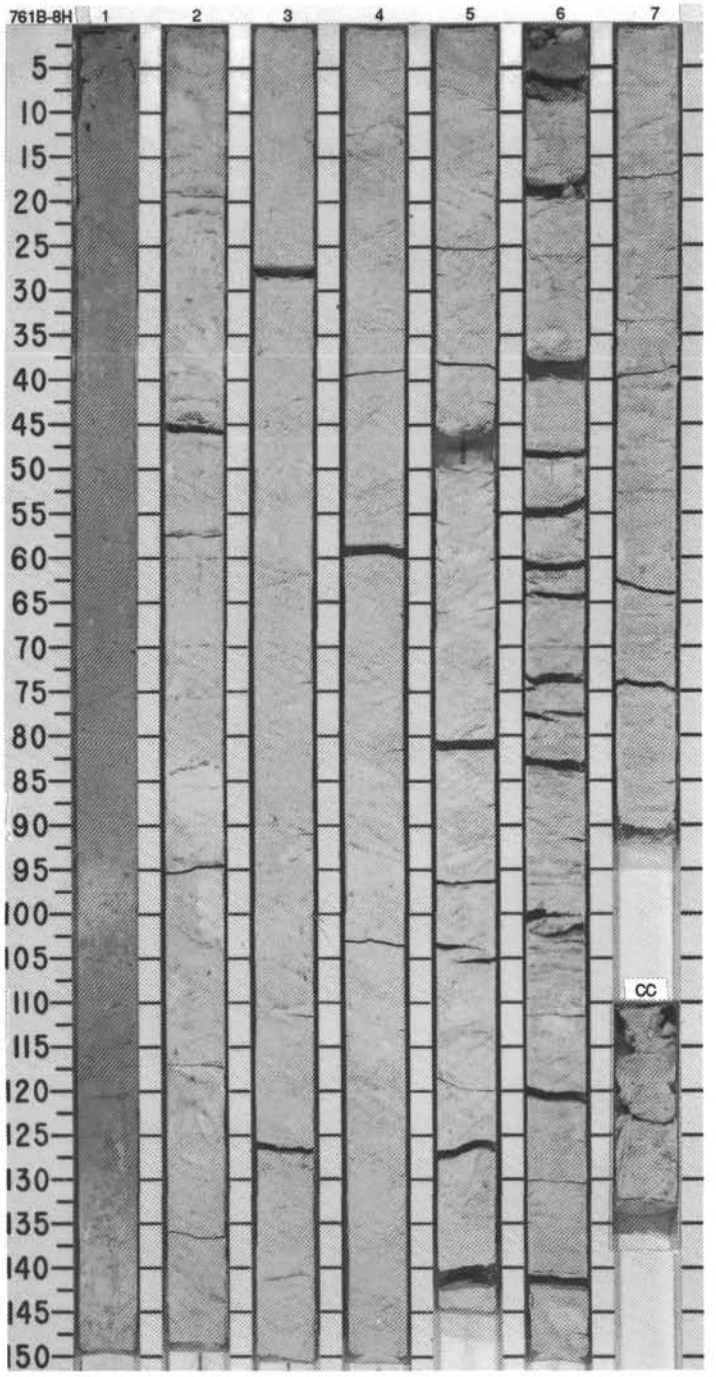
Minor lithology: Clayey nannofossil ooze, very pale brown (10YR 7/4), Section 6, 2-10 cm, interbedded, 40% clay.

SMEAR SLIDE SUMMARY (%):

	1, 70 D	2, 74 D	3, 99 D	4, 65 D	5, 60 D	6, 4 M	6, 58 D
COMPOSITION:							
Accessory minerals	—	—	—	—	—	1	—
Bioclast	5	2	1	2	—	—	—
Clay	4	—	3	2	5	40	5
Feldspar	—	—	—	Tr	Tr	Tr	Tr
Foraminifers	18	12	7	13	10	3	3
Mica	3	Tr	—	Tr	—	—	—
Nannofossils	70	86	89	83	85	55	92
Quartz	Tr	—	—	—	—	—	—
Radiolarians	Tr	Tr	Tr	—	—	—	—
Zircon	—	—	Tr	—	—	—	—

SMEAR SLIDE SUMMARY (%):

	7, 60 D
COMPOSITION:	
Clay	5
Feldspar	Tr
Foraminifers	5
Nannofossils	90



SITE 761 HOLE B CORE 9H CORED INTERVAL 70.7-80.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
MIDDLE EOCENE	A/G	A/M-G	Barren		Barren		●68.5 ρ=1.533 ●68.83 V=1.533	●CaCO3=91.8%	1	0.5 1.0				*
	P12	NN15-NN16					●57.6 ρ=1.572 ●57.78 V=1.572		2					
									3					*
									4					
									5					*
							●60.3 ρ=1.557 ●60.81 V=1.557		6					OC
									7					
									CC					

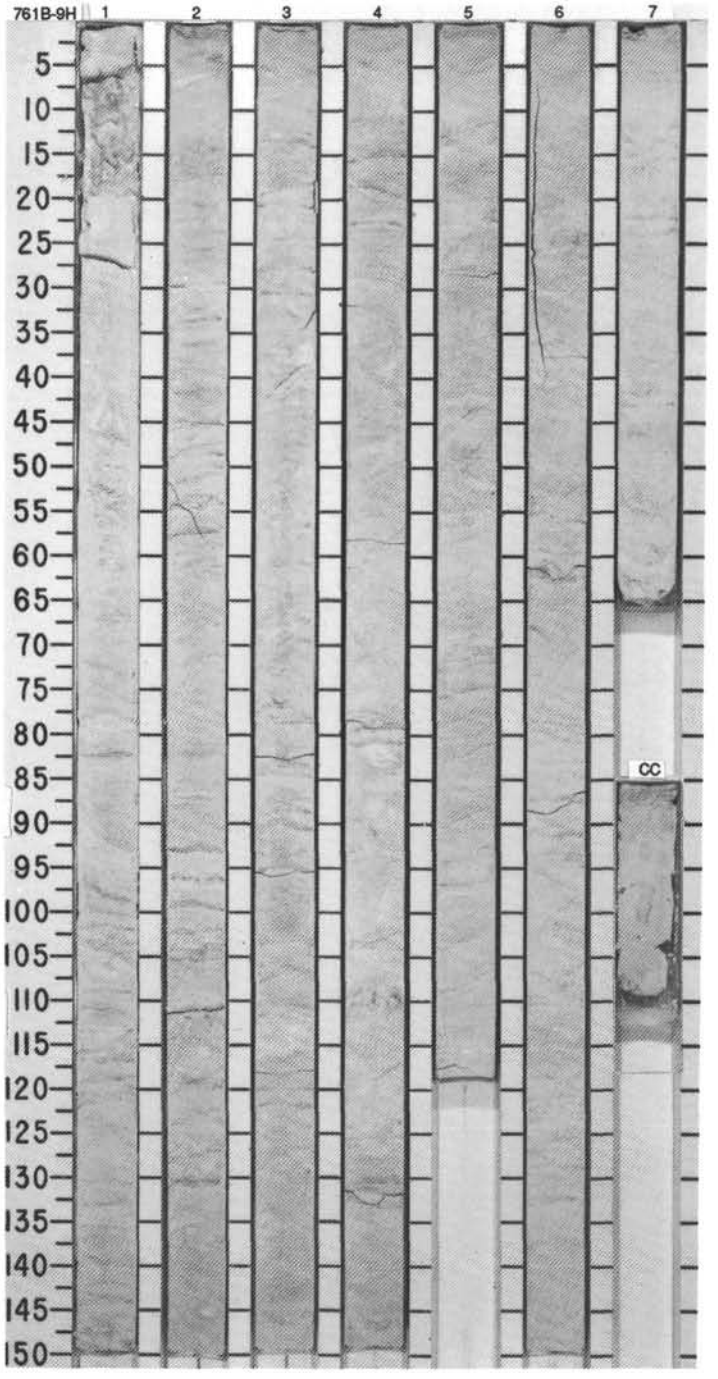
LITHOLOGIC DESCRIPTION

NANNOFOSSIL OOZE

Major lithology: NANNOFOSSIL OOZE, soft to firm, white (10YR 8/2), bioturbated, Sections 2 and 3, minor laminations. Core is slightly disturbed by drilling.

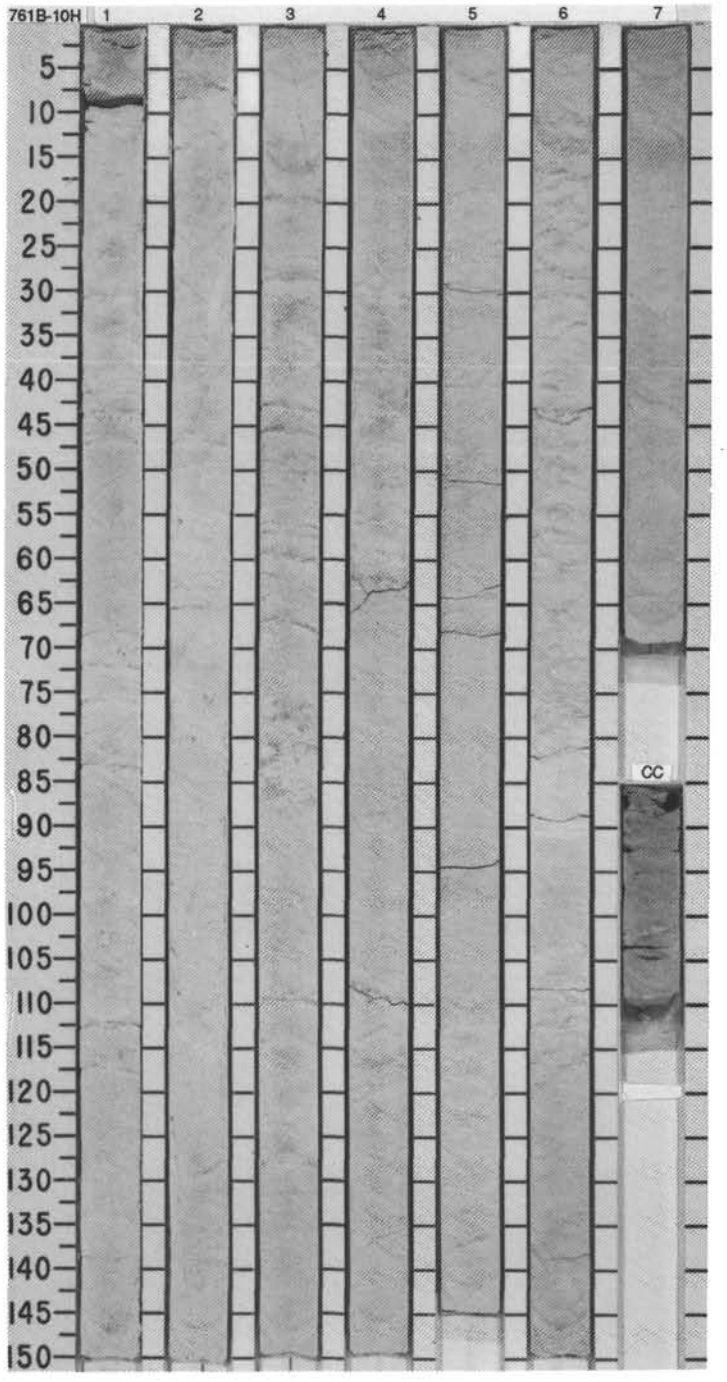
SMEAR SLIDE SUMMARY (%):

	1, 73 D	3, 99 D	5, 52 D
COMPOSITION:			
Nannofossils	100	100	100



SITE 761 HOLE B CORE 10H CORED INTERVAL 80.2-89.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
MIDDLE EOCENE	A/G	P9-P10							1	0.5				*	NANNOFOSSIL OOZE
	A/M	NP15								1.0					Major lithology: NANNOFOSSIL OOZE, white (10YR 8/2), becomming pale brown (10YR 8/3), Section 7 and CC. Structureless, except for bioturbation (middle of Sections 2 and 3).
	Barren								2				≈		SMEAR SLIDE SUMMARY (%):
							● GRA=61.8 ρ=2.75 V=1.556	● $CaCO_3$=91.0%							1, 70 D; 3, 50 D; 7, 20 D
									3				≈	*	COMPOSITION:
													≈		Accessory minerals — — —
									4				≈		Clay 7 — —
													≈		Foraminifers 3 5 5
									5				≈		Nannofossils 90 95 95
							● GRA=68.9 ρ=2.14 V=1.756	● $CaCO_3$=88.8% TOC=0.01%							
									6				≈	TW	
									7				≈	*	
									CC						

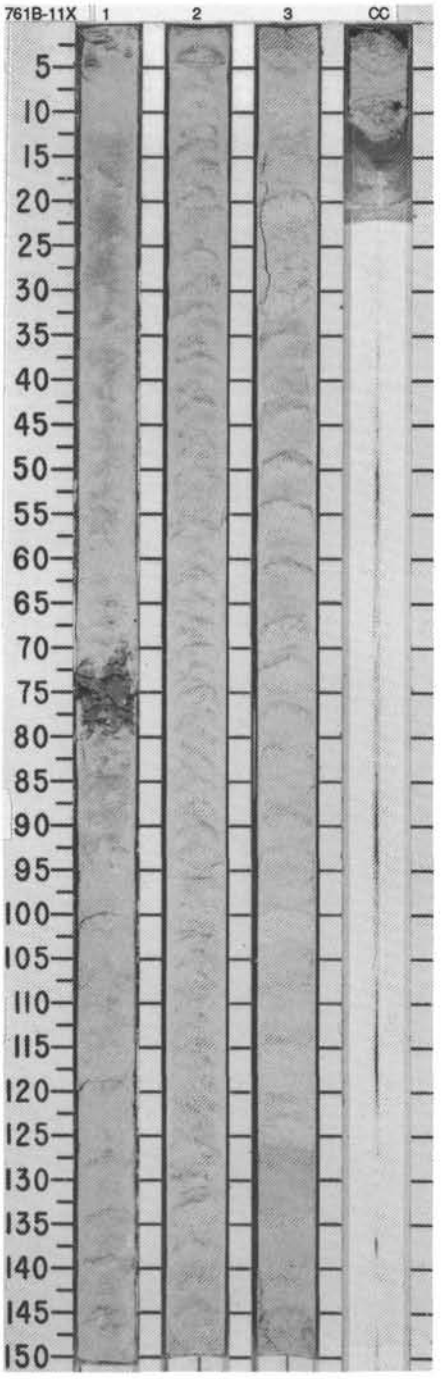


SITE 761 HOLE B CORE 11X CORED INTERVAL 89.7-95.7 mbsf

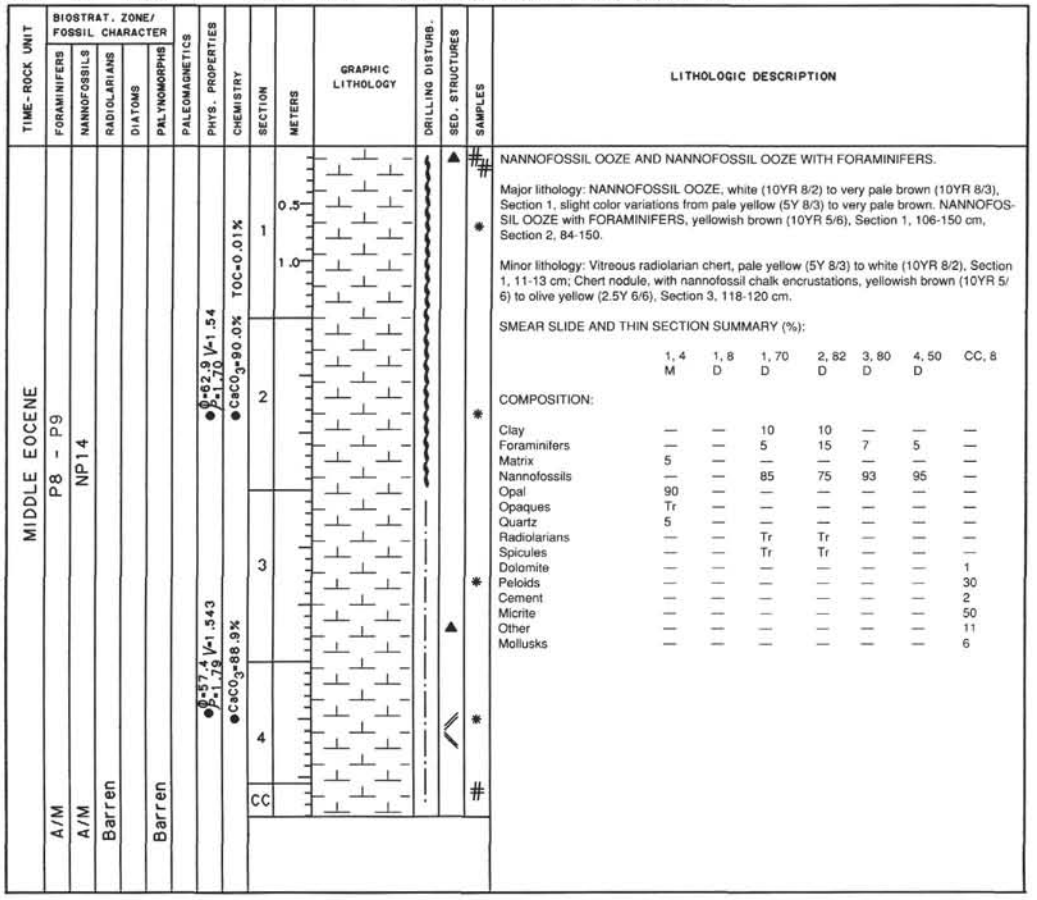
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
MIDDLE EOCENE	P9 - P10	NP15	Barren		Barren		ρ=1.7 V=5.862 P=2.40 ρ=57.8 V=1.583 P=1.83	●TOC=0.05% ●TOC=0.01% ●$CaCO_3$=89.2%	1 2 3 CC	0.5 1.0		X		* * *	NANNOFOSSIL OOZE Major lithology: NANNOFOSSIL OOZE, very pale brown (10YR 8/3), homogeneous. Core is moderately disturbed. Minor lithology: Chert fragments, brownish yellow (10YR 6/8). Section 1, 71-80 cm. Chert is silica-replaced nannofossil ooze, rich in planctonic foraminifers and radiolarians. SMEAR SLIDE SUMMARY (%): 1, 38 D; 1, 67 D; 3, 85 D COMPOSITION: Clay 5 7 8 Foraminifers 5 3 7 Nannofossils 90 90 85 Spicules Tr Tr Tr XXXNote: Chert thin-section still to be made for a better descriptionXXX

CORE 761B-12X NO RECOVERY

CORE 761B-13X NO RECOVERY



SITE 761 HOLE B CORE 14X CORED INTERVAL 101.7-109.2 mbsf



NANNOFOSSIL OOZE AND NANNOFOSSIL OOZE WITH FORAMINIFERS.

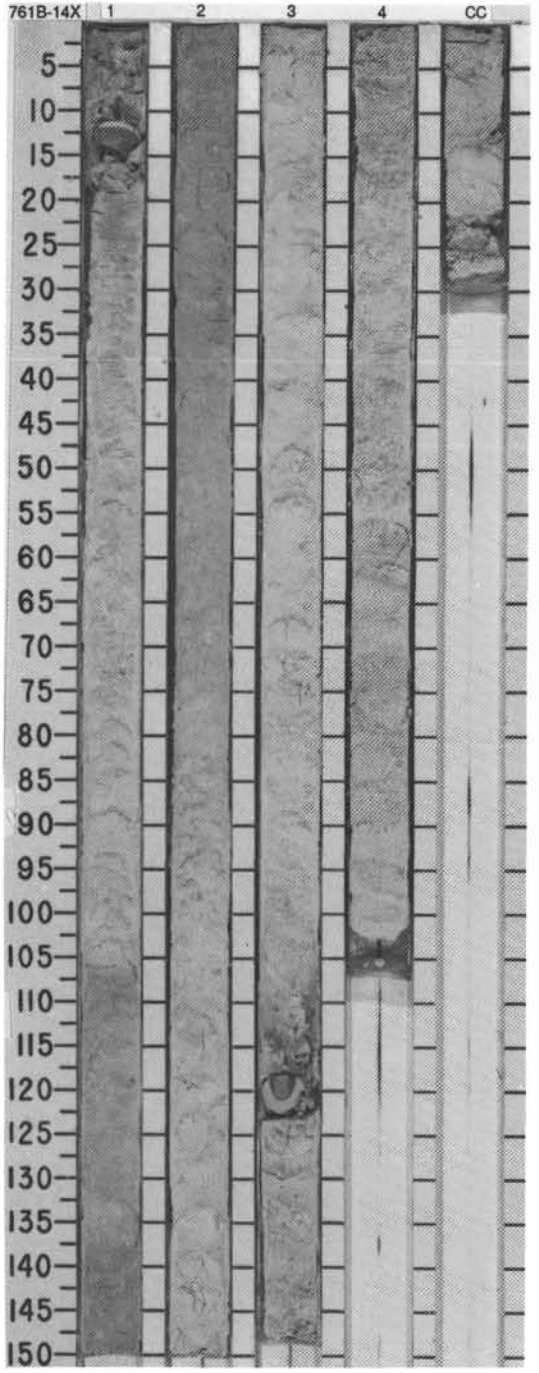
Major lithology: NANNOFOSSIL OOZE, white (10YR 8/2) to very pale brown (10YR 8/3), Section 1, slight color variations from pale yellow (5Y 8/3) to very pale brown. NANNOFOSSIL OOZE with FORAMINIFERS, yellowish brown (10YR 5/6), Section 1, 106-150 cm, Section 2, 84-150.

Minor lithology: Vitreous radiolarian chert, pale yellow (5Y 8/3) to white (10YR 8/2), Section 1, 11-13 cm; Chert nodule, with nannofossil chalk encrustations, yellowish brown (10YR 5/6) to olive yellow (2.5Y 6/6), Section 3, 118-120 cm.

SMEAR SLIDE AND THIN SECTION SUMMARY (%):

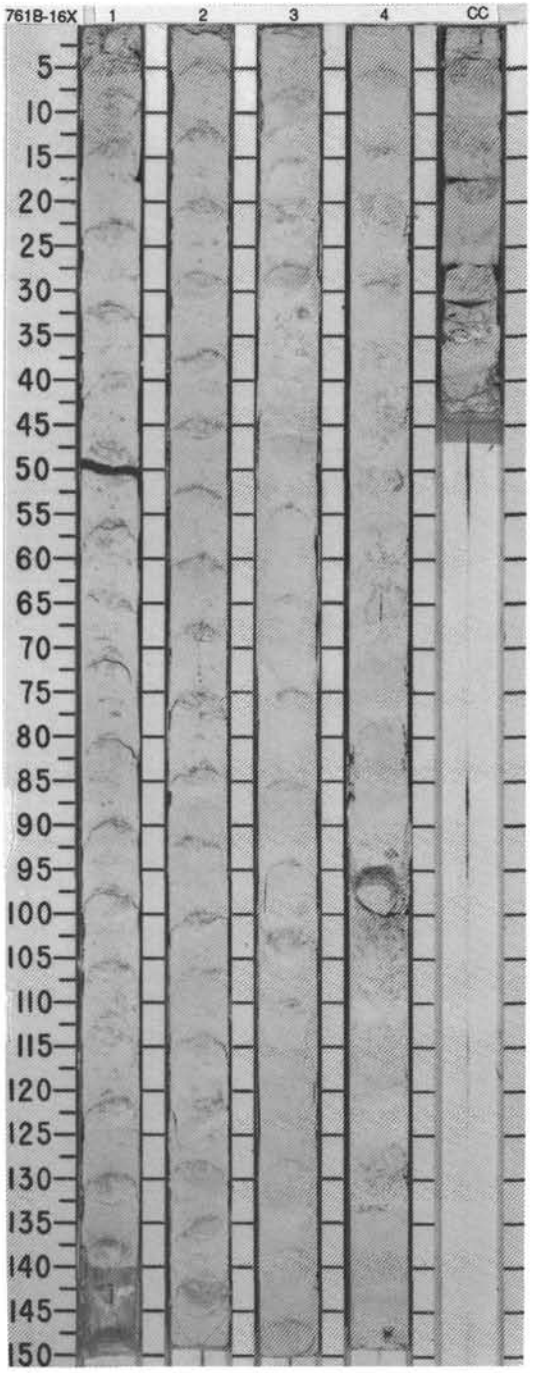
	1, 4 M	1, 8 D	1, 70 D	2, 82 D	3, 80 D	4, 50 D	CC, 8
COMPOSITION:							
Clay	—	—	10	10	—	—	—
Foraminifers	—	—	5	15	7	5	—
Matrix	5	—	—	—	—	—	—
Nannofossils	—	—	85	75	93	95	—
Opal	90	—	—	—	—	—	—
Opaques	Tr	—	—	—	—	—	—
Quartz	5	—	—	—	—	—	—
Radiolarians	—	—	Tr	Tr	—	—	—
Spicules	—	—	Tr	Tr	—	—	—
Dolomite	—	—	—	—	—	—	1
Peloids	—	—	—	—	—	—	30
Cement	—	—	—	—	—	—	2
Micrite	—	—	—	—	—	—	50
Other	—	—	—	—	—	—	11
Mollusks	—	—	—	—	—	—	6

CORE 761B-15X NO RECOVERY



SITE 761 HOLE B CORE 16X CORED INTERVAL 122.7-132.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER PALEOCENE	P4 / P5	NP7 - NP8	Barren	Barren	Barren	▽1.54 ▽1.65	▽2.0 ▽1.92	$CaCO_3$=87.5% TOC=0.01% $CaCO_3$=85.0%	1 2 3 4 CC	0.5 1.0				* *	NANNOFOSSIL OOZE/CHALK WITH FORAMINIFERS AND NANNOFOSSIL OOZE/ CHALK Major lithologies: NANNOFOSSIL OOZE with FORAMINIFERS, white (5YR 8/1), disturbed by drilling. Core was probably NANNOFOSSIL CHALK that has been softened by the drilling process. Chalky intervals, Section 3 and more abundant, Section 4. Minor lithology: Nannofossil chalk nodule, siliceous in part Section 4, 95-100 cm; chalk layers, CC, 34-38 and 44-45 cm. SMEAR SLIDE SUMMARY (%): 1, 74 D / CC, 34 M COMPOSITION: Clay 10 — Fish Tr — Foraminifers 15 5 Nannofossils 75 85 Other Tr — Quartz — Tr Spicules — 10



SITE 761 HOLE B CORE 17X CORED INTERVAL 132.2-141.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER PALEOCENE	A/G P4	A/G NP5 - NP6	UPPER PALEOCENE		Barren		●D=55.5 V=1.865 P=1.78	●CaCO3=84.0%	5					OG
							●D=56.1 V=1.603 P=1.77	●CaCO3=86.0% TOC=0.01%	3					
							●D=56.1 V=1.632 P=1.72	●CaCO3=84.3%	2					
									1	0.5 1.0				
									7					
									CC					

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CHALK WITH FORAMINIFERS

Major lithology: NANNOFOSSIL CHALK with FORAMINIFERS, *dominantly white* (10YR 8/2) with very pale brown color (10YR 8/3 or 8/4) locally associated with bioturbation.

Minor lithology: Minor chert fragments, yellowish brown (10YR 5/6), Section 1, 0-5 cm, probably uphole contamination.

SMEAR SLIDE SUMMARY (%):

	1, 90 D	3, 81 D	5, 59 D	7, 25 D
COMPOSITION:				
Fish	—	—	Tr	—
Foraminifers	24	20	20	15
Nannofossils	73	77	76	82
Spicules	3	3	4	3

SITE 761 HOLE B CORE 18X CORED INTERVAL 141.7-151.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER PALEOCENE	A/G	P4	A/M-G	NP5	UPPER PALEOCENE	Barren	●ϕ=63.8 ρ=1.99 V=1.567	●$CaCO_3$=84.5%	1	0.5				*
										1.0				
							●ϕ=57.8 ρ=1.82 V=1.564	●$CaCO_3$=84.5% TOC=0.01%	2					
									3					*
									4					*
									5					
							●ϕ=56.4 ρ=1.87 V=1.554	●$CaCO_3$=88.4%	6					*
									7					
									CC					

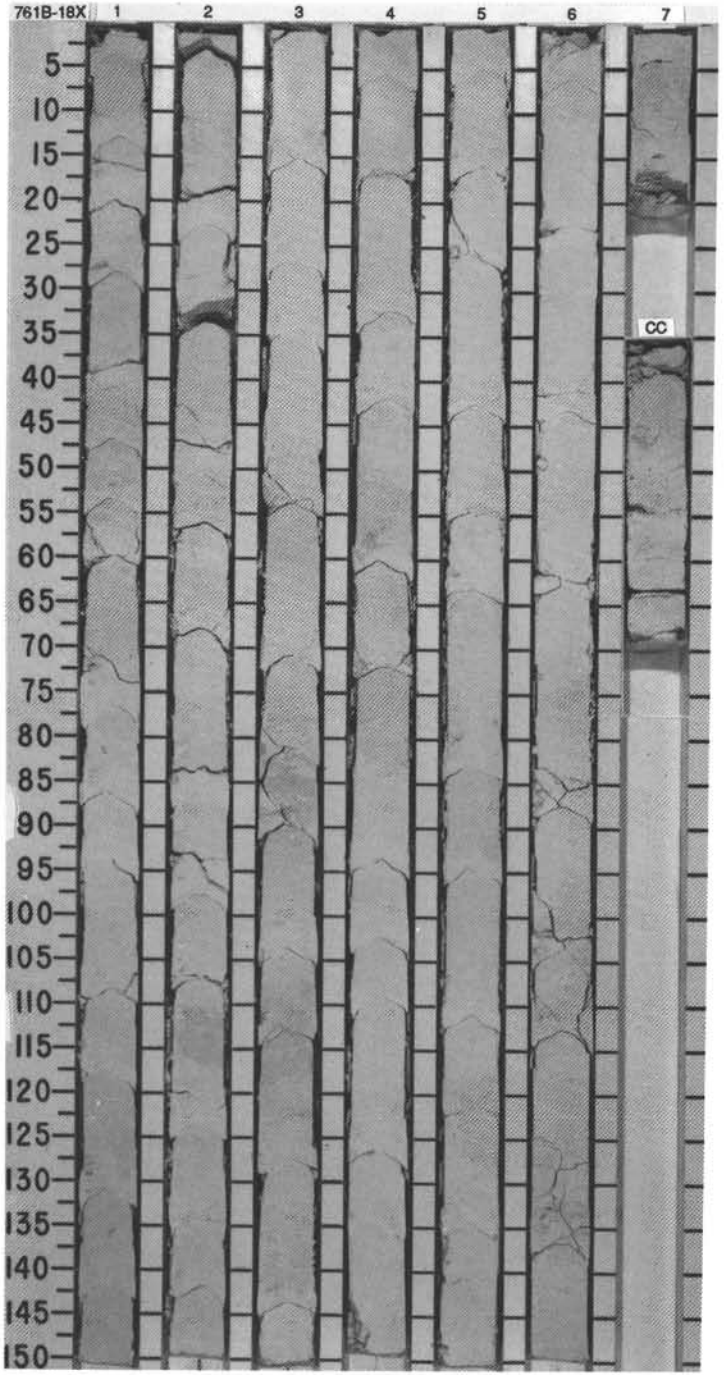
LITHOLOGIC DESCRIPTION

NANNOFOSSIL CHALK WITH FORAMINIFERS

Major lithology: NANNOFOSSIL CHALK with FORAMINIFERS, white (10YR 8/1), uniform, minor to moderate bioturbation throughout core.

SMEAR SLIDE SUMMARY (%):

	1, 81 D	3, 81 D	4, 20 D	6, 70 D
COMPOSITION:				
Foraminifers	10	15	10	12
Nannofossils	85	80	85	80
Radiolarians	3	3	2	5
Spicules	2	2	3	3



SITE 761 HOLE B CORE 19X CORED INTERVAL 151.2-160.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
LOWER PALEOCENE	A/G	P3	NP4	?	UPPER PALEOCENE- LOWER PALEOCENE	Barren		ρ=51.7 γ=1.673 ρ=30.8 γ=1.643 ρ=1.32 ρ=2.01	$CaCO_3$=88.9% TOC=0.01% $CaCO_3$=85.9%	1 2 3 4 5 CC	0.5 1.0			* * * *

LITHOLOGIC DESCRIPTION

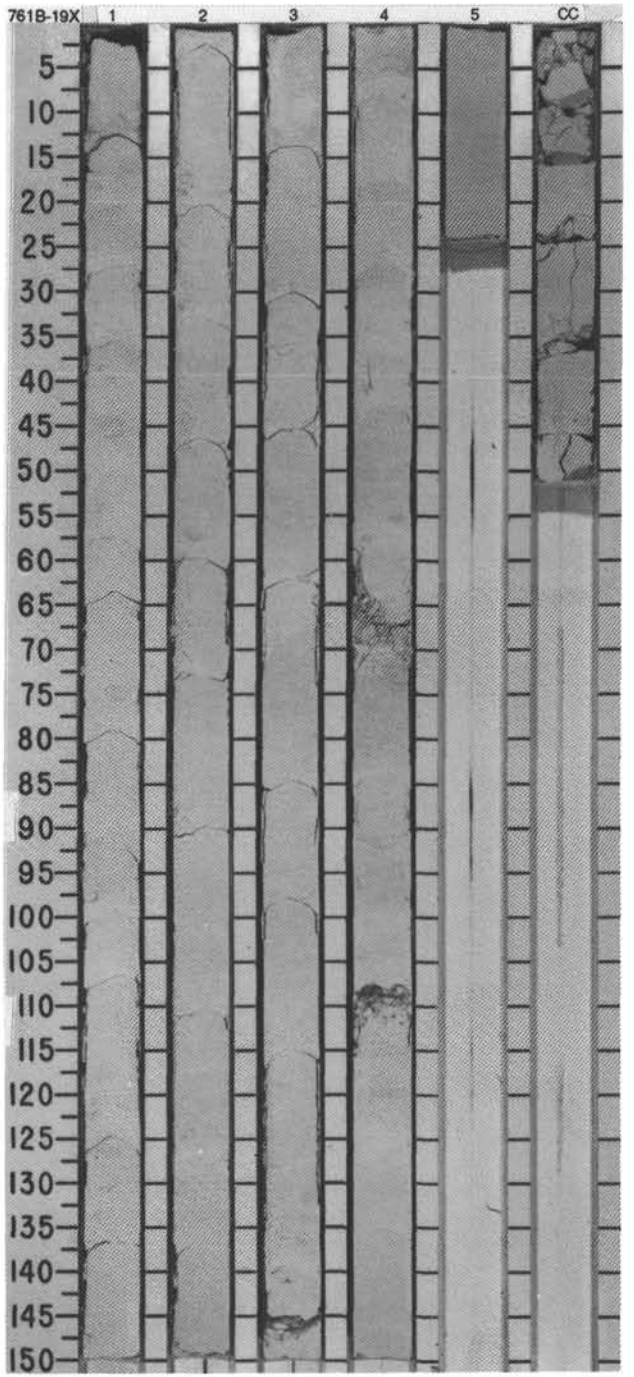
NANNOFOSSIL CHALK AND NANNOFOSSIL CHALK WITH FORAMINIFERS

Major lithologies:
NANNOFOSSIIL CHALK, NANNOFOSSIL CHALK with FORAMINIFERS, white (10YR 8/1), minor clay and muscovite, with traces of zeolites, bioclasts radiolarians, and sponge spicules. Mottles and burrows are common, burrows, gently inclined, 2-4 mm across.

Minor lithology: Chert, pale brown (10YR 6/3), diagenetic, Section 4, 100 cm.

THIN SECTION SUMMARY (%):

	1, 70 D	3, 70 D	CC, 20 D
COMPOSITION:			
Bioclast	—	—	Tr
Clay	5	5	5
Foraminifers	3	15	5
Mica	Tr	1	Tr
Nannofossils	91	79	90
Radiolarians	1	—	—
Spicules	Tr	—	—
Zeolite	—	Tr	Tr



SITE 761 HOLE B CORE 20X CORED INTERVAL 160.7-170.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
LOWER PALEOCENE	A/G	P1b - P1c					ρ=1.68 V=2.132	●CaCO3=69.1% TOC=0.06%	1	0.5 1.0				*
	A/M	NP3 - NP4							2					*
	Barren								3					*
	Barren								4					*
									5					*
									6					
									CC					*

OG
IW

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CHALK

Major lithology: NANNOFOSSIL CHALK, white (10YR 8/1 to 10 YR 8/2), with foraminifers, clay, zeolites, and very minor wispy phyllosilicate (muscovite?). Zeolite is apparently clinoptilolite, possibly forming though clay diagenesis by silica-rich pore water which formed chert nodules. Chalk burrowed (some Planolites) and mottled, burrows horizontal or inclined, 2-5 mm in diameter.

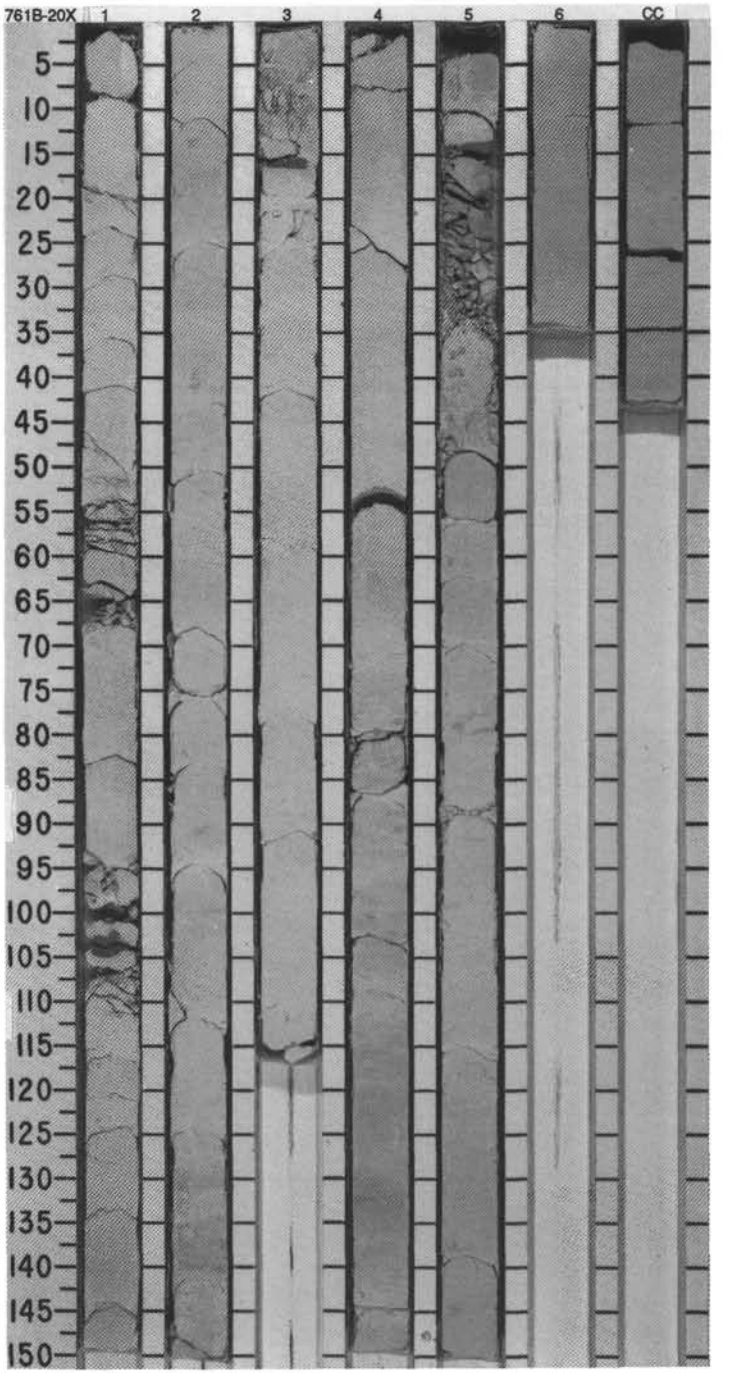
Minor lithology: Chert, nodular, light brownish gray (10YR 6/2), horizontally elongated, embedded in silicified chalk, maximum size, 2 x 5 cm, contain radiolaria and are diagenetic, Sections 1, 99-104 cm and 3, 15 cm.

SMEAR SLIDE SUMMARY (%):

	1, 40 D	1, 108 M	2, 40 D	2, 140 D	3, 40 D	4, 130 D	5, 130 D
COMPOSITION:							
Clay	5	5	5	5	5	5	5
Foraminifers	5	1	5	1	5	5	7
Mica	Tr	Tr	Tr	Tr	1	Tr	Tr
Nannofossils	88	92	80	89	82	80	78
Zeolite	2	2	10	5	7	10	10

SMEAR SLIDE SUMMARY (%):

	CC, 20 D
COMPOSITION:	
Clay	5
Foraminifers	5
Mica	1
Nannofossils	79
Zeolite	10



SITE 761 HOLE B CORE 21X CORED INTERVAL 170.2-179.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
LOWER PALEOCENE / UPPER MAESTRICHTIAN	A/G *A. mayaroensis* P1b / A/G CC26		Barren		Barren		ρ=1.869 ϕ=53.6 λ=1.88	$CaCO_3$=77.0% TOC=0.01%	1 2 3 4 5 6 CC	0.5 1.0				

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CHALK, FORAMINIFER NANNOFOSSIL CHALK, AND NANNOFOSSIL CHALK WITH ZEOLITE

Major lithology: NANNOFOSSIL CHALK with ZEOLITE (approximately Section 1, 75 cm through), NANNOFOSSIL CHALK (approximately Section 1, 0-75 cm, Section 4, 127 through CC), and FORAMINIFER NANNOFOSSIL CHALK. Foraminifers are present in amounts up to 25%. Chalk is color mottled and bioturbated throughout. Light gray (5Y 7/2, 5Y 7/1) above Section 4, 127 cm, and is white (10 YR 8/1) below. Color change is sharp. Contact at Section 4, 127 cm, is the Maestrichtian/Paleogene boundary.

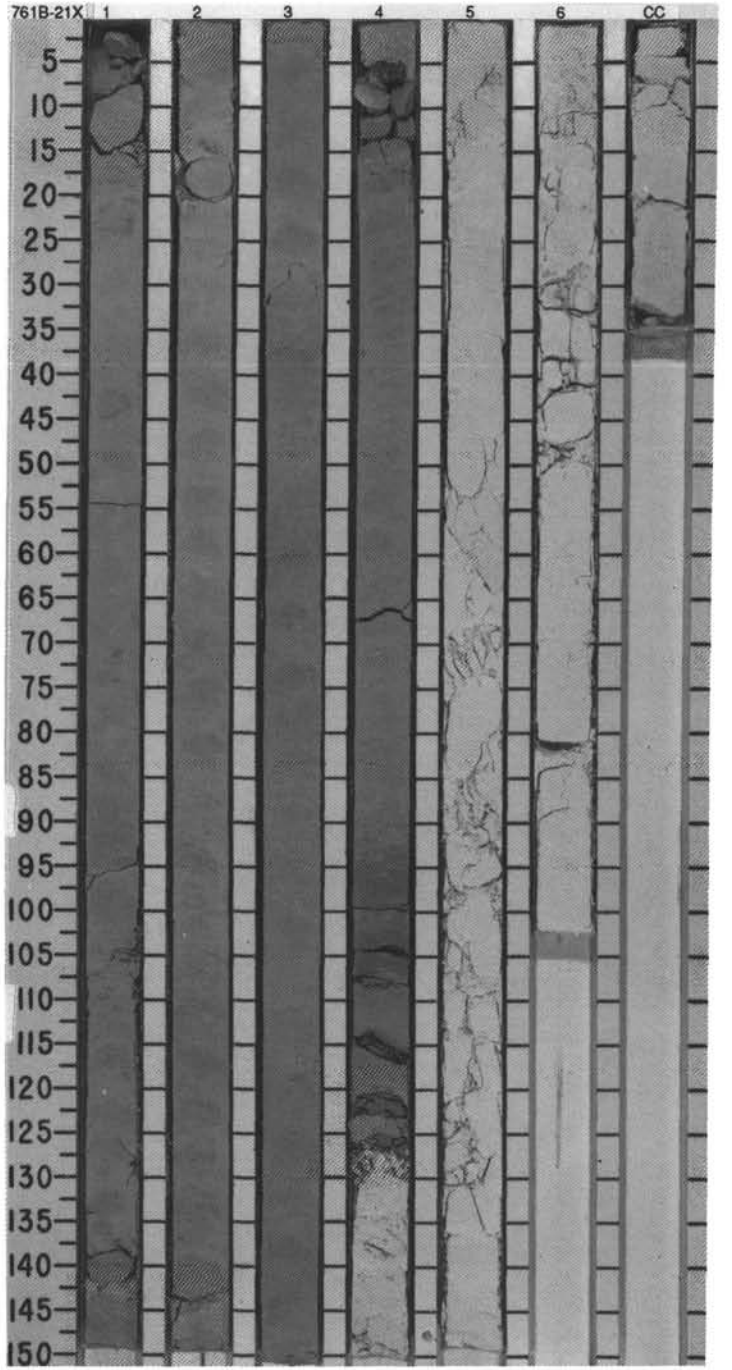
Minor lithologies:
a. Chert, dark greenish gray (10Y 5/2), fractured pieces, Section 4, 5-15 and 125-130 cm.
b. Nannofossil ooze with foraminifers, light gray (5Y 7/1) Section 3, lower part, transitional between nannofossil chalk and foraminifer nannofossil chalk.

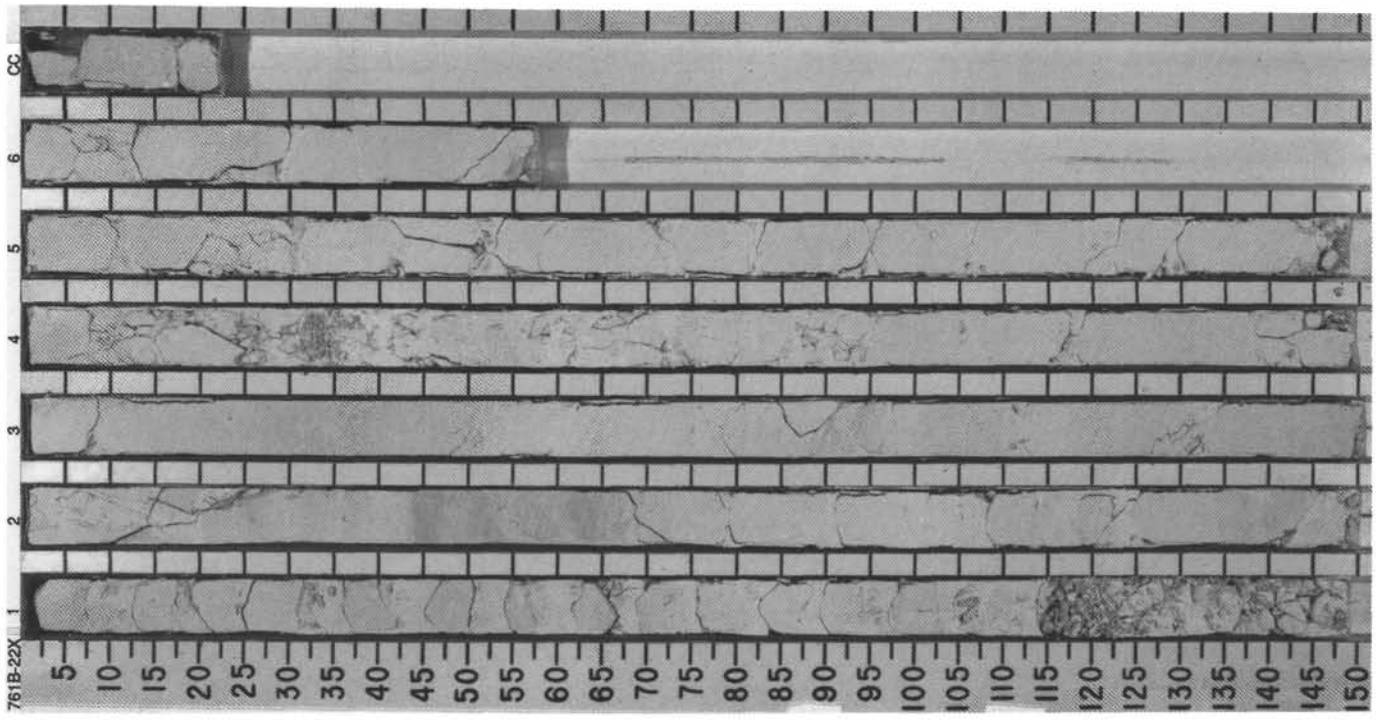
SMEAR SLIDE SUMMARY (%):

	1, 62 D	1, 80 D	2, 80 D	3, 80 D	4, 80 D	4, 145 D	5, 80 D
COMPOSITION:							
Calcispheres	—	—	—	Tr	—	—	—
Clay	6	10	10	9	10	—	—
Dolomite	—	—	—	—	—	—	—
Foraminifers	8	8	8	14	25	3	2
Mica	2	Tr	2	Tr	Tr	—	—
Nannofossils	78	72	70	68	57	95	98
Quartz	—	—	—	—	—	—	—
Zeolite	—	10	10	9	8	2	—
Bioclasts	6	—	—	—	—	—	—

SMEAR SLIDE SUMMARY (%):

	6, 60 D
COMPOSITION:	
Foraminifers	8
Nannofossils	90





SITE 761 HOLE B CORE 22X CORED INTERVAL 179.7–189.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER MAESTRICHTIAN	A. *mayaroensis*	CC26			Barren		●Φ=51.6 V=1.724 ●Φ=51.2 V=1.781 ●Φ=53.2 V=1.720	●CaCO3=89.7% ●CaCO3=87.4% ●CaCO3=87.9% TOC=0.05%	1	0.5				*	NANNOFOSSIL CHALK Major lithology: NANNOFOSSIL CHALK, homogeneous, white (10YR 8/1) with isolated thin (1-3 mm) white (10YR 8/2) layers. Bioturbation minor to moderate. Core consists primarily of 2-20 cm drilling biscuits. SMEAR SLIDE SUMMARY (%): 1, 62 D; 2, 45 D; 3, 68 D; 4, 69 D; 5, 69 D COMPOSITION: Accessory minerals — — — Tr Tr Biocast 6 8 6 — — Clay 4 4 3 — Tr Dolomite — Tr — — — Feldspar — — Tr — — Foraminifers 8 6 10 5 8 Mica 2 Tr Tr — — Nannofossils 80 82 81 95 82 Opaques — — — Tr Tr
									2	1.0					
									3						
									4						
									5						
									6						
									CC						

SITE 761 HOLE B CORE 23X CORED INTERVAL 189.2-198.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER MAESTRICHTIAN	A/G *A. mayaroensis*	CC26					●ρ=2.2 V=3.722 ●ρ=2.29	●$CaCO_3$=85.1%	4					*
	A/G	CC25					●ρ=2.184 V=1.667	●$CaCO_3$=89.3% TOC=0.01%	2					*
	Barren						●ρ=2.191	●TOC=0.01%	4					*
							V=1.775 ●ρ=48.5	$CaCO_3$=1.1% TOC=0.01%	5					*
	Barren								CC					

LITHOLOGIC DESCRIPTION

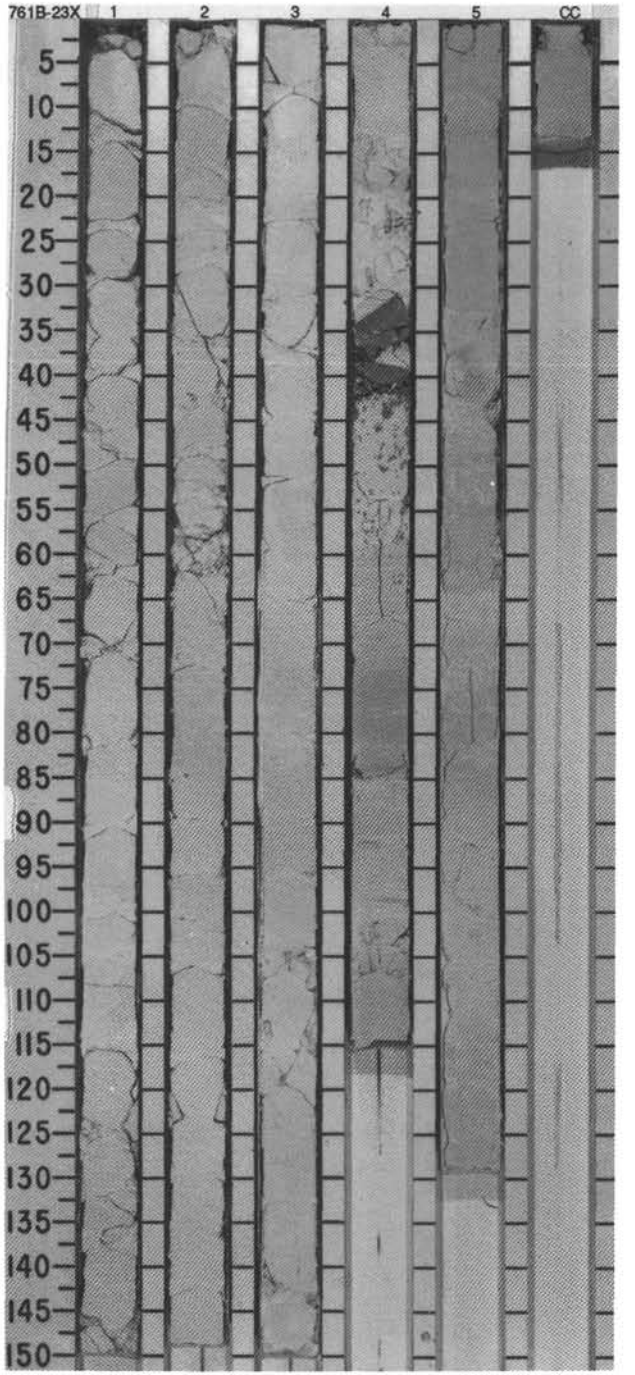
NANNOFOSSIL CHALK

Major lithology: NANNOFOSSIL CHALK, bioturbated and locally faintly banded (Section 4, 42-115), white (10YR 8/1) with yellow (2.5Y 7/8) and gray to white (N8, 2.5Y 7/0) shades in Sections 4 and 5.

Minor lithology: Chert, highly fragmented nodules, and cuttings, Section 4, 30-42 cm, yellowish brown (10YR 5/8). Entire core is moderately disturbed. Drilling biscuits are developed throughout.

SMEAR SLIDE SUMMARY (%):

	1, 78 D	3, 77 D	4, 74 D	5, 54 D
COMPOSITION:				
Bioclast	6	3	4	3
Clay	3	—	2	Tr
Feldspar	—	Tr	—	—
Foraminifers	7	10	8	5
Nannofossils	84	87	86	92
Quartz	—	Tr	—	—



SITE 761 HOLE B CORE 24X CORED INTERVAL 198.7-208.2 mbsf

TIME-ROCK UNIT: LOWER MAESTRICHTIAN / UPPER MAESTRICHTIAN

BIOSTRAT. ZONE/FOSSIL CHARACTER:
- FORAMINIFERS: A/M (R. contusa - A. mayaroensis)
- NANNOFOSSILS: A/G (CC22 - CC24); A/G (CC25)
- RADIOLARIANS: Barren
- DIATOMS
- PALYNOMORPHS: Barren

PALEOMAGNETICS
PHYS. PROPERTIES: ●Φ=50.5 V=1.848 ρ=1.80; ●Φ=54.5 V=1.791 ρ=1.84
CHEMISTRY: ●$CaCO_3$=89.3% TOC=0.10%; ●$CaCO_3$=85.1%
SECTION: 1, 2, 3, 4, CC
METERS: 0.5, 1.0
GRAPHIC LITHOLOGY
DRILLING DISTURB.
SED. STRUCTURES
SAMPLES

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CHALK WITH FORAMINIFERS AND NANNOFOSSIL CHALK

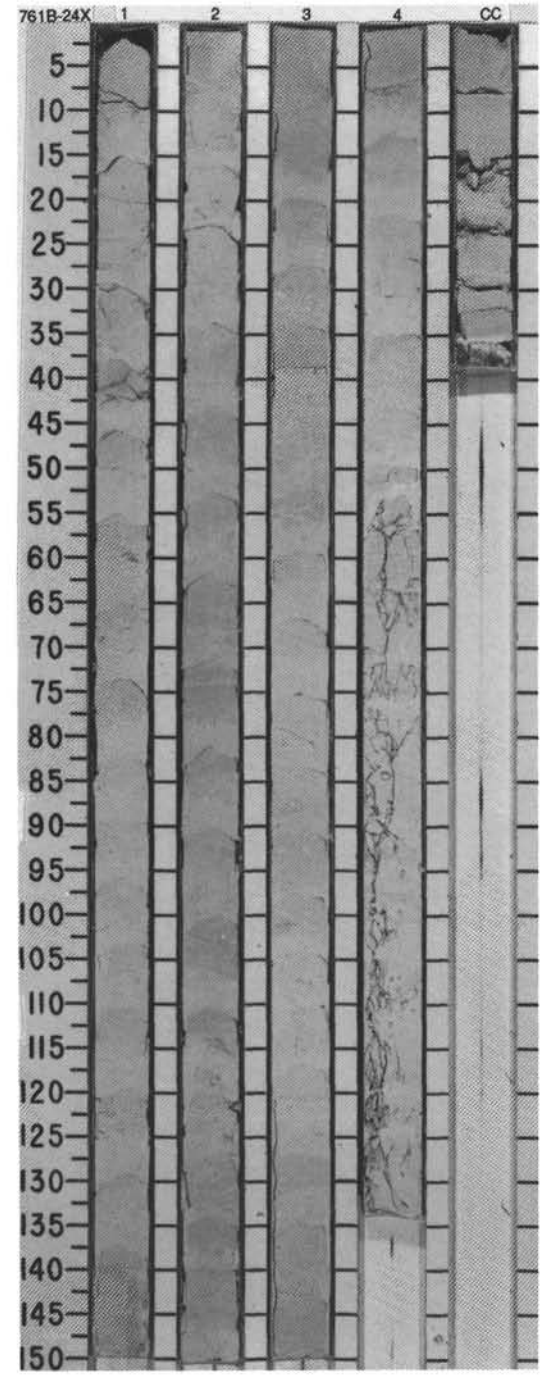
Major lithology: NANNOFOSSIL CHALK with FORAMINIFERS and NANNOFOSSIL CHALK, dominately very pale brown (10YR8/3) with minor minor white (10YR 8/2) layers. Some "layers" appear lighter, but these intervals are primarily produced by drilling. INtact biscuits are 2-14 cm long. Dark bioturbation "flecks: (<1 mm long) cover most of the split core surface, and larger burrow tracks are also present

Minor lithology: Chert, brownish yellow (10YR 6/6), CC, 36-38 cm, in 0.5-2 cm long fragments, overlain by 5 mm thick, very white (10YR 8/0) layer.

Inoceramus prism, Section 4, 56 cm, 4 mm thick.

SMEAR SLIDE SUMMARY (%):

	1, 75 D	2, 75 D	3, 76 D	4, 74 D
COMPOSITION:				
Accessory minerals	Tr	Tr	---	---
Bioclast	Tr	5	2	3
Clay	Tr	Tr	2	3
Foraminifers	13	15	10	3
Inorganic calcite	2	---	---	---
Mica	---	2	Tr	Tr
Nannofossils	80	76	81	88
Zeolite	5	2	2	1



SITE 761 HOLE B CORE 25X CORED INTERVAL 208.2-217.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
LOWER MAESTRICHTIAN / UPPER CAMPANIAN	A/M	MAESTRICHTIAN					●σ=57.1 V=1.760 P=1.79	●CaCO3=87.9% TOC=0.01%	1	0.5	VOID			*
	A/G	CC22 to CC24								1.0				
		CAMPANIAN ?							2					*
							●σ=56.8 V=1.909 P=1.81	●CaCO3=88.8%	3					*
							●σ=55.0 V=1.885 P=1.82	●CaCO3=87.2%	4				▲	*
									5					
									CC					*
					Barren									

LITHOLOGIC DESCRIPTION

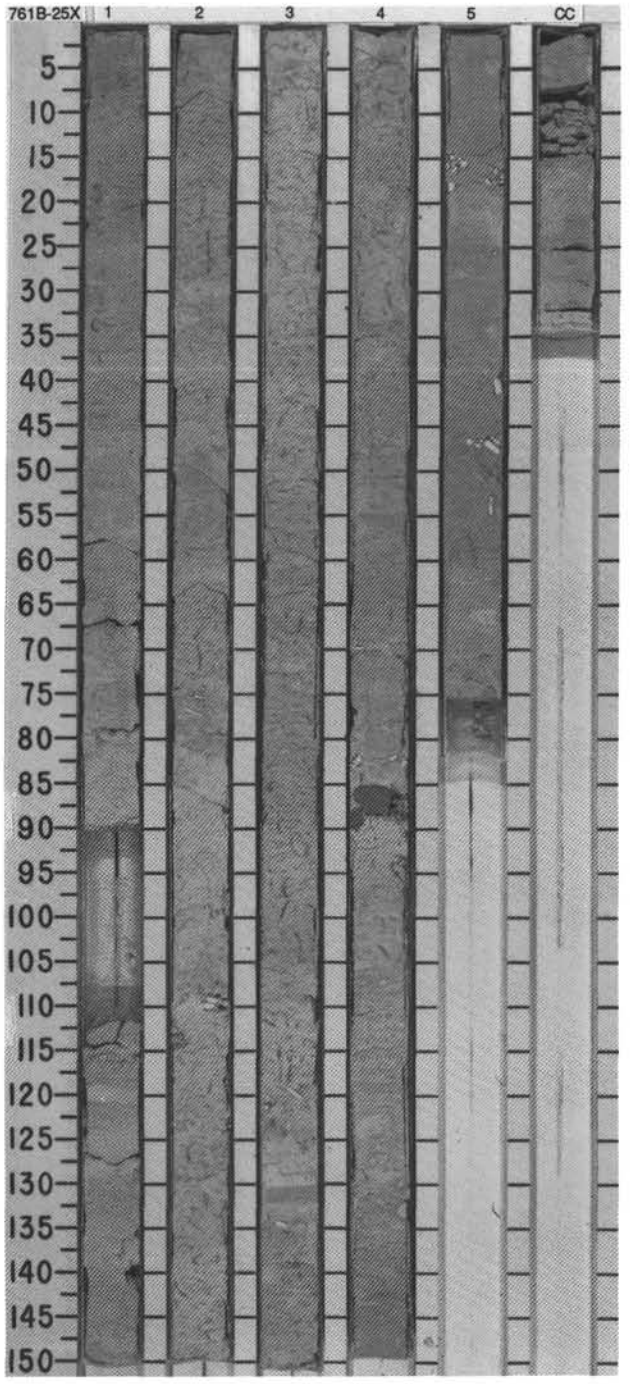
NANNOFOSSIL CHALK WITH FORAMINIFERS

Major lithology: NANNOFOSSIL CHALK with FORAMINIFERS, very pale brown (10YR 8/3, 10YR 7/3, 10YR 8/4), apart from burrows and mottles which are grayish brown and light brownish gray (10YR 5/2, 10YR 6/2). Bioturbation is moderate and dominated by burrows of 2 x 20 mm (cut surface). Drilling biscuit are common. Abundant Inoceramus fragments and very minor clay and mica.

Minor lithology: Chert, nodular, brownish yellow (10YR 6/6), diagenetic, Section 4, 85-90 cm.

SMEAR SLIDE SUMMARY (%):

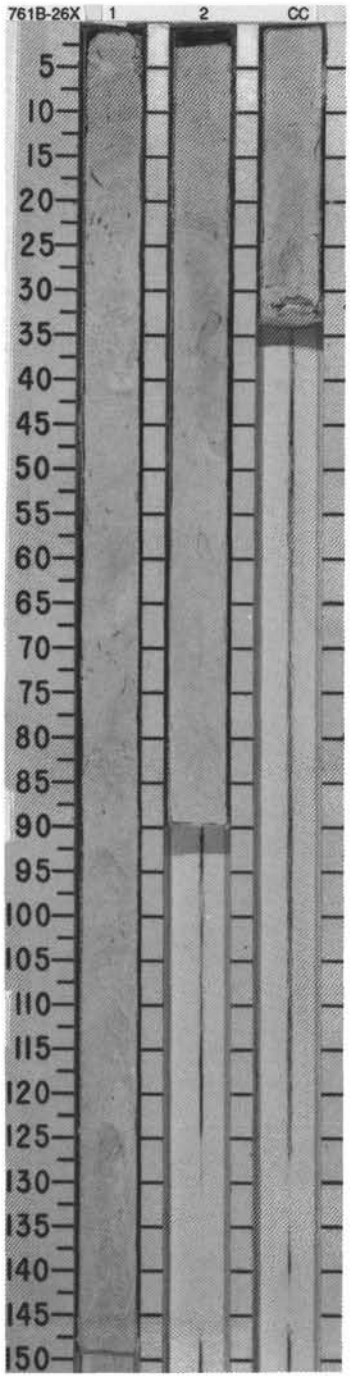
	1, 58 D	2, 123 D	3, 131 D	4, 52 D	CC, 21 D
COMPOSITION:					
Bioclast	5	6	9	9	13
Clay	3	Tr	2	2	2
Feldspar	Tr	---	---	---	---
Foraminifers	8	17	25	24	20
Mica	Tr	2	2	2	Tr
Nannofossils	84	75	62	63	65



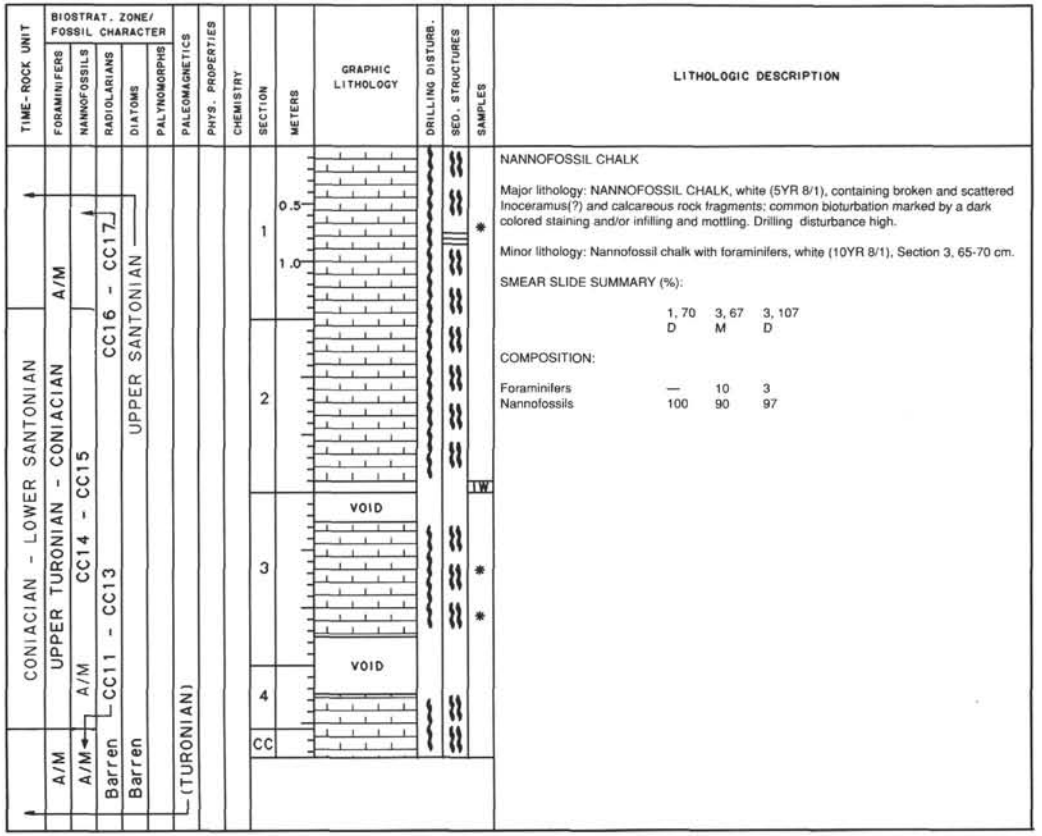
SITE 761 HOLE B CORE 26X CORED INTERVAL 217.7-227.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
LOWER - UPPER CAMPANIAN	A/M	A/M	Barren		Barren		γ=1.668 g·50.3● p=1.90	$CaCO_3$=91.5%●	1	0.5 1.0				*	NANNOFOSSIL CHALK WITH FORAMINIFERS
	CAMPANIAN	CC18 - CC21							2					*	Major lithology: NANNOFOSSIL CHALK with FORAMINIFERS white (5YR 8/1), intensely disturbed by drilling, obliterating any primary sedimentary structures.
									CC					*	SMEAR SLIDE SUMMARY (%):

	1, 12 D	2, 12 D	CC, 9 D
COMPOSITION:			
Bioclast	9	7	6
Clay	2	1	2
Foraminifers	17	19	10
Mica	1	3	2
Nannofossils	71	70	80



SITE 761 HOLE B CORE 27X CORED INTERVAL 227.2-236.7 mbsf



LITHOLOGIC DESCRIPTION

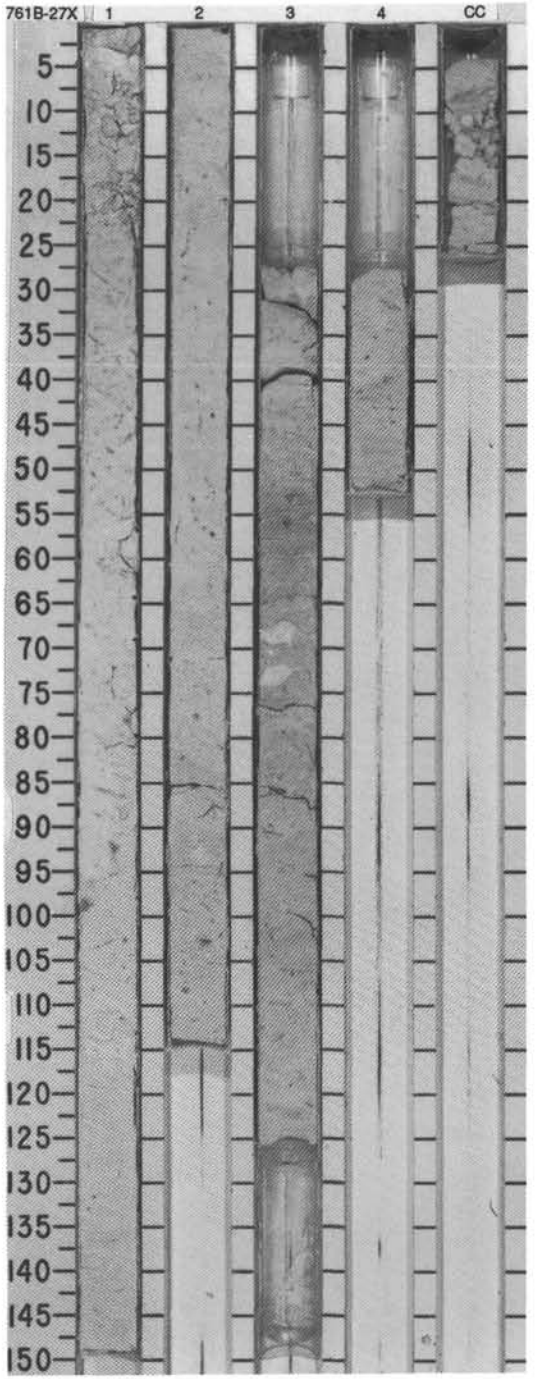
NANNOFOSSIL CHALK

Major lithology: NANNOFOSSIL CHALK, white (5YR 8/1), containing broken and scattered Inoceramus(?) and calcareous rock fragments; common bioturbation marked by a dark colored staining and/or infilling and mottling. Drilling disturbance high.

Minor lithology: Nannofossil chalk with foraminifers, white (10YR 8/1), Section 3, 65-70 cm.

SMEAR SLIDE SUMMARY (%):

	1, 70 D	3, 67 M	3, 107 D
COMPOSITION:			
Foraminifers	—	10	3
Nannofossils	100	90	97



SITE 761 HOLE B CORE 28X CORED INTERVAL 236.7-244.7 mbsf

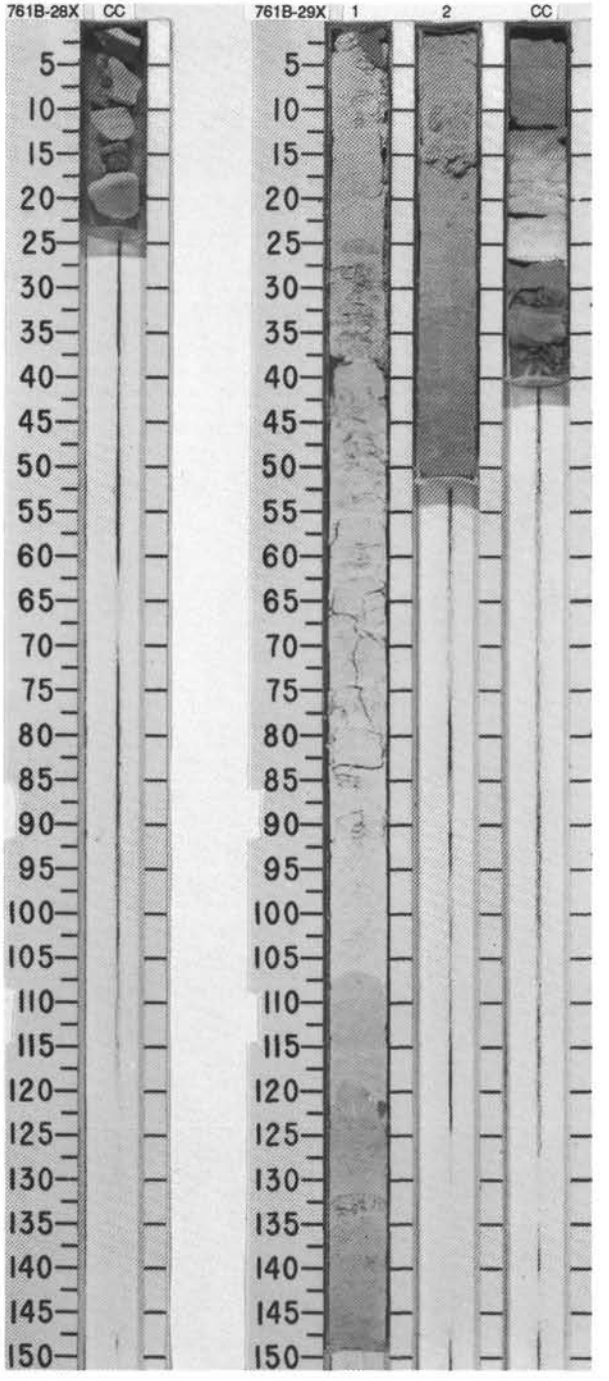
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER ALBIAN	R/P	A/M	Cht		Barren		V=2.374 Φ=42.9 ρ=1.88	$CaCO_3$=53.8%	CC						PELAGIC FORAMINIFER LIMESTONE Major lithology: PELAGIC FORAMINIFER LIMESTONE, fragments in CC, all show wackestone texture with varying color, including pinkish white (7.5YR 8/2), white (10YR 8/2), reddish brown (5YR 5/4), light olive brown (2.5Y 5/6), pale yellow (2.5Y 7/4), dark yellowish brown (10YR 4/6), and light yellowish brown (10YR 6/4). They consist mainly of pelagic foraminifers and are sometimes chertified.
Indeterminate															
CC9-CC10															
UPPER ALBIAN															

SITE 761 HOLE B CORE 29X CORED INTERVAL 244.7-254.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
NEOCOMIAN (U. BERRIASIAN - L. VALANGINIAN)	Barren	R/P ?			Barren		V=1.846 Φ=51.4 ρ=1.89	$CaCO_3$=79.6%	1	0.5				*	CALCISPHERE (OR CALCAREOUS) CHALK Major lithology: CALCISPHERE CHALK, very light greenish gray (10Y 8/1) and white (2.5Y 8/2), wackestone to packstone textures, slightly cemented in part, rare lamination and burrowing. Minor lithologies: a. Calcisphere chalk with nannofossils, Section 1, 0-49 cm. b. Claystone, CC, 30-38 cm, pale yellow (2.5Y7/4). c. Chert, fragments, Section 1, 0-4 and 121-122 cm.
LOWER - MIDDLE APTIAN										1.0				*	
									2					*	
									CC					*	

SMEAR SLIDE SUMMARY (%):

	1, 18 D	1, 95 D	1, 125 D	CC, 26 D
TEXTURE:				
Clay	—	—	—	100
COMPOSITION:				
Calcispheres	40	60	100	—
Clay	—	—	—	100
Foraminifers	5	—	—	—
Micrite	45	35	—	—
Nannofossils	10	—	—	—
Phosphate	Tr	—	—	—
Quartz	—	5	—	—



SITE 761 HOLE B CORE 30X CORED INTERVAL 254.2-263.7 mbsf

TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
NEOCOMIAN ?	Barren	Barren	Barren		Barren		● Φ=47.9 ρ=1.95 ● V=1.708 ● V=1.766	● $CaCO_3$=4.6%	1 2 3 CC	0.5 1.0				* * *

LITHOLOGIC DESCRIPTION

SILTY SANDSTONE

Major lithology: SILTY SANDSTONE, convoluted and predominantly yellowish brown (10YR 5/5) and including white (10YR 8/2) clayey layers, generally poorly sorted. Includes about 40% nannofossils, belemnites, Section 1, 0-150 cm, Section 2, 0-38 cm, and Section 3, 10-28 cm. Molluscan shell fragments observed in Section 1, 80-135 cm. The remainder of the silty sandstone is composed of siliciclastic detritus and is weakly parallel laminated, yellowish brown (10YR 5/8).

SMEAR SLIDE SUMMARY (%):

	1, 47 D	2, 100 D	3, 25 M
TEXTURE:			
Sand	50	60	60
Silt	10	40	40
COMPOSITION:			
Accessory minerals	—	2	15
Feldspar	15	15	5
Fish	—	—	—
Mica	—	—	5
Nannofossils	40	—	—
Quartz	30	70	60
Rock fragment	10	13	10
Phosphate	5	Tr	Tr
Mn oxide	—	Tr	Tr
Zeolite	—	Tr	Tr
Fish scales	—	Tr	—
Dolomite	—	—	Tr

SITE 761 HOLE B CORE 31X CORED INTERVAL 263.7-273.2 mbsf

TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
RHAETIAN	Indeterminate	Barren	Barren		Barren		V=4.87 Φ=10.5 ρ=2.63 ●	$CaCO_3$=98.5% ●	CC					#

LITHOLOGIC DESCRIPTION

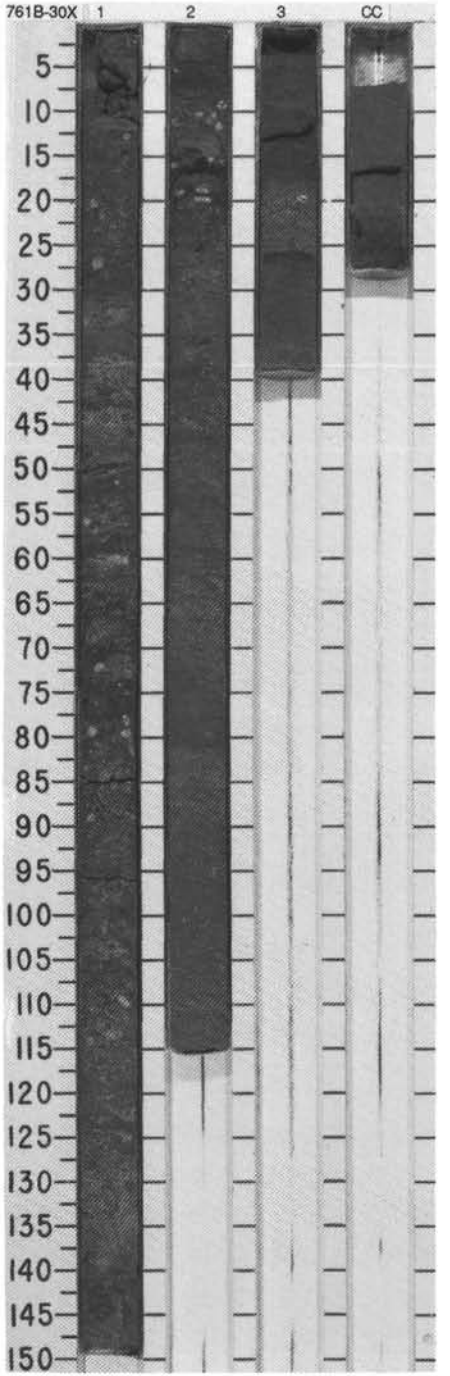
CARBONATE WACKESTONES AND GRAINSTONE

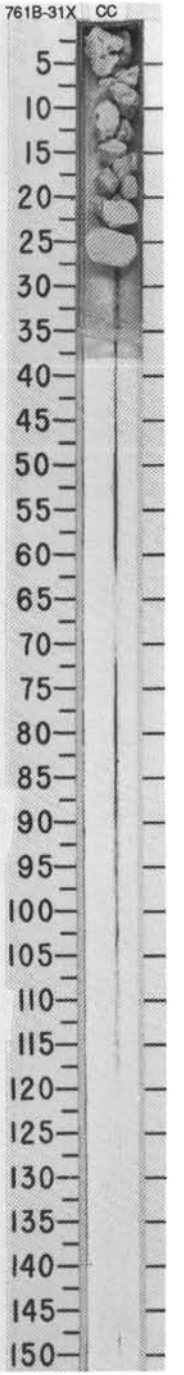
Major lithologies:

CARBONATE WACKESTONES, very pale brown (10YR 8/2), containing shell fragments and fossil casts and molds; common moldic and vuggy porosity, probably due to dissolution under atmospheric conditions. Some large cavity filling sparry calcite is observed. CARBONATE GRAINSTONE, composed of oolites, peloids, and bioclasts; very pale brown (10YR 8/3).

THIN SECTION SUMMARY (%):

	CC, 8 D
COMPOSITION:	
Dolomite	1
Micrite	50
Mollusk	6
Other	11
Peloids	30
Spar cement	2





SITE 761 HOLE B CORE 32X CORED INTERVAL 273.2-282.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
RHAETIAN							Φ=22.3 ● ρ=2.32								
Triasina hantkeni ?	Barren	Barren	Barren		Barren		V=3.941	$CaCO_3$=98.4% ●	CC					#	CARBONATE WACKESTONES AND PACKSTONE

Major lithology: CARBONATE WACKESTONES, very pale brown (10YR 8/4) and pinkish white (5YR 8/2), containing bioclasts and pellets, may be dolomitic in part, common moldic and vuggy porosity. CARBONATE PACKSTONE, very pale brown (10YR 8/4) with common moldic and vuggy porosity, may contain pellets, peloids, and bioclasts.

THIN SECTION SUMMARY (%):

	CC, 21 D
COMPOSITION:	
Echinoid	5
Foraminifers	15
Pellets	60
Spar cement	20

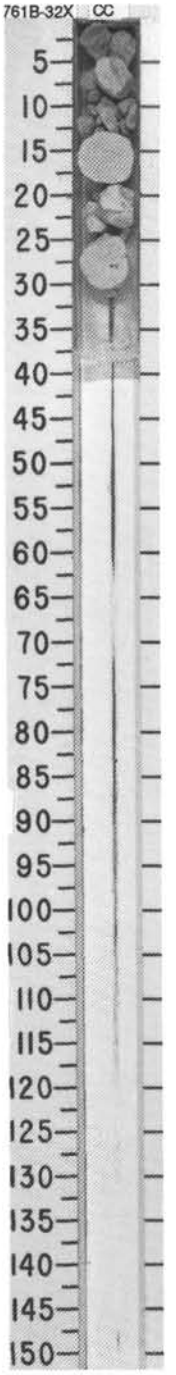
SITE 761 HOLE B CORE 33X CORED INTERVAL 282.7-286.7 mbsf

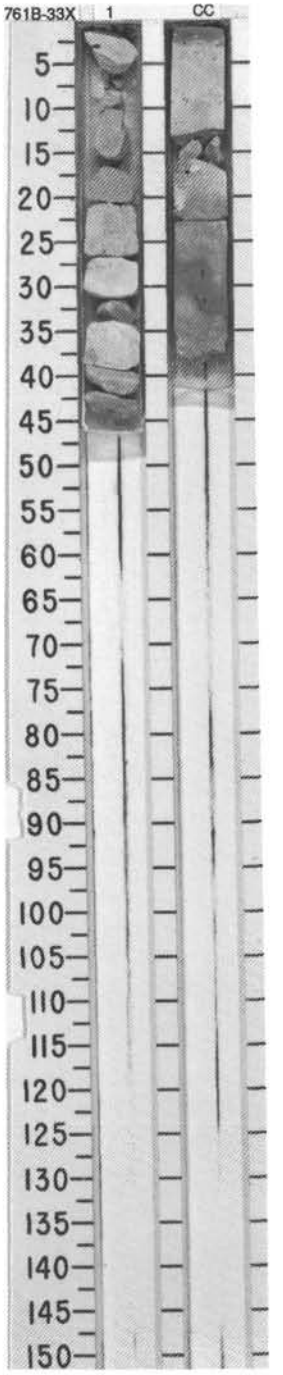
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
RHAETIAN							Φ=6.5 ● ρ=2.73		1					#	NERITIC CARBONATES
Triasina hantkeni ?	Barren	Barren	Barren		Barren		V=4.994	$CaCO_3$=93.8% TOC=0.03% ●	CC					#	

Major lithologies:
A variety of very shallow to emergent carbonate facies including: OOLITIC GRAINSTONES, very pale brown (10YR 7/4), well sorted, very strongly dissolved. Only the external cortex is preserved and pores show calcite and (rare) dolomite crystallization. Section 1, 10-30 cm. OOLITIC AND SKELETAL PACKSTONES, pink (5YR 7/3), Section 1, 30-41 cm; pale brown, (10YR 6/3), CC 25-40 cm. Elements are generally completely dissolved but mud is preserved. SKELETAL WACKESTONE WITH MOLLUSCS AND FORAMINIFERS, CC, 18-23 cm. Foraminifers are *Triasina Hantkeni*. CALCAREOUS MUDSTONE, pink (5YR 7/3), CC, 3-13 cm, with cavities (birds-eye and roots) occurs in core catcher (3-13 cm). ALGAL LAMINAE, red (2.5YR 4/6), Section 1, 42-46 cm, with flat pebbles (desiccation).

THIN SECTION SUMMARY (%):

	1, 4 D	1, 41 D	1, 44 D	CC, 1 D	CC, 10 D	CC, 17 D	CC, 36 D
COMPOSITION:							
Cast	—	—	—	—	15	—	—
Dolomite	Tr	—	—	—	5	90	—
Echinoid	—	—	—	—	5	—	—
Foraminifers	15	—	—	—	10	10	—
Micrite	—	—	—	—	25	—	—
Mollusk	10	—	—	—	10	—	—
Other	5	—	—	—	—	—	—
Pellets	—	—	—	—	15	—	—
Peloids	35	—	—	—	—	—	—
Spar cement	35	—	—	—	15	—	—





CORE 761C-1C NO RECOVERY

SITE 761 HOLE C CORE 2R CORED INTERVAL 160.2-169.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
LOWER PALEOCENE / MIDDLE - LOWER PALEOCENE	P1 / NP3 - NP4				Barren		ϕ=53.4 ● ρ=1.89 ● V=1.803	$CaCO_3$=9.75% ●	1, 2, 3, 4, CC	0.5, 1.0			▲	*

LITHOLOGIC DESCRIPTION

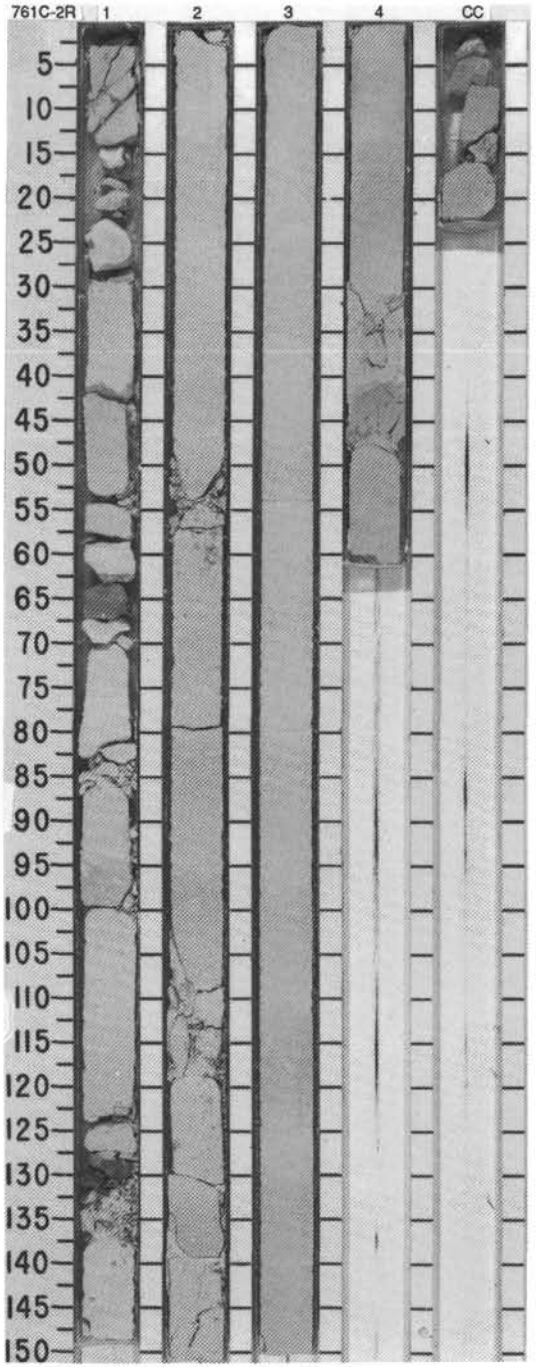
NANNOFOSSIL CHALK WITH FORAMINIFERS, FORAMINIFER NANNOFOSSIL CHALK, AND NANNOFOSSIL CHALK

Major lithologies:
NANNOFOSSIL CHALK with FORAMINIFERS, gradational to NANNOFOSSIL CHALK and FORAMINIFER NANNOFOSSIL CHALK, white (10YR 8/2, 10YR 8/1) with minor (5-15 cm thick) light gray (10YR 7/2 to 2.5Y 7/2) white (2.5Y 8/2) and light gray (2.5 7/2) color bands. Bioturbation slightly more prominent in light gray than white bands. Color grades downward towards more greenish hues. Section 4, 43 cm through CC, light gray (5Y 7/1). Zeolites increase in abundance from Section 2 to 4. Section 4, 43 cm, sharp color contact between white (2.5Y 8/2) above and light gray (5Y 7/1) below.

Minor lithology: Nodular chert, pale brown (10YR 6/3), Section 1, 14-24 cm (small broken fragments of chert and silicified chalk), 61-67 cm (nodular chert up to 3 X 5 cm nodule), and 127-132 cm (cherty horizon). Chalk immediately above and below chert is harder than chalk elsewhere, thus presumably partially silicified.

SMEAR SLIDE SUMMARY (%):

	1, 46 D	1, 97 D	2, 41 D	3, 80 D	4, 17 D	4, 50 M
COMPOSITION:						
Bioclast	7	3	3	3	2	3
Clay	2	—	—	—	—	—
Feldspar	—	—	—	Tr	—	—
Fish	—	Tr	—	—	—	Tr
Foraminifers	8	20	21	33	20	21
Mica	Tr	Tr	—	—	Tr	1
Nannofossils	83	69	73	58	71	66
Quartz	—	Tr	1	—	—	—
Zeolite	5	8	2	6	7	9



SITE 761 HOLE C CORE 3R CORED INTERVAL 169.7-179.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
LOWER PALEOCENE / MAESTRICHTIAN	A/G	CC26 / NP2 / NP1	A/G	Barren					1	0.5				*
										1.0				
									2		VOID			*
									3					* * *
									4					
									5					
									6					

LITHOLOGIC DESCRIPTION

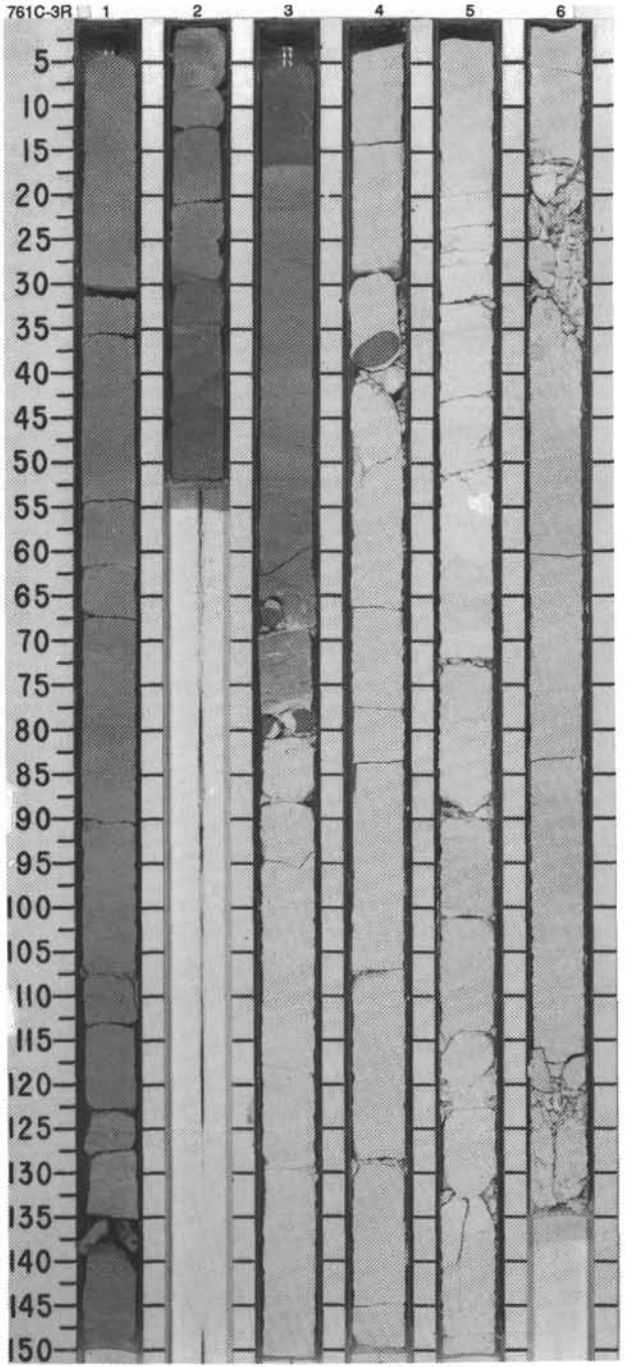
NANNOFOSSIL CHALK WITH FORAMINIFERS AND NANNOFOSSIL CHALK

Major lithologies:
NANNOFOSSIL CHALK, Section 1, strong bioturbation, Planolites dominate, vertical burrows, and NANNOFOSSIL CHALK with FORAMINIFERS (Sections 2 through 6), light greenish gray (10Y 7/0), dark greenish gray (10Y 5/2), very pale brown (10YR 7/3) to white (10YR 8/1). Minor lithology: Chert, dark greenish gray (10Y 4/2) and pale olive (5Y 6/4), Section 1, 133-138 cm (contains foraminifers and radiolarians); Section 3, 14-15 (in bedding plane), 65-68 (with white chalk), and 77-80 cm; and Section 4, 33-36 cm. Section 2, 40-43 cm, small fault with mineralization in the fault planes, immediately below color contact.

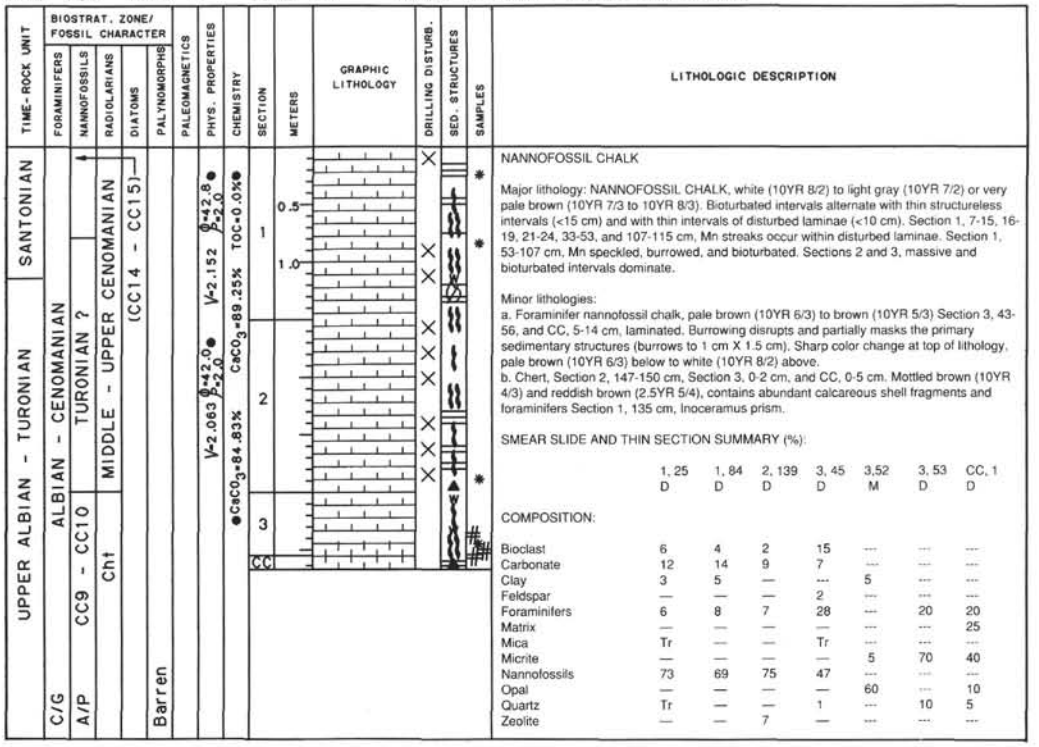
SMEAR SLIDE SUMMARY (%):

	1, 79 D	2, 50 D	3, 62 D	3, 76 M	3, 100 D
COMPOSITION:					
Accessory minerals	—	—	3	5	5
Bioclast	2	—	—	—	—
Foraminifers	7	20	20	17	10
Glass	4	3	—	—	—
Nannofossils	82	71	74	71	79
Quartz	—	—	—	Tr	—
Zeolite	5	6	3	7	6

CORE 761C-4C NO RECOVERY



SITE 761 HOLE C CORE 5R CORED INTERVAL 230.0-235.0 mbsf



LITHOLOGIC DESCRIPTION

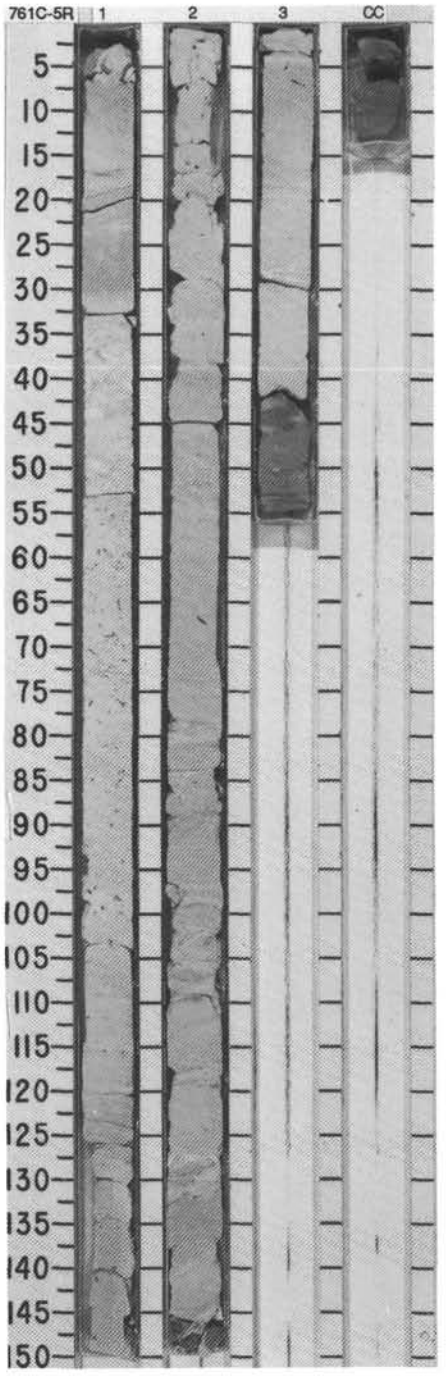
NANNOFOSSIL CHALK

Major lithology: NANNOFOSSIL CHALK, white (10YR 8/2) to light gray (10YR 7/2) or very pale brown (10YR 7/3 to 10YR 8/3). Bioturbated intervals alternate with thin structureless intervals (<15 cm) and with thin intervals of disturbed laminae (<10 cm). Section 1, 7-15, 16-19, 21-24, 33-53, and 107-115 cm, Mn streaks occur within disturbed laminae. Section 1, 53-107 cm, Mn speckled, burrowed, and bioturbated. Sections 2 and 3, massive and bioturbated intervals dominate.

Minor lithologies:
a. Foraminifer nannofossil chalk, pale brown (10YR 6/3) to brown (10YR 5/3) Section 3, 43-56, and CC, 5-14 cm, laminated. Burrowing disrupts and partially masks the primary sedimentary structures (burrows to 1 cm X 1.5 cm). Sharp color change at top of lithology, pale brown (10YR 6/3) below to white (10YR 8/2) above.
b. Chert, Section 2, 147-150 cm, Section 3, 0-2 cm, and CC, 0-5 cm. Mottled brown (10YR 4/3) and reddish brown (2.5YR 5/4), contains abundant calcareous shell fragments and foraminifers Section 1, 135 cm, Inoceramus prism.

SMEAR SLIDE AND THIN SECTION SUMMARY (%):

	1, 25 D	1, 84 D	2, 139 D	3, 45 D	3,52 M	3, 53 D	CC, 1 D
COMPOSITION:							
Bioclast	6	4	2	15	---	---	---
Carbonate	12	14	9	7	---	---	---
Clay	3	5	—	---	5	---	---
Feldspar	—	—	—	2	---	---	---
Foraminifers	6	8	7	28	---	20	20
Matrix	—	—	—	—	---	---	25
Mica	Tr	—	—	Tr	---	---	---
Micrite	—	—	—	—	5	70	40
Nannofossils	73	69	75	47	---	---	---
Opal	—	—	—	—	60	---	10
Quartz	Tr	—	—	1	---	10	5
Zeolite	—	—	7	—	---	---	---



SITE 761 HOLE C CORE 6R CORED INTERVAL 235.0-240.0 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
MIDDLE ALBIAN	A/G	LOWER - MIDDLE ALBIAN	CC8 - CC10	MIDDLE ALBIAN Cht	Barren		ϕ=43.3 ● ρ=2.0 ● V=2.089	$CaCO_3$=84.50% TOC=0.02% ●	1					# *
	F/P								CC					* *

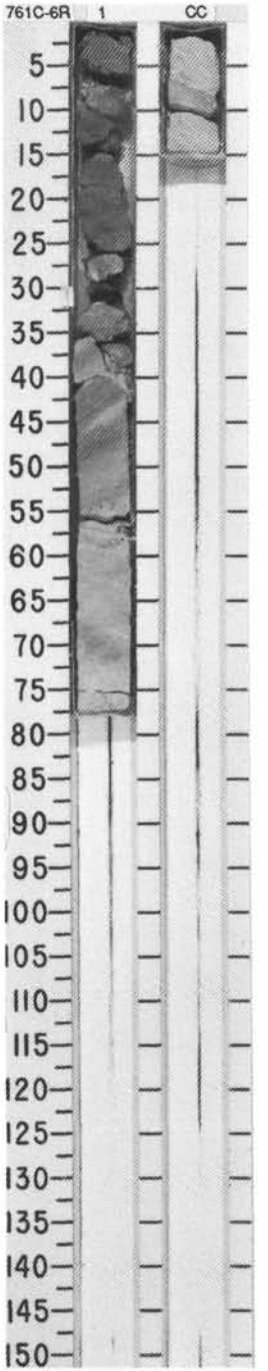
LITHOLOGIC DESCRIPTION

CALCAREOUS CLAYSTONE WITH FORAMINIFERS, NANNOFOSSILS, AND BIOCLASTS, NANNOFOSSIL CHALK WITH FORAMINIFERS, DOLOMIZITED NANNOFOSSIL CHALK WITH FORAMINIFERS, AND CHERT

Major lithologies:
SILTY CLAYSTONE with FORAMINIFERS, NANNOFOSSILS, and BIOCLASTS, brown to light yellowish brown (10YR 5/3 to 10YR 6/4), laminae 3-5 mm thick, horizontal burrows 3 mm diameter, common microfaulting. NANNOFOSSIL CHALK with FORAMINIFERS, very pale brown (10YR 7/3), dolomitized, bedded and intensely burrowed,large burrows (2 cm wide) and chondrites.DOLOMITIZED NANNOFOSSIL CHALK with FORAMINIFERS, pinkish white (7.5YR 8/2), friable, burrowed, very poorly bedded. CHERT, dark yellowish brown to yellowish brown (10YR 4/6 to 10YR 5/4). Authigenic nodules to 4 cm maximum dimension, sedimentary structures and foraminifers discernible.

SMEAR SLIDE AND THIN SECTION SUMMARY (%):

	1, 20 D	1, 62 D	CC, 5 D
TEXTURE:			
Sand	5	—	—
Silt	6	—	—
Clay	94	—	—
COMPOSITION:			
Bioclast	15	1	—
Clay	52	5	10
Foraminifers	15	10	10
Mica	—	Tr	—
Nannofossils	15	84	80
Zeolite	3	—	—



SITE 761 HOLE C CORE 7R CORED INTERVAL 240.0-245.0 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER BERRIASIAN - LOWER VALANGINIAN	Barren	NK2 - NK3	APTIAN - ALBIAN		Barren		V=2.023 ρ=1.85 V=1.695 ρ=1.40 V=67.6 ρ=1.64	$CaCO_3$=66.83% TOC=0.01% $CaCO_3$=0.17%	1 2 CC	0.5 1.0				

LITHOLOGIC DESCRIPTION

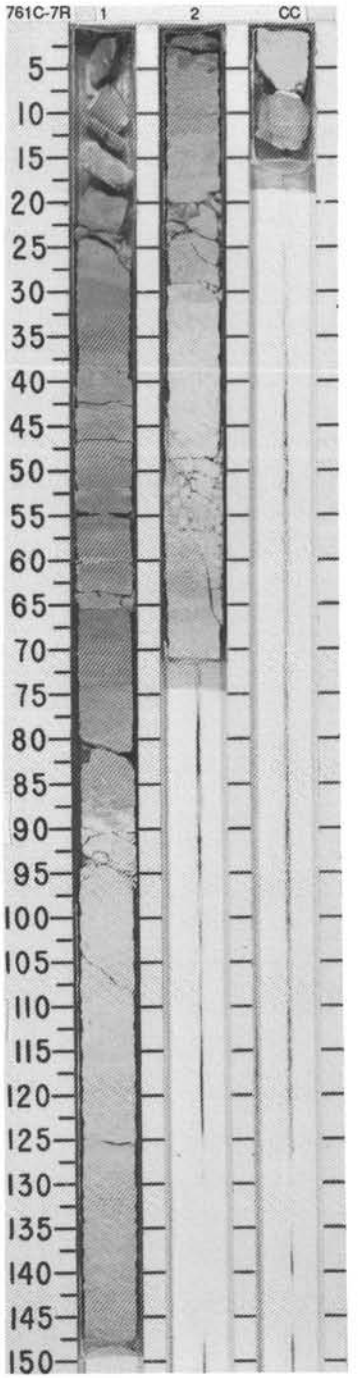
CALICISPHERE NANNOFOSSIL CHALK

Major lithology: CALICISPHERE NANNOFOSSIL CHALK, light yellowish brown (2.5YR 6/4), pale brown (10YR 6/3), very pale brown (10YR 7/3), and white (10YR 8/2), bioturbated.

Minor lithologies:
a. Laminated claystone (smectite), very fine grained, waxy appearance, color banding very pale brown (10YR 7/4) slightly greenish, pale yellow (2.5Y 7/4), and pink (5YR 7/3).
b. Radiolarian chert, light gray (2.5Y 7/2), Section 1, 0-24 cm (radiolarian packstone) and CC, 10-16 cm. Entire core is slightly fractured.

SMEAR SLIDE SUMMARY (%):

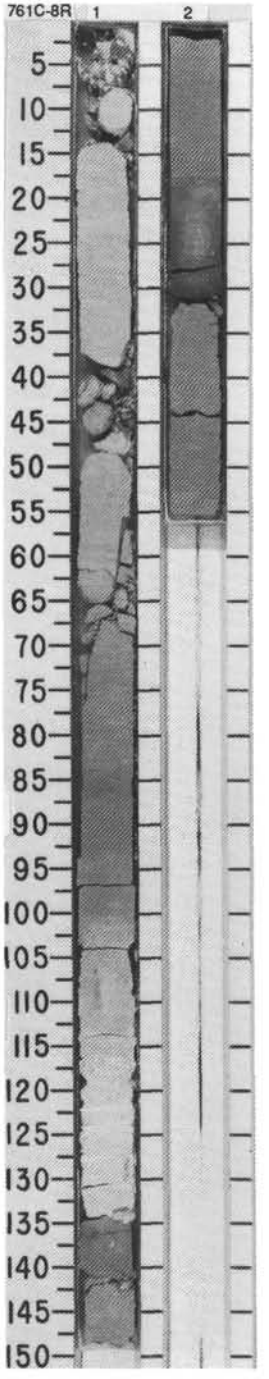
	1, 63 M	1, 67 D	2, 40 D
TEXTURE:			
Clay	100	—	—
COMPOSITION:			
Calcispheres	—	30	40
Carbonate	—	30	30
Clay	100	—	—
Mica	Tr	—	Tr
Nannofossils	—	40	30
Quartz	—	Tr	Tr



SITE 761 HOLE C CORE 8R CORED INTERVAL 245.0-250.0 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
UPPER BERRIASIAN - LOWER VALANGINIAN		A/M Indeterminate					ϕ=49.3 ρ=1.90 V=1.919	$CaCO_3$=73.83%	1 2	0.5 1.0				* * * * *	CALCISPHERE NANNOFOSSIL CHALK WITH ZEOLITE SILT, ZEOLITE SILTY NANNOFOSSIL CHALK WITH CALCISPHERES, CALCISPHERE NANNOFOSSIL CHALK WITH ZEOLITES AND QUARTZ SILT, CLAYSTONE, AND CLAYSTONE WITH SILT Major lithologies: CALCISPHERE NANNOFOSSIL CHALK with ZEOLITE SILT, ZEOLITE SILTY NANNOFOSSIL CHALK with CALCISPHERES, and CALCISPHERES with NANNOFOSSIL CHALK with ZEOLITES and QUARTZ SILT, white (2.5Y 6/4), light gray (2.5Y 7/2), light olive brown (2.5Y 5/4), light yellowish brown (2.5Y 6/4), and pale yellow (2.5Y 7/4), predominantly gradual color and lithologic changes. CLAYSTONE and CLAYSTONE with SILT, Section 1, 100-139 cm, very white (5Y 8/0), grading into light gray (2.5YR 6/2) as silt component increases, basal contact is sharp. Section 2, 10-34 cm, very dark gray (2.5Y 3/0) and gray (2.5 5/0) to pale yellow (2.5Y 7/4). Section 2, 18 cm distinct grayer/yellower color break. Minor lithology: Chert, light gray (2.5Y 7/2) to yellowish brown (10YR 5/6), Section 1, 0-7 and 41-48 cm, angular cobbles, 1-4 cm long. Mn "flecks", Section 1, 88-94 cm. SMEAR SLIDE SUMMARY (%):

	1, 29 D	1, 82 D	1, 124 D	2, 10 D	2, 23 D
TEXTURE:					
Silt	—	—	—	—	20
Clay	—	—	100	—	80
COMPOSITION:					
Accessory minerals	Tr	1	—	—	—
Calcispheres	30	18	—	30	5
Clay	—	1	100	1	72
Feldspar	1	1	—	4	—
Foraminifers	Tr	2	—	—	—
Inorganic calcite	10	—	—	3	—
Mica	2	2	—	8	8
Nannofossils	40	40	—	44	5
Quartz	2	4	—	12	2
Radiolarians	—	1	—	1	—
Zeolite	15	30	—	10	5



SITE 761 HOLE C CORE 9R CORED INTERVAL 250.0-255.0 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
UPPER BERRIASIAN - LOWER VALANGINIAN ?	Barren	C/P Indeterminate	Barren		Barren		ϕ=2.40 ρ_b=1.84 χ=4.563 ϕ=32.7 ρ_b=2.08 χ=1.67	$CaCO_3$=6.25% TOC=0.0%) $CaCO_3$=12.42% TOC=0.03%) $CaCO_3$=11.33%	1 2 CC	0.5 1.0				

LITHOLOGIC DESCRIPTION

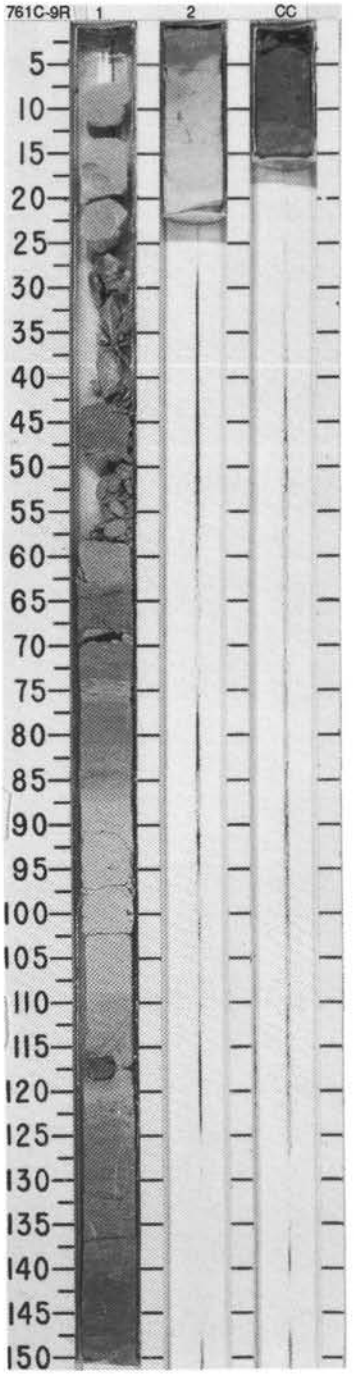
CALCISPHERE NANNOFOSSIL CHALK WITH CLAY AND CLAYSTONE

Major lithology: CALCISPHERE NANNOFOSSIL CHALK with CLAY, color variations from yellowish brown (2.5YR 6/4) to very pale brown (10YR 8/3), pale yellow (2.5Y 7/4), light olive brown (2.5Y 5/4), light yellowish brown (2.5Y 6/4), and pale olive (5Y 6/4). Lighter lithologies totally bioturbated (e.g. Section 1, 85-110 cm). Darker lithologies faint laminations and burrowing. Mottled CLAYSTONE, very pale brown (10YR 8/3) and pale yellow (2.5Y 7/4), with waxy appearance, Section 2, 5-22 cm. Clay is smectite/montmorillonite.

Minor lithologies:
a. Micaceous chalk, brown (7.5YR 5/4), up to 40% mica, traces of quartz, Section CC, 0-12 cm.
b. Radiolarian chert, Section 1, 0-60 cm, light gray (2.5Y 7/2) very pale brown (10YR 7/4), fragments. Entire core is slightly fractured.

SMEAR SLIDE SUMMARY (%):

	1, 76 D	2, 18 D	CC, 1 M	CC, 6 M
TEXTURE:				
Clay	—	100	—	—
COMPOSITION:				
Calcispheres	30	—	10	Tr
Carbonate	20	—	20	—
Clay	10	100	—	86
Mica	—	—	40	1
Nannofossils	40	—	30	—
Opaques	—	—	—	10



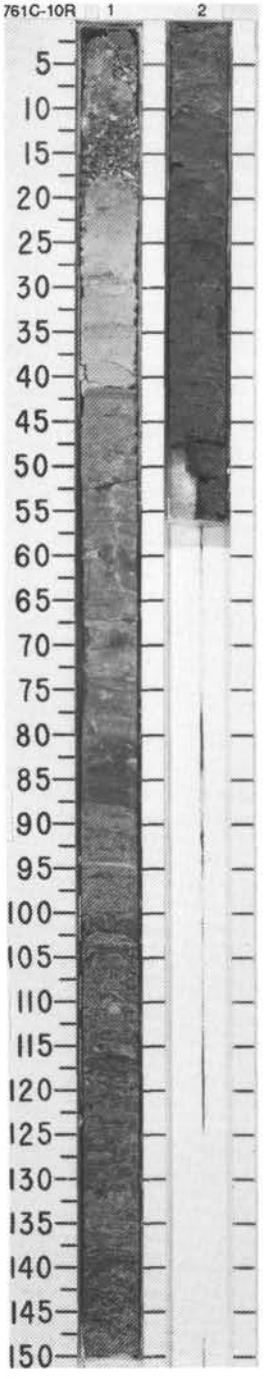
SITE 761 HOLE C CORE 10R CORED INTERVAL 255.0-259.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
TITHONIAN - LOWER VALANGINIAN	A/P	TITHONIAN - VALANGINIAN	undifferentiated LOWER CRETACEOUS	(↓1.64) (↓1.71) (↓1.68)			ϕ=47.9 ρ=1.9	CaCO3=2.17% TOC=0.02% ● CaCO3=3.08% TOC=0.13%	1 2	0.5 1.0				* * * *	SANDY SILTY CLAYSTONE WITH FORAMINIFERS, CLAYEY SANDSTONE WITH NANNOFOSSILS AND BELEMNITES, AND CLAYEY SANDSTONE Major lithologies: SANDY SILTY CLAYSTONE with NANNOFOSSILS, light yellowish brown (2.5Y 6/4) to light olive brown (2.5Y 5/6). Section 1, 41-100 cm, contains major quartz, rock fragments, and nannofossils, and minor feldspar, mica,dolomite rhombs, glauconite, zeolites, foraminifers, and calcispheres. Thin bedded, regularly laminated and bioturbated, some shelly fragments. CLAYEY SANDSTONE with NANNOFOSSILS and BELEMNITES, dark yellowish brown (10YR 4/6) to very pale brown (10YR 7/3). Section 1, 100-150 cm, Section 2, 0-12 cm, minor components include feldspar, biotite, bioclasts, dolomite rhombs. Many minerals are iron stained. Variably thin bedded, laminated, and extensively bioturbated. CLAYEY SANDSTONE, brown (7.5YR 5/4). Section 2, 12-56 cm, contains minor feldspar, mica, dolomite rhombs, and zeolites, heavily oxidized. Bedding completely disturbed by biscuiting. Minor lithologies: a. Claystone, pink (5YR 7/4) to light brownish gray (10YR 6/2). Section 1, 18-41 cm, homogeneous, waxy appearance, clay is combination of smectite and smectite/ montmorillonite. b. Drilling breccia, Section 1, 0-18 cm, clasts to 2 cm, olive gray very fine grained sandstone, yellow brown chert, calcite vein material.

SMEAR SLIDE SUMMARY (%):

	1, 30 M	1, 70 D	1, 130 D	2, 30 D
TEXTURE:				
Sand	—	20	60	60
Silt	—	25	5	10
Clay	100	55	30	30
COMPOSITION:				
Bioclast	—	—	1	—
Calcispheres	—	2	—	—
Clay	100	20	25	30
Dolomite	—	1	Tr	2
Feldspar	—	1	2	2
Foraminifers	—	1	—	—
Mica	—	2	2	2
Nannofossils	—	25	10	—
Quartz	—	20	30	35
Rock fragment	—	28	30	26
Zeolite	—	—	—	3

CORE 761C-11R NO RECOVERY



SITE 761 HOLE C CORE 12R CORED INTERVAL 264.5-269.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
RHAETIAN	*T. hantkeni* Barren						V=4.069 @ 26.4 / 2.43	$CaCO_3$=98.67%●	1			X X X		# # #

LITHOLOGIC DESCRIPTION

OOLITIC GRAINSTONE WITH DISSEMINATE SHELL FRAGMENTS

Major lithology: OOLITIC GRAINSTONE with DISSEMINATED SHELL FRAGMENTS, very pale brown (10YR 8/4), well sorted. Grain cores and intergranular spaces strongly dissolved and partly infilled with calcite. Some laminations (parallel) visible. Large (cm or greater) cavities infilled with several generations of calcite (spar) in some cobbles.

Minor lithology: Skeletal packstone, white (10YR 8/1), bioclasts (oolites, shell fragments) dissolved, but mud preserved. Entire core is a drilling breccia.

THIN SECTION SUMMARY (%):

	1, 2 M	1, 8 M	1, 16 D	1, 52 D	1, 73 M
COMPOSITION:					
Algae	2	5	—	—	—
Bioclast	30	30	—	—	25
Echinoid spine	3	3	—	—	2
Echinoid	—	—	5	—	—
Micrite	—	—	—	—	30
Mollusk	—	—	—	10	—
Ooids	—	—	30	20	—
Peloids	40	40	5	45	40
Spar cement	20	17	30	20	—

SITE 761 HOLE C CORE 13R CORED INTERVAL 269.5-274.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
RHAETIAN	*T. hantkeni* Barren	Barren	Barren		Barren				1			X		#

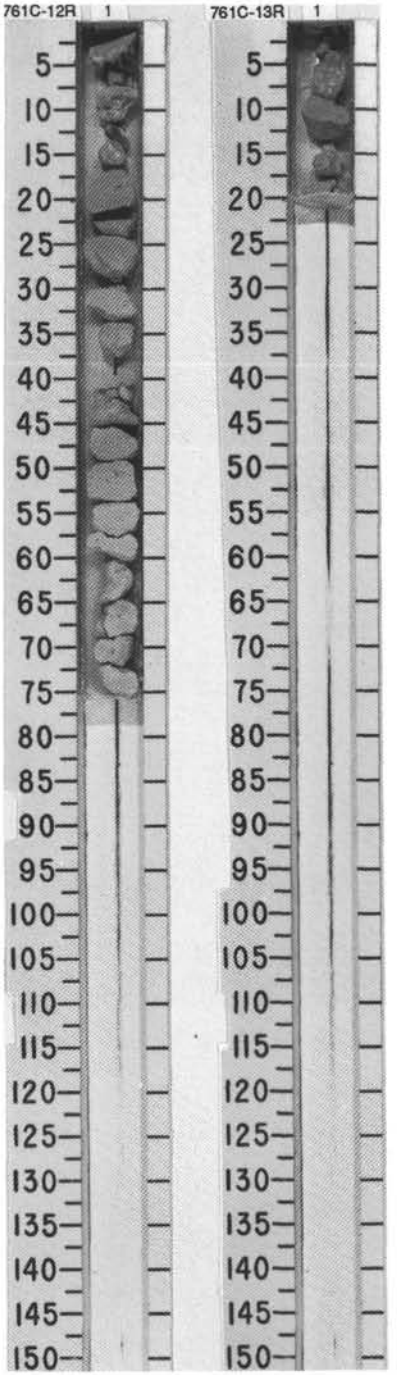
LITHOLOGIC DESCRIPTION

OOLITIC GRAINSTONE

Major lithology: OOLITIC GRAINSTONE, very pale brown (10YR 8/4), similar to main lithology of Core 122-761C-12R. Sediment is well sorted and strongly dissolved (cortex and intergranular pores). Disseminated cm long shell fragments (broken).

THIN SECTION SUMMARY (%):

	1, 1 M	1, 1 D	1, 6 D
COMPOSITION:			
Algae	3	—	—
Echinoid	2	—	—
Foraminifers	15	—	40
Micrite	58	—	—
Ooids	—	—	35
Peloids	2	—	—
Spar cement	20	—	25



SITE 761 HOLE C CORE 14R CORED INTERVAL 274.5-279.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
RHAETIAN	*T. hantkeni*	Barren			Barren				1					#

LITHOLOGIC DESCRIPTION

SKELETAL PELOIDAL PACKSTONE

Major lithology: SKELETAL PELOIDAL PACKSTONE, white (5YR 8/1) to light gray (5YR 7/1) or pinkish gray (5YR 7/2), recrystallized with moldic porosity, fossil fragments partially replaced by sparry calcite.

Minor lithology: Carbonate wackestone with algal laminations, white (10YR 8/2), 2 pieces (Section 1, 25-27 cm), banded, partially dolomitized, yellowish-brown (10YR 5/6) blebs or layers up to 5 mm thick infill desiccation fracture.

THIN SECTION SUMMARY (%):

	1, 10 D	1, 15 D	1, 27 M
COMPOSITION:			
Algae	10	—	—
Bioclast	30	25	10
Echinoid spine	5	—	—
Foraminifers	—	15	5
Micrite	—	20	80
Other	—	—	5
Peloids	45	40	—
Spar cement	10	—	—

SITE 761 HOLE C CORE 15R CORED INTERVAL 279.5-284.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
RHAETIAN	*T. hantkeni*	Barren					ρ=4.709 ϕ=8.3 ● 2.68 ●	$CaCO_3$=98.67% ●	1					

LITHOLOGIC DESCRIPTION

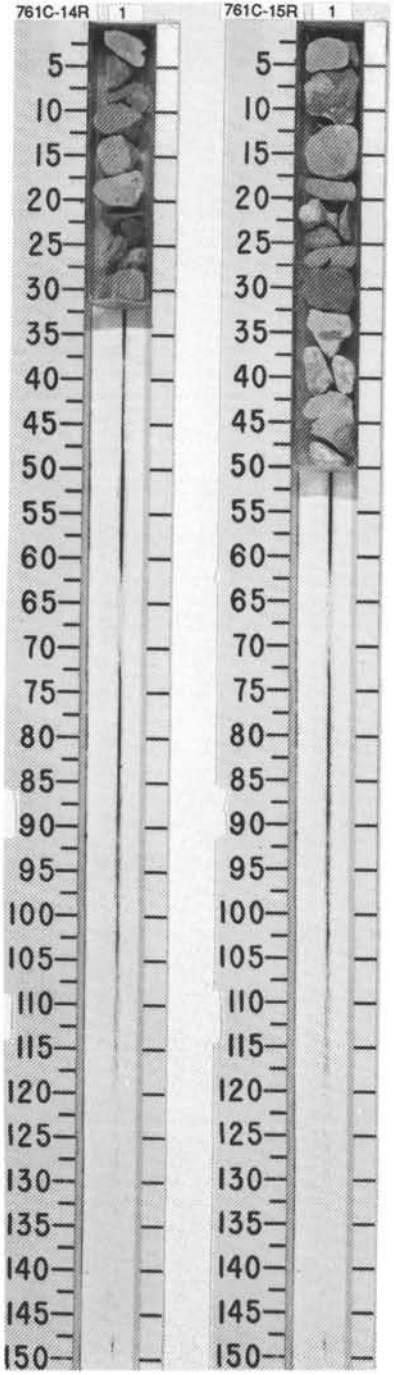
CARBONATE WACKESTONE

Major lithology: CARBONATE WACKESTONE, white (10YR 8/2) and pinkish white (5YR 8/2) with bivalves, gastropods, and small benthonic foraminifers. Fossils usually have moldic porosities, calcite fills dissolution cavities.

Minor lithologies:
a. Carbonate breccia, Section 1, 2-7 cm, very pale brown (10YR 8/3 to 10YR 7/3), probably formed due to dissolution (collapse breccia?), contains mollusks and gastropods.
b. Algal mat structure, Section 1, 34-38 cm, yellowish red (5YR 5/8).
c. Grainstone, Section 1, 17-33 cm, very pale brown (10YR 8/4), formed by oolites and bioclasts.

THIN SECTION SUMMARY (%):

	1, 1 M	1, 8 D	1, 18 M	1, 30 M	1, 38 D	1, 44 D
COMPOSITION:						
Algae	—	—	—	—	—	5
Bioclast	30	5	5	15	—	25
Dolomite	—	65	—	60	—	—
Echinoid spine	—	—	—	—	—	3
Echinoid	5	—	—	10	—	—
Foraminifers	5	—	20	—	—	10
Gastropod	5	—	—	—	—	—
Microsparite	—	—	—	—	95	—
Ooids	—	—	35	—	—	—
Peloids	30	—	10	—	—	50
Spar cement	25	—	30	—	—	7



SITE 761 HOLE C CORE 16R CORED INTERVAL 284.5-289.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
RHAETIAN	*T. hantkeni* Barren				Barren				1					## #	CARBONATE WACKESTONE

Major lithology: CARBONATE WACKESTONE, red (5R 5/6) to pinkish white (5YR 8/2) and very pale brown (10YR 8/4), with various distinct color and lithologic components, such as small benthonic foraminifers, molluscs, oolites, peloids, algae, and echinoderms. Some pieces show extensive moldic porosity.

Minor lithology: Bioclastic oolitic grainstone, very pale brown (10YR 8/4), with small benthonic foraminifer, echinoderms, and molluscs.

THIN SECTION SUMMARY (%):

	1, 10 D	1, 23 M	1, 34 D	1, 52 D	1, 60 D
COMPOSITION:					
Algae	—	—	10	20	7
Dolomite	—	—	—	2	—
Echinoid	—	—	—	3	3
Micrite	7	—	—	—	40
Mollusk	—	—	5	5	3
Other	10	—	—	—	—
Pellets	—	—	40	25	10
Peloids	—	28	—	—	—
Pore space	—	—	—	—	2
Spar cement	83	14	30	25	15

SITE 761 HOLE C CORE 17R CORED INTERVAL 289.5-294.5 mbsf

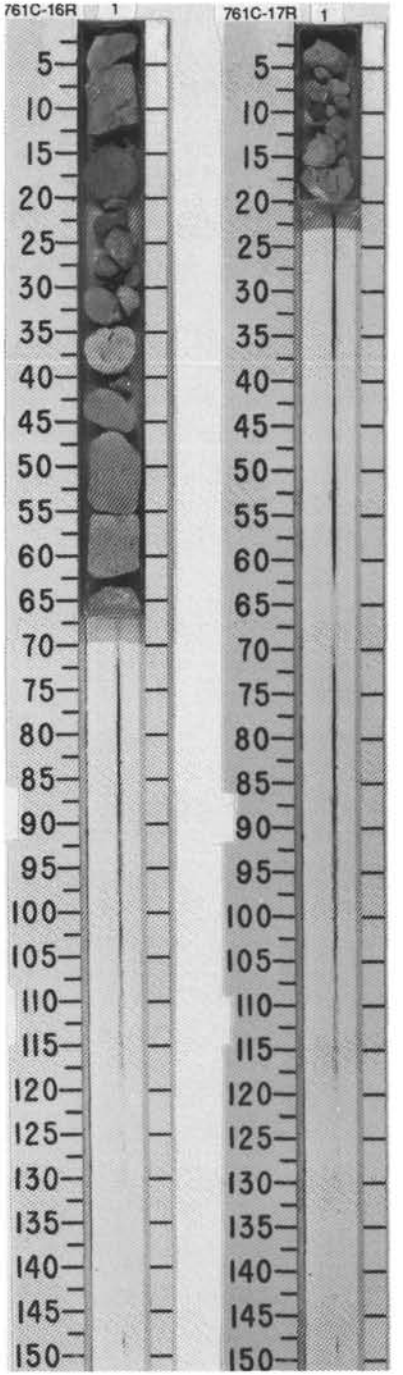
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
RHAETIAN	*T. hantkeni* Barren								1					#	CARBONATE WACKESTONE

Major lithologies:
CARBONATE WACKESTONE, white (10YR 8/2). Pieces <5 cm long, with varying proportions of molluscs, bivalves, echinoderms, corals, foraminifera, oolites, and peloids.

Minor lithology:
Carbonate packstone containing oolites, foraminifers, gastropods, and bivalves. Moldic porosity developing, some cobbles are entirely composed of foraminifers (Triasina sp.)

THIN SECTION SUMMARY (%):

	1, 12 D
COMPOSITION:	
Foraminifers	25
Micrite	25
Peloids	35
Spar cement	15



SITE 761 HOLE C CORE 18R CORED INTERVAL 294.5-304.0 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	Barren	Barren		Barren					1	0.5 1.0				# # #	OOLITIC GRAINSTONE, CALCAREOUS MUDSTONE, AND SKELETAL AND OOID WACKESTONE TO PACKSTONE

Major lithologies:

OOLITIC GRAINSTONE, pale brown (10YR 7/4), moderate dissolution. CALCAREOUS MUDSTONE, yellowis brown (10YR 5/4), thin shells, corals (entirely dissolved) visible on base, small flaser and algal laminations in the middle. SKELETAL and OOID WACKESTONE to PACKSTONE, very pale brown (10YR 7/4), partly laminated (algal), lower part contains corals (small size) and upper part grades into wackestone-mudstone with birds-eye structures.

THIN SECTION SUMMARY (%):

	1, 4 D	1, 80 D	1, 99 D
COMPOSITION:			
Algae	5	—	—
Bioclast	30	—	—
Cast	—	—	5
Dolomite	—	100	—
Echinoid	15	—	—
Foraminifers	10	—	—
Micrite	10	—	95
Peloids	30	—	—

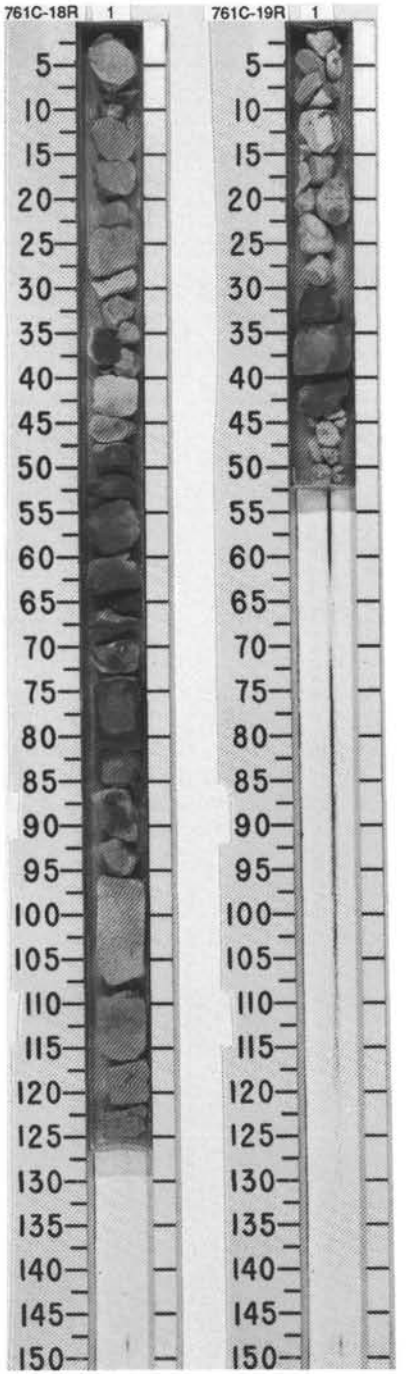
SITE 761 HOLE C CORE 19R CORED INTERVAL 304.0-313.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	Barren	Barren			Barren				1					#	CARBONATE WACKESTONE AND DOLOMITE

Major lithologies:
CARBONATE WACKESTONE, white (5Y 8/1) and pinkish white (5YR 8/2) with bivalves (pelecypods), gastropods, and some unrecognizable tiny fossil fragments. Common moldic and vuggy porosities. Moldic porosity represents dissolution of mollusc fragments (e.g. bivalves, gastropods). DOLOMITE(?), olive yellow (2.5Y 6/6) very fine crystalline with some bivalves, molds, and casts.

THIN SECTION SUMMARY (%):

	1, 20 D
COMPOSITION:	
Bioclast	15
Micrite	85



SITE 761 HOLE C CORE 20R CORED INTERVAL 313.5-323.0 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
RHAETIAN	*T. hantkeni*	Barren			Barren				1					#	SKELETAL PELOIDAL PACKSTONE

Major lithology: SKELETAL PELOIDAL PACKSTONE, white (10YR 8/1),, moldic porosity, fossils (molluscs, echinoderms, coral fragments, molds of spherical fossils or grains). Pebble to cobble-sized fragments. Several pieces contain fragments of Megalodon sp. (bivalve, 8 mm thick, partially, to completely recrystallized).

THIN SECTION SUMMARY (%):

	1, 10 D	1, 20 D

COMPOSITION:

Echinoid	—	5
Foraminifers	20	15
Micrite	60	70
Mollusk	15	10
Other	5	—

SITE 761 HOLE C CORE 21R CORED INTERVAL 323.0-332.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	Barren	Barren			Barren				1					#	PELOIDAL SKELETAL PACKSTONE

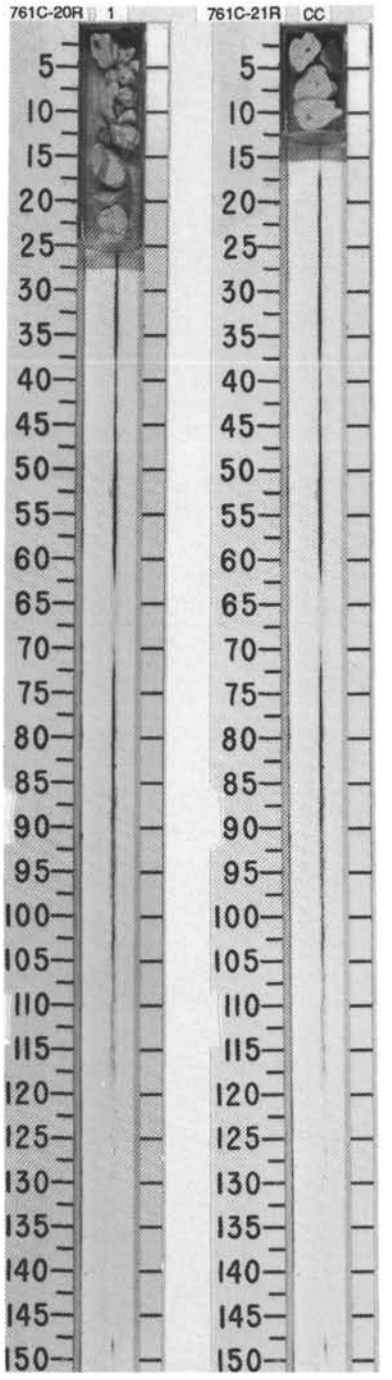
Major lithology: PELOIDAL SKELETAL PACKSTONE, white (5YR 8/1), moldic porosity, recrystallized fossil fragments, including molluscs. Very pale brown (10YR 8/3) surface on side of one piece, either void or fracture partially filled with carbonate or bivalve mold.

THIN SECTION SUMMARY (%):

	CC, 4 M

COMPOSITION:

Bioclast	Tr
Dolomite	95
Inorganic calcite	5
Quartz	Tr



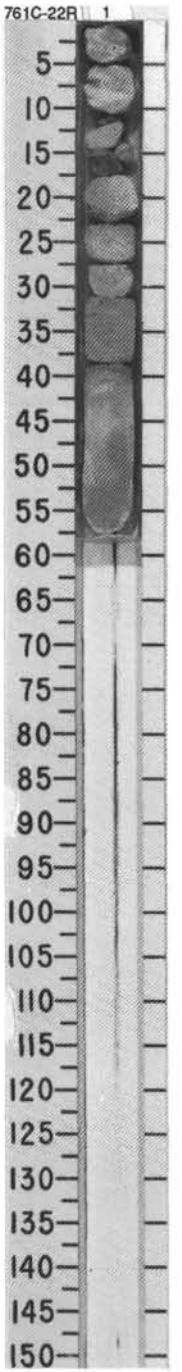
SITE 761 HOLE C CORE 22R CORED INTERVAL 332.5-337.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	Barren	Barren			Barren				1					# # #	CARBONATE WACKESTONE

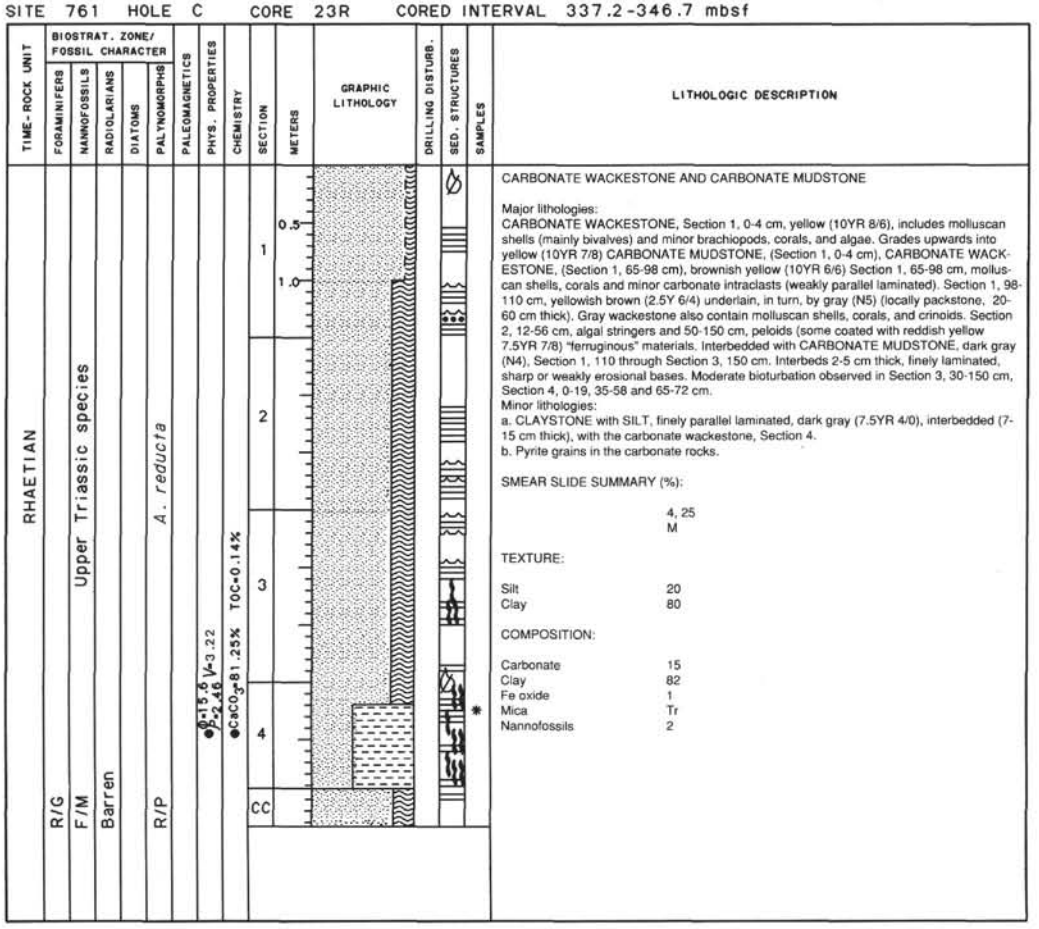
Major lithology: CARBONATE WACKESTONE, white (10YR 8/1), brownish yellow (10YR 6/6), and very pale brown (10YR 8/4), including bivalves, pelecypods, molluscs, and echinoderms. Moldic and vuggy porosity, the first usually attributed to dissolution of molluscan fragments.

THIN SECTION SUMMARY (%):

	1, 5 D	1, 14 D	1, 25 D	1, 53 D
COMPOSITION:				
Algae	—	—	9	—
Bioclast	5	—	—	—
Cast	—	—	—	10
Dolomite	—	94	Tr	Tr
Echinoid	17	1	2	3
Foraminifers	—	—	4	—
Matrix	—	3	—	—
Micrite	67	—	72	55
Mollusk	11	2	4	30
Ostracod	—	—	1	2
Other	—	Tr	4	—
Quartz	Tr	—	Tr	—
Spar cement	—	—	2	—



SITE 761 HOLE C CORE 23R CORED INTERVAL 337.2-346.7 mbsf



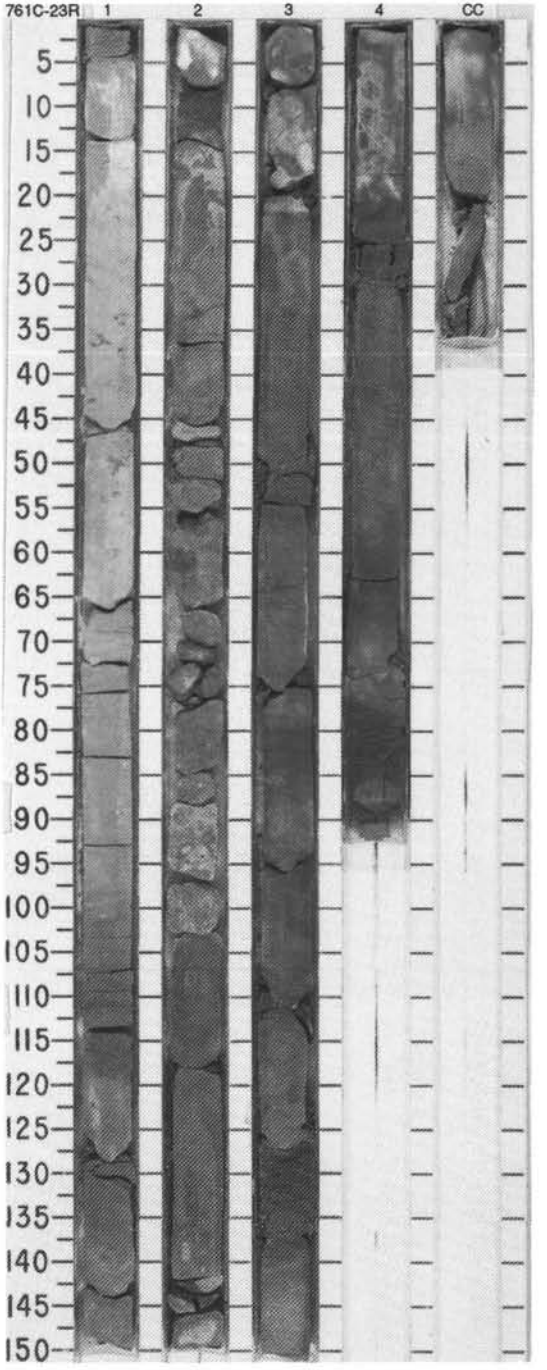
LITHOLOGIC DESCRIPTION

CARBONATE WACKESTONE AND CARBONATE MUDSTONE

Major lithologies:
CARBONATE WACKESTONE, Section 1, 0-4 cm, yellow (10YR 8/6), includes molluscan shells (mainly bivalves) and minor brachiopods, corals, and algae. Grades upwards into yellow (10YR 7/8) CARBONATE MUDSTONE, (Section 1, 0-4 cm), CARBONATE WACKESTONE, (Section 1, 65-98 cm), brownish yellow (10YR 6/6) Section 1, 65-98 cm, molluscan shells, corals and minor carbonate intraclasts (weakly parallel laminated). Section 1, 98-110 cm, yellowish brown (2.5Y 6/4) underlain, in turn, by gray (N5) (locally packstone, 20-60 cm thick). Gray wackestone also contain molluscan shells, corals, and crinoids. Section 2, 12-56 cm, algal stringers and 50-150 cm, peloids (some coated with reddish yellow 7.5YR 7/8) "ferruginous" materials. Interbedded with CARBONATE MUDSTONE, dark gray (N4), Section 1, 110 through Section 3, 150 cm. Interbeds 2-5 cm thick, finely laminated, sharp or weakly erosional bases. Moderate bioturbation observed in Section 3, 30-150 cm, Section 4, 0-19, 35-58 and 65-72 cm.
Minor lithologies:
a. CLAYSTONE with SILT, finely parallel laminated, dark gray (7.5YR 4/0), interbedded (7-15 cm thick), with the carbonate wackestone, Section 4.
b. Pyrite grains in the carbonate rocks.

SMEAR SLIDE SUMMARY (%):

	4, 25 M
TEXTURE:	
Silt	20
Clay	80
COMPOSITION:	
Carbonate	15
Clay	82
Fe oxide	1
Mica	Tr
Nannofossils	2



SITE 761 HOLE C CORE 24R CORED INTERVAL 346.7-356.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB	SED. STRUCTURES	SAMPLES
RHAETIAN	R/G	F/G	Upper Triassic species	Barren	R/P	*A. reducta*	●ρ 2.44 .8 V 1.854	●$CaCO_3$ 33.08% TOC 0.78%	1	0.5				
										1.0				
									2					*
									3					*
									CC					

LITHOLOGIC DESCRIPTION

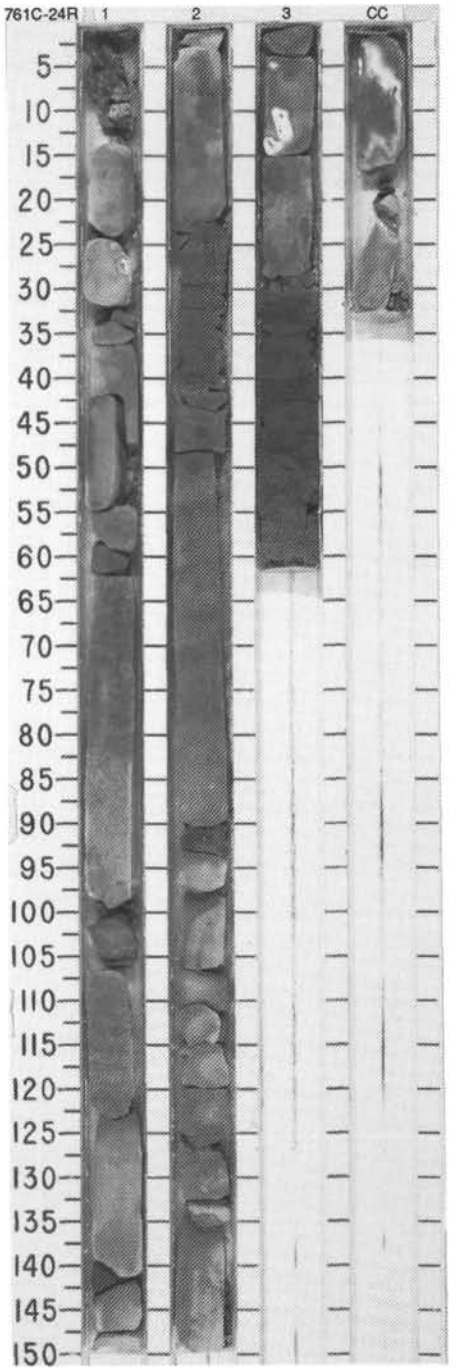
CARBONATE MUDSTONE

Major lithology: CARBONATE MUDSTONE, gray (N5 to N6) to dark gray (N4), shell fragments (brachiopods), burrows (up to 2 mm X 4 mm), bioturbated. Minor pyrite infills bioclasts and burrows. Recrystallized.

Minor lithologies:
a. Silty claystone with bioclasts, Section 2, 22-55 and 89-93 cm, and Section 4, 28-60 cm, authigenic carbonate (prismatic grains with high relief and high birefringence) and dolomite, dark gray (N4) to very dark gray (N3). Bioclasts are silt- to sand-sized, heavily disturbed by drilling (drill biscuits). Bioturbated with Chondrites-type burrows, rare laminations.
b. Carbonate wackestone, gray (N5 to N6), Section 1, 55-122 cm, shell fragments including molluscs, brachiopods, and minor crinoid stems. Shell fragments show moldic porosity development. Bioturbated and recrystallized.

SMEAR SLIDE SUMMARY (%):

	2, 40 M	3, 38 D
TEXTURE:		
Sand	—	7
Silt	25	30
Clay	75	63
COMPOSITION:		
Bioclast	3	18
Clay	74	53
Dolomite	20	4
Mica	Tr	—
Nannofossils	1	6
Opaques	—	4
Other	—	15
Pyrite	2	—



SITE 761 HOLE C CORE 25R CORED INTERVAL 356.2-365.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
RHAETIAN	R/G	C/G TRI - Upper Triassic species			R/P A. reducta		ρ-11.1 γ-3.598 P-2.6	$CaCO_3$=86.25% TOC=0.09% ● TOC=0.36% ●	1					*
									CC					

LITHOLOGIC DESCRIPTION

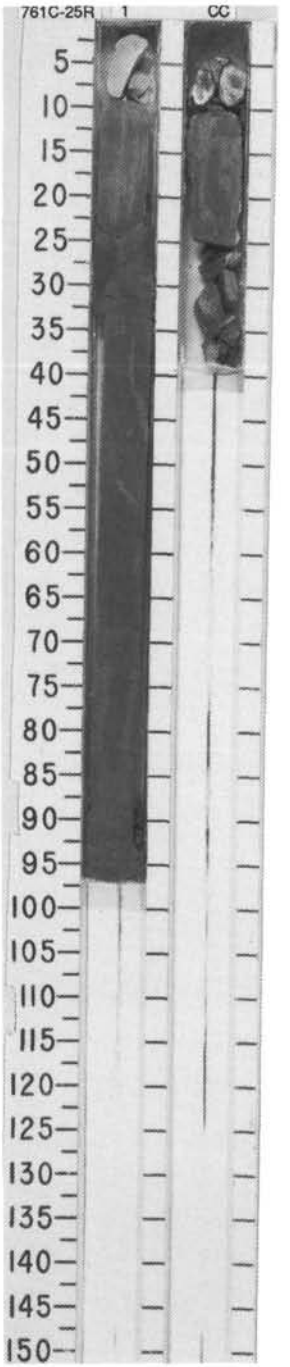
CARBONATE MUDSTONE

Major lithology: CARBONATE MUDSTONE, very dark gray to gray (N3 to N5). Bioturbation consists of mottling and several styles of burrows; vertical burrows 5-10 mm wide and up to 20 cm long, horizontal burrows up to 10 mm thick, and horizontal burrows 2-4 mm wide. Rare shelly fossils including oysters and other bivalves.

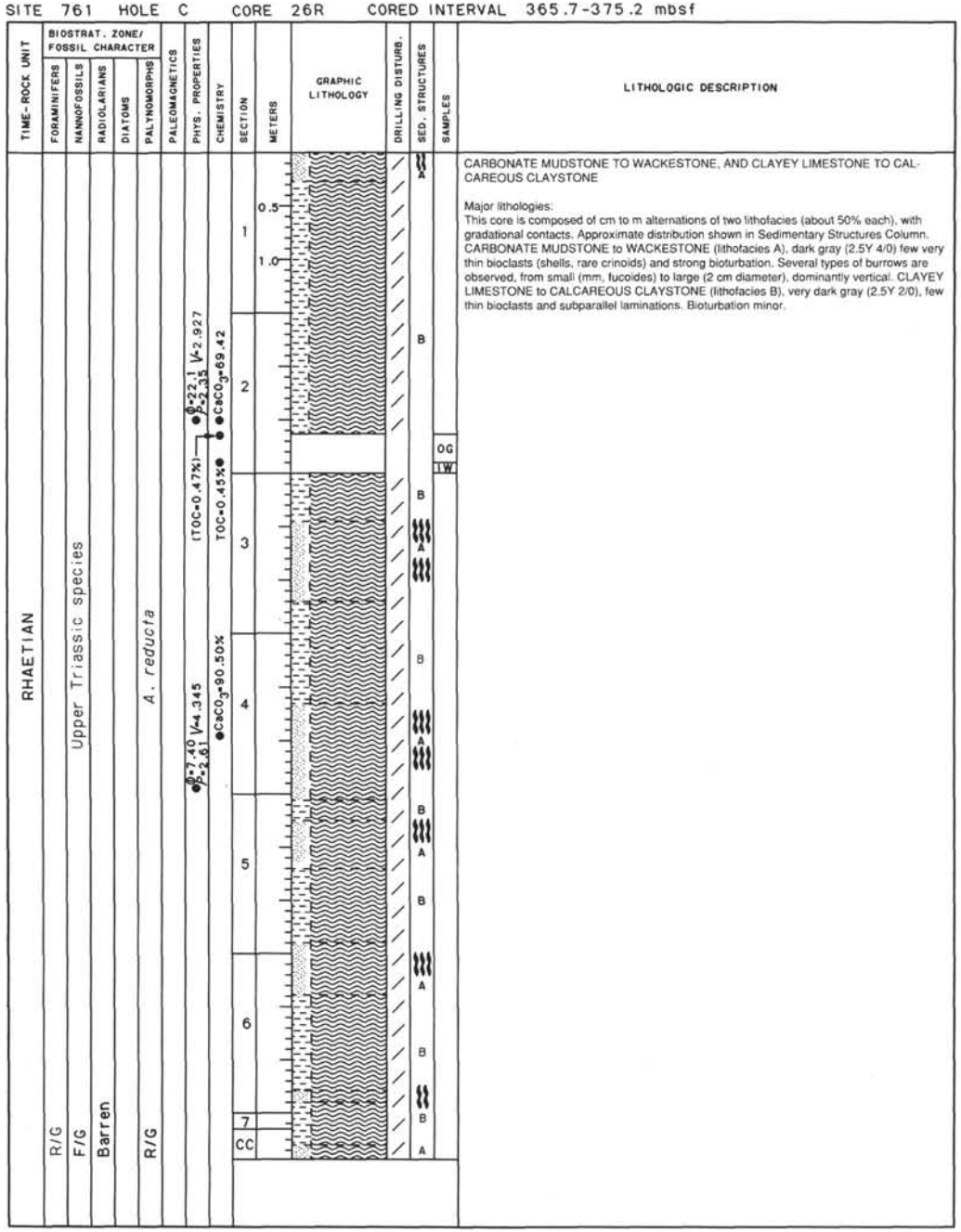
Minor lithologies:
a. Claystone, very dark gray (N3) and highly disturbed by drilling, Section 1, 24-27 cm and Section CC, 0-3 cm. Consists of clay, with common dolomite rhombs and rare pyrite and spherical nannofossils.
b. Carbonate wackestone to packstone, pink (7.5YR 8/4). Section 1, 0-10 cm, probably downhole contamination.

SMEAR SLIDE SUMMARY (%):

	CC, 2 M
TEXTURE:	
Silt	15
Clay	85
COMPOSITION:	
Clay	85
Dolomite	12
Nannofossils	1
Pyrite	2

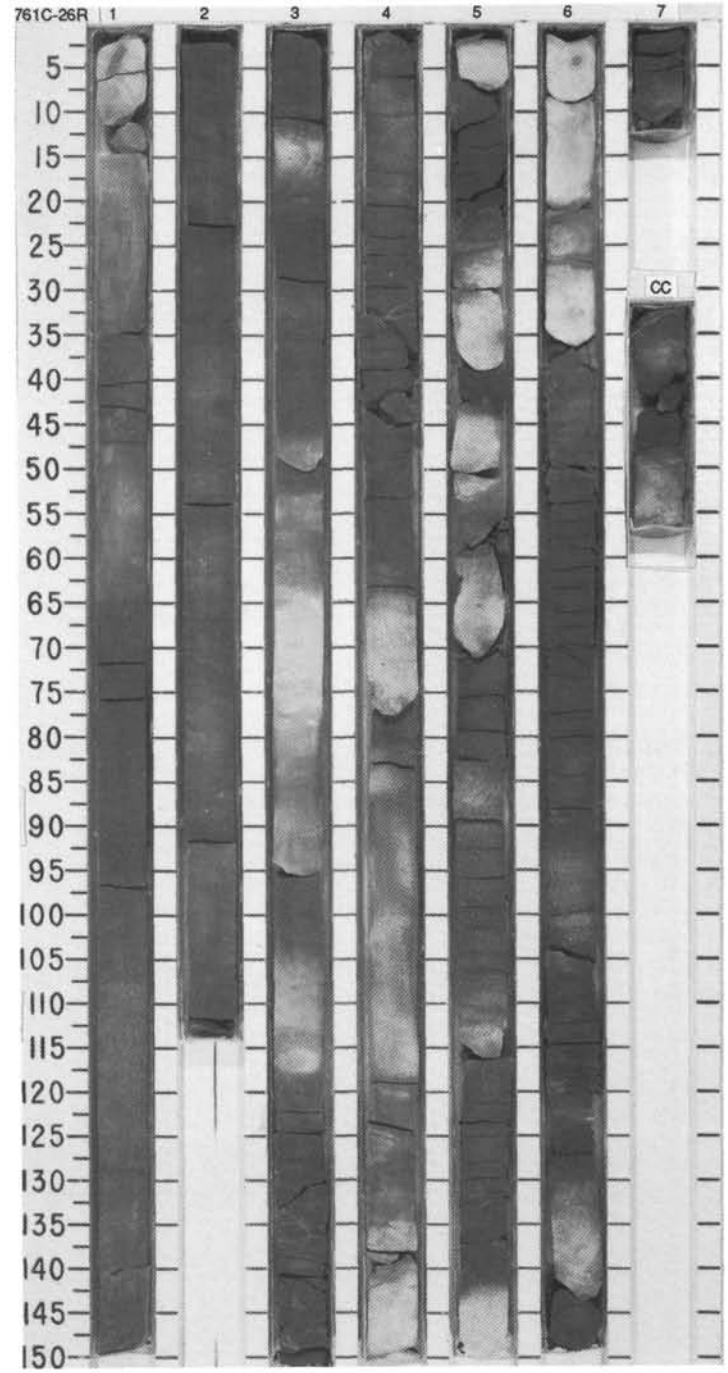


SITE 761 HOLE C CORE 26R CORED INTERVAL 365.7-375.2 mbsf



CARBONATE MUDSTONE TO WACKESTONE, AND CLAYEY LIMESTONE TO CALCAREOUS CLAYSTONE

Major lithologies:
This core is composed of cm to m alternations of two lithofacies (about 50% each), with gradational contacts. Approximate distribution shown in Sedimentary Structures Column. CARBONATE MUDSTONE to WACKESTONE (lithofacies A), dark gray (2.5Y 4/0) few very thin bioclasts (shells, rare crinoids) and strong bioturbation. Several types of burrows are observed, from small (mm, fucoides) to large (2 cm diameter), dominantly vertical. CLAYEY LIMESTONE to CALCAREOUS CLAYSTONE (lithofacies B), very dark gray (2.5Y 2/0), few thin bioclasts and subparallel laminations. Bioturbation minor.

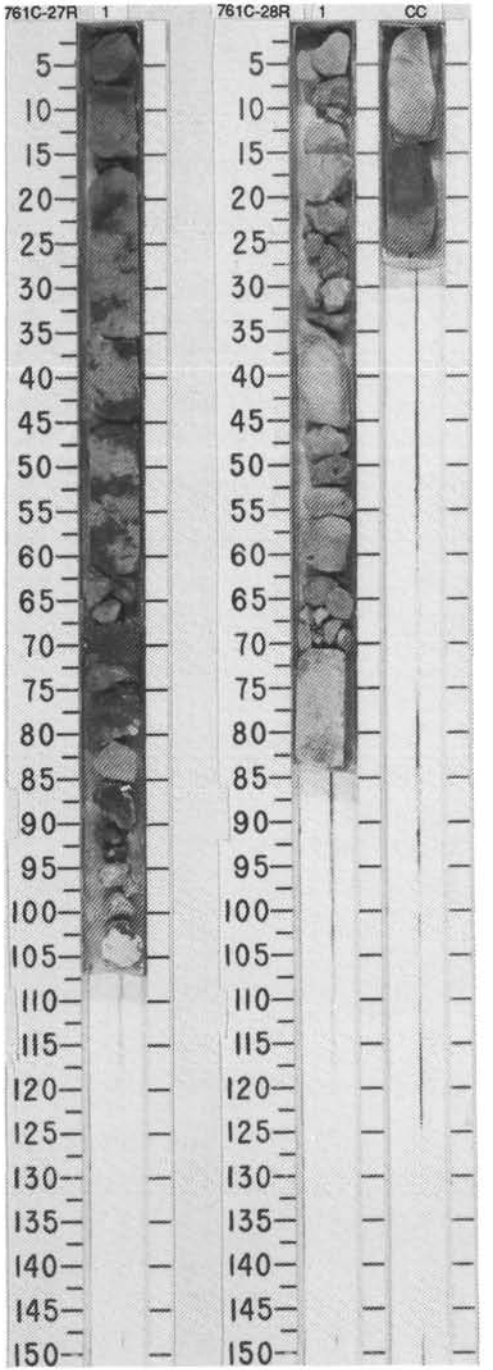


SITE 761 HOLE C CORE 27R CORED INTERVAL 375.2-384.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
RHAETIAN	Barren		R/P					•TOC=0.02%	1		VOID			#	CARBONATE WACKESTONE TO PACKSTONE Major lithologies: *MOLLUSCAN CARBONATE WACKESTONE, gray (5Y 6/1), more indurated and limy than* the molluscan wackestone to packstone. Includes mollusc fragments, coral, gastropods, echinoderm fragments, and peloids. MOLLUSCAN CARBONATE WACKESTONE and PACKSTONE, very dark gray (5Y 3/1), recrystallized, and dolomitized (?), clayey in part, shell fragments concentrated parallel to the bedding surface(?). Reworking may be common. CARBONATE WACKESTONE with MOLLUSCS and CORAL, white (10Y 8/1), coral, molluscs, echinoderm, and algal fragments. THIIN SECTION SUMMARY (%): 1, 41 D COMPOSITION: Algae 10 Echinoid 10 Micrite 48 Mollusk 30 Quartz 2

SITE 761 HOLE C CORE 28R CORED INTERVAL 384.7-389.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	R/G		Barren	Barren	Barren				1 CC					#	SKELETAL GRAINSTONE TO PACKSTONE WITH ECHINODERMS AND CRINOIDS AND CARBONATE WACKESTONE Major lithologies: SKELETAL, OOID, and PELOIDAL GRAINSTONE, light gray (5Y 7/2), Section 1, 0 to 70 cm, ooid and peloidal grainstone with shell debris, strongly recrystallized (partly dolomitized). *Very coarse grainstone and packstone, light olive brown (2.5Y 5/4), Section 1, 70 to* 85 cm. CARBONATE WACKESTONE very dark gray (7.5YR 3/0) to gray (7.5YR 6/0), with molluscs, echinoderms, and coral fragments (CC). Strong bioturbation and patchy dolomitization. THIN SECTION SUMMARY (%): 1, 40 D COMPOSITION: Cement 35 Echinoid 25 Foraminifers 10 Mollusk 20 Peloids 10



SITE 761 HOLE C CORE 29R CORED INTERVAL 389.2-398.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	R/G	Barren	Barren		Barren			●TOC=0.0%	1 2	0.5 1.0					CARBONATE PACKSTONE, WACKESTONE, AND GRAINSTONE Major lithologies: CARBONATE WACKESTONE to PACKSTONE, light gray (7.5YR 10), Section 1, 100-108 cm, contains some bioclasts (i.e. molluscs, echinoderms) and common lithoclasts. CARBONATE PACKSTONE to GRAINSTONE, very dark gray (5Y 3/1), olive gray (5Y 5/2) and white (5Y 8/1), Section 1, 0-100 cm and 110-150 cm and Section 2. Section 1, 0-100 cm, packstone to grainstone facies consists of molluscs, echinoderms and probably coralline red algal fragments with faint lamination and intensive bioturbation. Burrows dolomitized, argillaceous appearance. Section 1, 110-150 cm, fine-grained packstone, very light greenish gray (10Y 8/2), components degraded (chalky) and not identifiable. Section 2, coarse to fine grained with common molluscs, echinoderms and corals. Minor lithology: Calcareous siltstone, black (7.5YR 2/0).

SITE 761 HOLE C CORE 30R CORED INTERVAL 398.7-408.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
RHAETIAN	R/G	F/G Upper Triassic species	Barren		R/P *A. reducta*		●ρ=2.01 ●ρ=0.20 γ=1.785	TOC=0.85%● ●$CaCO_3$=19.17% TOC=0.94%	1	0.5				#
										1.0				#
									2					#
									CC					*

LITHOLOGIC DESCRIPTION

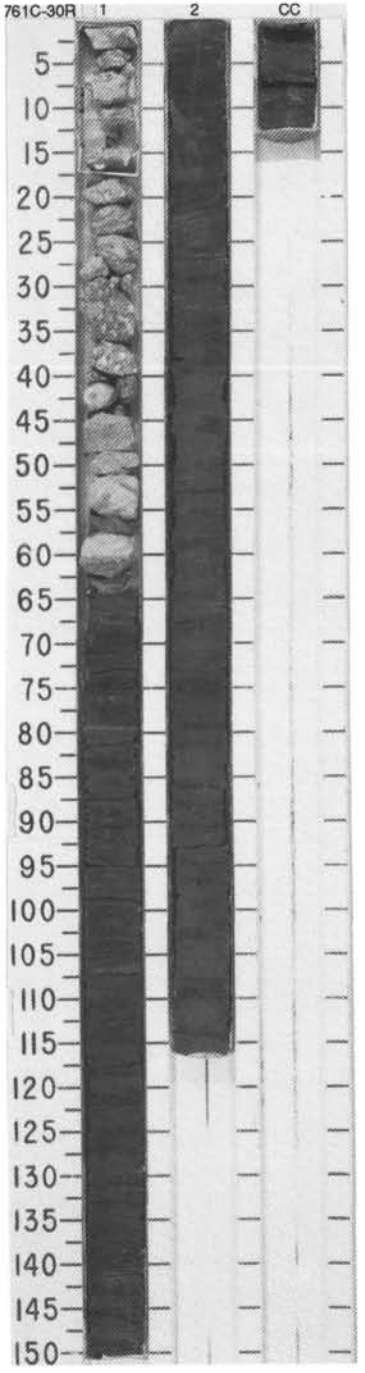
CARBONATE ROCKS AND SILTY CLAYSTONE

Major lithologies:
CARBONATE ROCKS, Section 1, 0-65 cm, PACKSTONE (0-3 cm), molluscs, echinoderms, corals, and red algae; RUDSTONE (3-44 cm), pinkish white (7.5YR 8/2) to pinkish gray (7.5YR 6/2); corals, molluscs, oncolite, rodolite; GRAINSTONE (44-52 cm), very pale brown (10YR 7/3) to white (10YR 8/1), echinoderm fragments, molluscs, small benthic foraminifers, and PACKSTONE (52-65 cm), recrystallized small benthic foraminifers, peloids and echinoderm. SILTY CLAYSTONE, black (2.5Y 2/0), finely laminated, small molluscan shells, and include minor bioturbation.

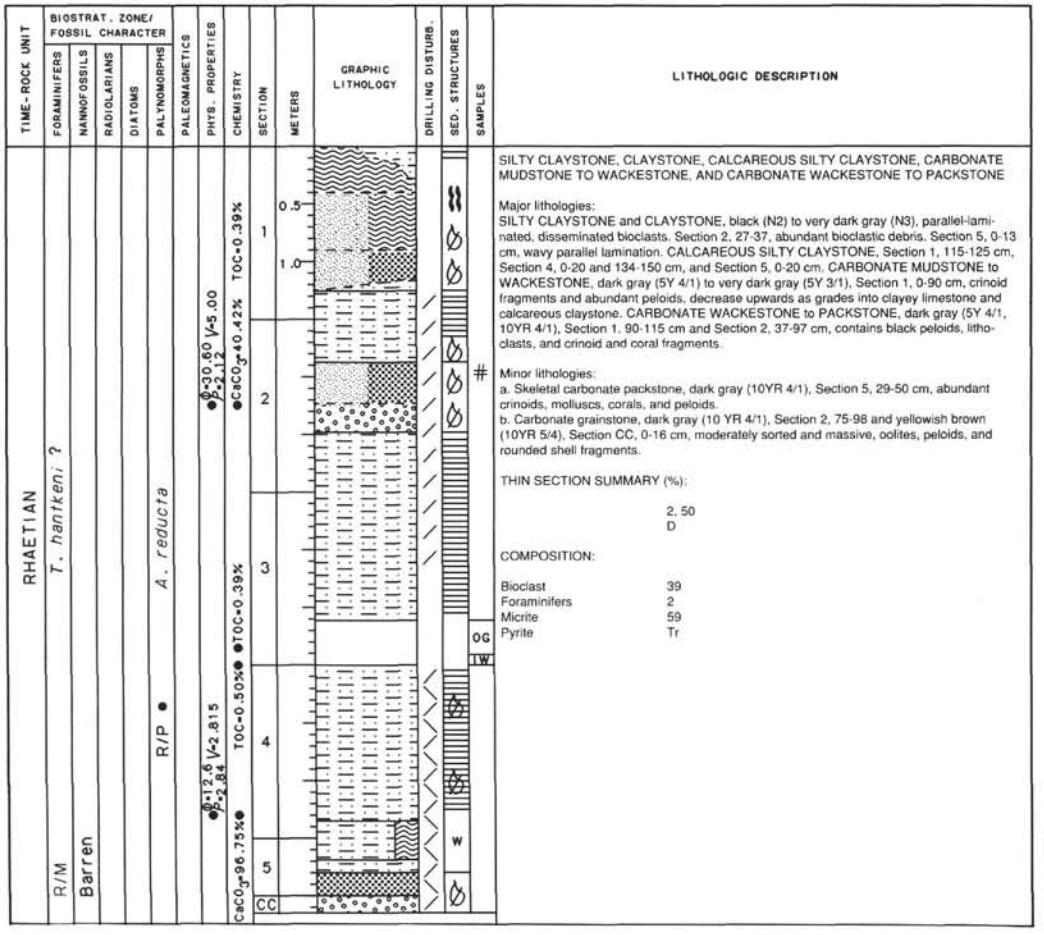
Minor lithologies:
a. Clayey siltstone laminae, light brownish gray (2.5Y 6/2), 1-2 mm thick, interbedded in silty claystone.
b. Siderite, Section 2, 21-22 cm.

SMEAR SLIDE AND THIN SECTION SUMMARY (%):

	1, 7 D	1, 15 D	1, 28 D	1, 43 D	1, 49 D	2, 72 D
TEXTURE:						
Sand	—	—	—	—	—	5
Silt	—	—	—	—	—	40
Clay	—	—	—	—	—	55
COMPOSITION:						
Accessory minerals	—	—	—	—	—	5
Bioclast	—	—	—	—	33	—
Bryozoa	—	—	—	5	—	—
Carbonate	—	—	—	—	—	2
Cement	—	—	—	42	—	—
Clay	—	—	—	—	—	48
Echinoid	—	—	—	30	—	—
Fe oxide	—	—	—	—	2	—
Feldspar	—	—	—	—	—	2
Glass	—	—	—	—	—	Tr
Micrite	—	—	—	—	5	—
Mollusk	—	—	—	20	—	—
Carbonaceous fragments	—	—	—	3	—	8
Pellets	—	—	—	—	20	—
Quartz	—	—	—	—	—	30
Rock fragment	—	—	—	—	—	1
Spar cement	—	—	—	—	40	—
Sponge spicules	—	—	—	—	—	2
Zeolite	—	—	—	—	—	3



SITE 761 HOLE C CORE 31R CORED INTERVAL 408.2-417.7 mbsf



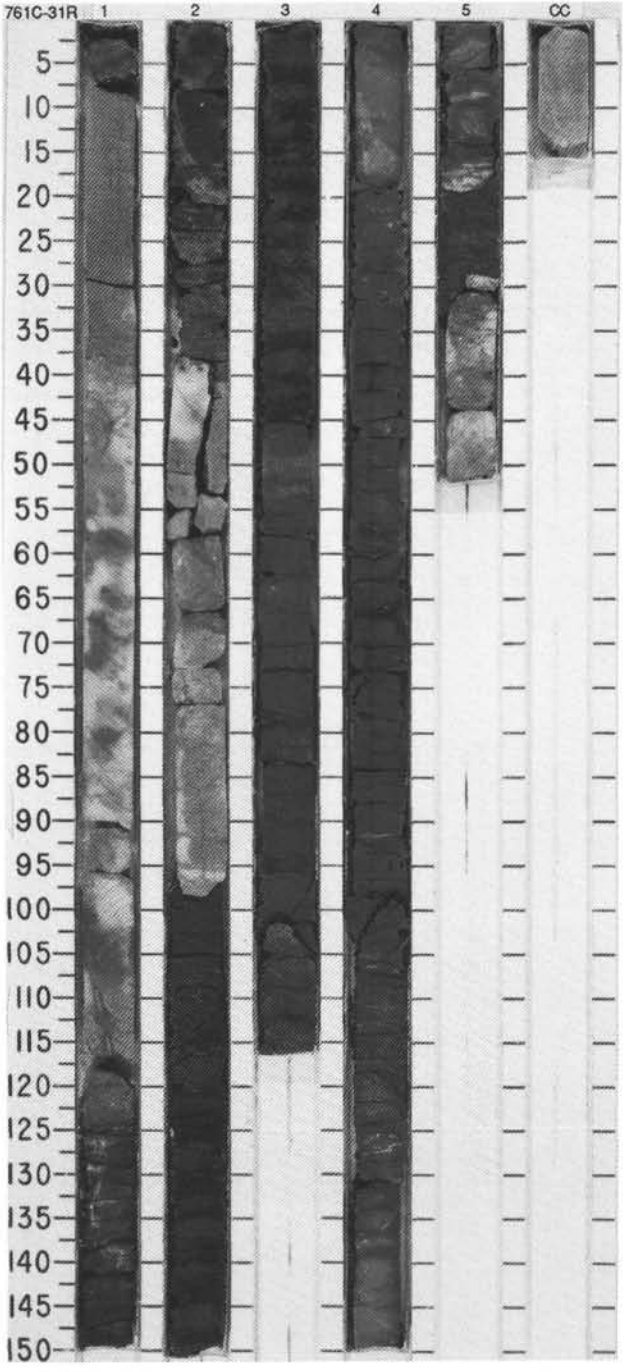
SILTY CLAYSTONE, CLAYSTONE, CALCAREOUS SILTY CLAYSTONE, CARBONATE MUDSTONE TO WACKESTONE, AND CARBONATE WACKESTONE TO PACKSTONE

Major lithologies:
SILTY CLAYSTONE and CLAYSTONE, black (N2) to very dark gray (N3), parallel-laminated, disseminated bioclasts. Section 2, 27-37, abundant bioclastic debris. Section 5, 0-13 cm, wavy parallel lamination. CALCAREOUS SILTY CLAYSTONE, Section 1, 115-125 cm, Section 4, 0-20 and 134-150 cm, and Section 5, 0-20 cm. CARBONATE MUDSTONE to WACKESTONE, dark gray (5Y 4/1) to very dark gray (5Y 3/1), Section 1, 0-90 cm, crinoid fragments and abundant peloids, decrease upwards as grades into clayey limestone and calcareous claystone. CARBONATE WACKESTONE to PACKSTONE, dark gray (5Y 4/1, 10YR 4/1), Section 1, 90-115 cm and Section 2, 37-97 cm, contains black peloids, lithoclasts, and crinoid and coral fragments.

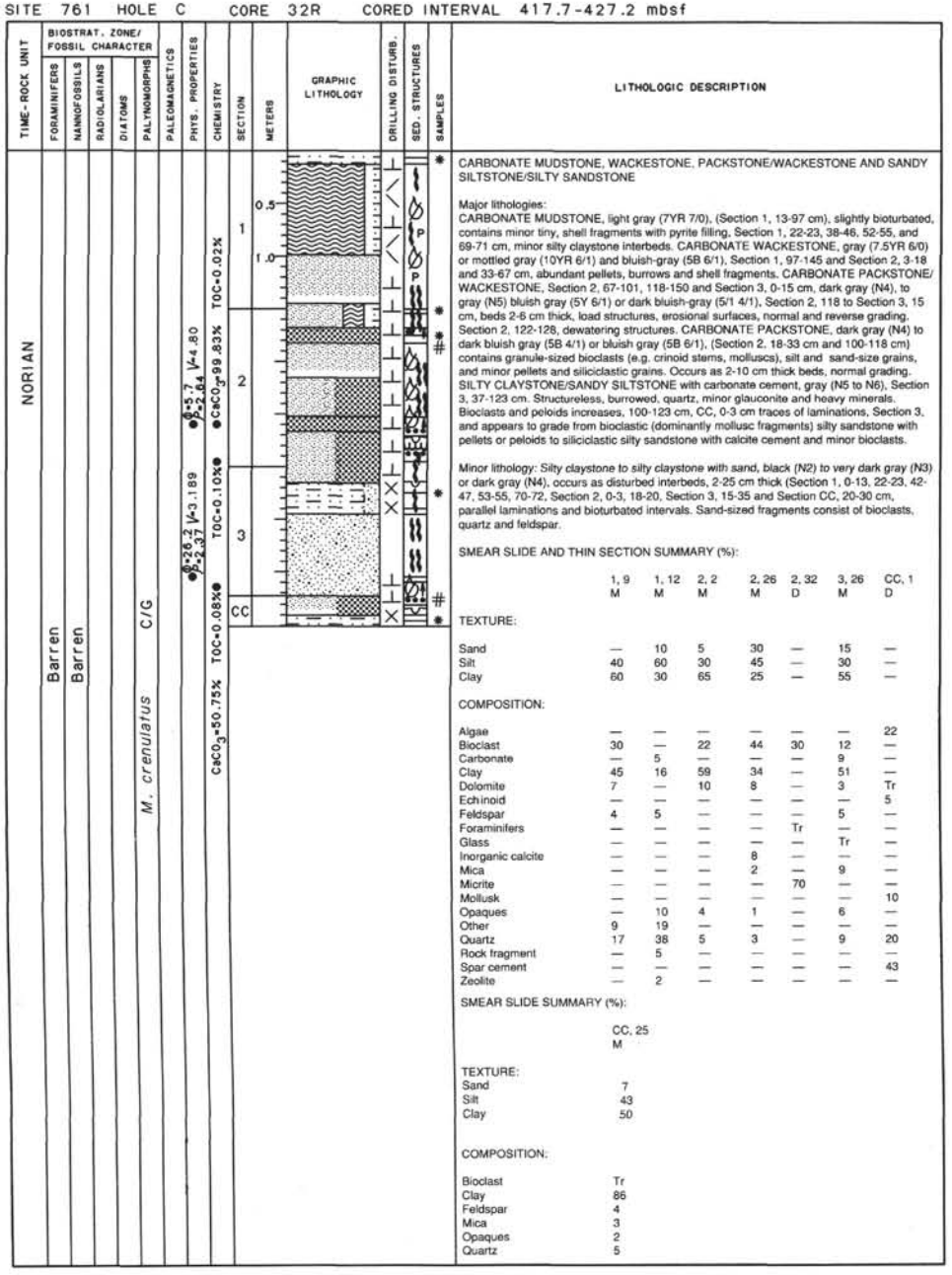
Minor lithologies:
a. Skeletal carbonate packstone, dark gray (10YR 4/1), Section 5, 29-50 cm, abundant crinoids, molluscs, corals, and peloids.
b. Carbonate grainstone, dark gray (10 YR 4/1), Section 2, 75-98 and yellowish brown (10YR 5/4), Section CC, 0-16 cm, moderately sorted and massive, oolites, peloids, and rounded shell fragments.

THIN SECTION SUMMARY (%):

	2, 50
	D
COMPOSITION:	
Bioclast	39
Foraminifers	2
Micrite	59
Pyrite	Tr



SITE 761 HOLE C CORE 32R CORED INTERVAL 417.7-427.2 mbsf



LITHOLOGIC DESCRIPTION

CARBONATE MUDSTONE, WACKESTONE, PACKSTONE/WACKESTONE AND SANDY SILTSTONE/SILTY SANDSTONE

Major lithologies:
CARBONATE MUDSTONE, light gray (7YR 7/0), (Section 1, 13-97 cm), slightly bioturbated, contains minor tiny, shell fragments with pyrite filling, Section 1, 22-23, 38-46, 52-55, and 69-71 cm, minor silty claystone interbeds. CARBONATE WACKESTONE, gray (7.5YR 6/0) or mottled gray (10YR 6/1) and bluish-gray (5B 6/1), Section 1, 97-145 and Section 2, 3-18 and 33-67 cm, abundant pellets, burrows and shell fragments. CARBONATE PACKSTONE/ WACKESTONE, Section 2, 67-101, 118-150 and Section 3, 0-15 cm, dark gray (N4), to gray (N5) bluish gray (5Y 6/1) or dark bluish-gray (5/1 4/1), Section 2, 118 to Section 3, 15 cm, beds 2-6 cm thick, load structures, erosional surfaces, normal and reverse grading. Section 2, 122-128, dewatering structures. CARBONATE PACKSTONE, dark gray (N4) to dark bluish gray (5B 4/1) or bluish gray (5B 6/1), (Section 2, 18-33 cm and 100-118 cm) contains granule-sized bioclasts (e.g. crinoid stems, molluscs), silt and sand-size grains, and minor pellets and siliciclastic grains. Occurs as 2-10 cm thick beds, normal grading. SILTY CLAYSTONE/SANDY SILTSTONE with carbonate cement, gray (N5 to N6), Section 3, 37-123 cm. Structureless, burrowed, quartz, minor glauconite and heavy minerals. Bioclasts and peloids increases, 100-123 cm, CC, 0-3 cm traces of laminations, Section 3, and appears to grade from bioclastic (dominantly mollusc fragments) silty sandstone with pellets or peloids to siliciclastic silty sandstone with calcite cement and minor bioclasts.

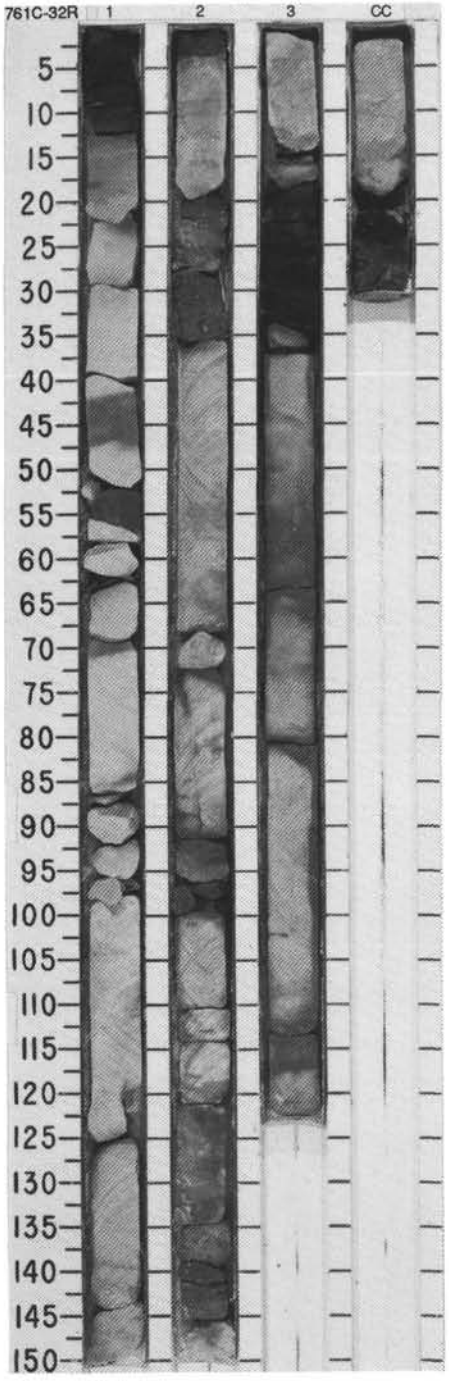
Minor lithology: Silty claystone to silty claystone with sand, black (N2) to very dark gray (N3) or dark gray (N4), occurs as disturbed interbeds, 2-25 cm thick (Section 1, 0-13, 22-23, 42-47, 53-55, 70-72, Section 2, 0-3, 18-20, Section 3, 15-35 and Section CC, 20-30 cm, parallel laminations and bioturbated intervals. Sand-sized fragments consist of bioclasts, quartz and feldspar.

SMEAR SLIDE AND THIN SECTION SUMMARY (%):

	1, 9 M	1, 12 M	2, 2 M	2, 26 M	2, 32 D	3, 26 M	CC, 1 D
TEXTURE:							
Sand	—	10	5	30	—	15	—
Silt	40	60	30	45	—	30	—
Clay	60	30	65	25	—	55	—
COMPOSITION:							
Algae	—	—	—	—	—	—	22
Bioclast	30	—	22	44	30	12	—
Carbonate	—	5	—	—	—	9	—
Clay	45	16	59	34	—	51	—
Dolomite	7	—	10	8	—	3	Tr
Echinoid	—	—	—	—	—	—	5
Feldspar	4	5	—	—	—	5	—
Foraminifers	—	—	—	—	Tr	—	—
Glass	—	—	—	—	—	Tr	—
Inorganic calcite	—	—	—	8	—	—	—
Mica	—	—	—	2	—	9	—
Micrite	—	—	—	—	70	—	—
Mollusk	—	—	—	—	—	—	10
Opaques	—	10	4	1	—	6	—
Other	9	19	—	—	—	—	—
Quartz	17	38	5	3	—	9	20
Rock fragment	—	5	—	—	—	—	—
Spar cement	—	—	—	—	—	—	43
Zeolite	—	2	—	—	—	—	—

SMEAR SLIDE SUMMARY (%):

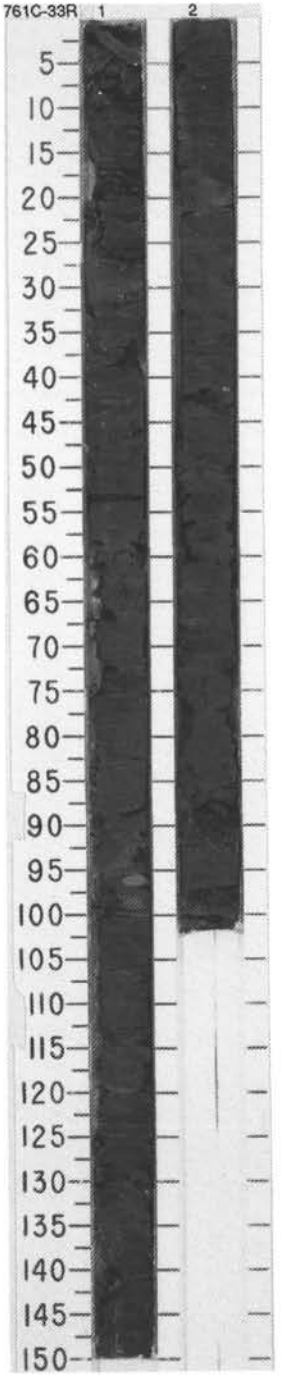
	CC, 25 M
TEXTURE:	
Sand	7
Silt	43
Clay	50
COMPOSITION:	
Bioclast	Tr
Clay	86
Feldspar	4
Mica	3
Opaques	2
Quartz	5



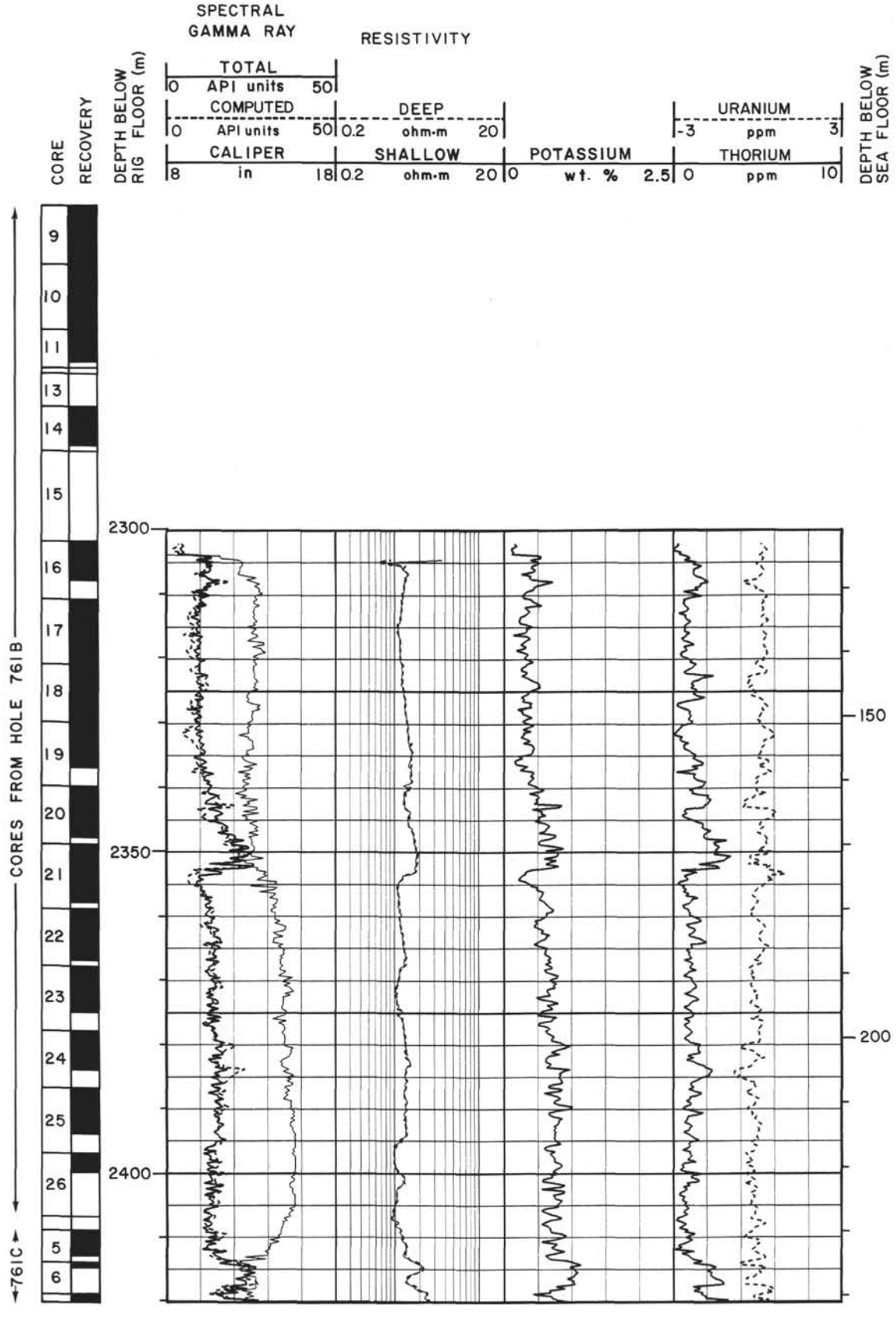
SITE 761 HOLE C CORE 33R CORED INTERVAL 427.2-436.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALYNOMORPHS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
NORIAN	F/M	Upper Triassic species		F/M	*M. crenulatus*		●ρ=45.40 V=1.688 ●P=1.96	TOC=3.02% ● ●CaCO$_3$=1.42%	TOC=4.91%	1 0.5 1.0 2		X / / X / ⊥ ⊥ ⊥		* * *	SILTY CLAYSTONE Major lithology: SILTY CLAYSTONE, black (2.5Y 2/0), carbonaceous, finely laminated, moderate bioturbation. Minor lithologies: a. Carbonaceous clayey siltstone, dark greenish gray (10Y 4/2), finely laminated, 1-30 mm thick, interbedded with silty claystone, local coal seams. b. coal, black (2.5Y 2/0), Section 1, 52-54 cm. c. Pyrite nodules, maximum dimension 2 X 7 mm, and smaller scattered grains. SMEAR SLIDE SUMMARY (%):

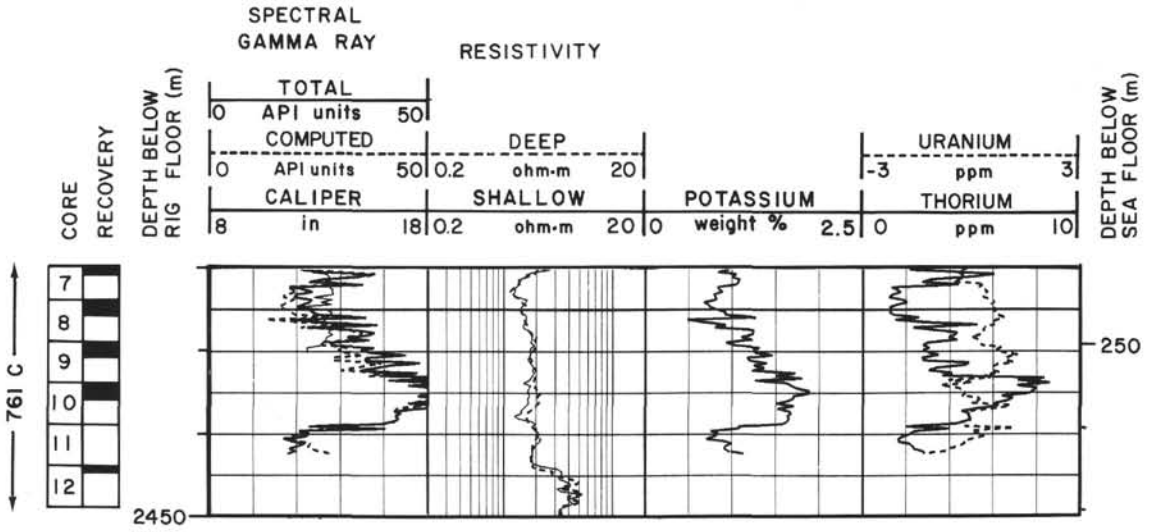
	1, 12 M	1, 110 D	2, 54 D
TEXTURE:			
Sand	10	7	5
Silt	60	25	26
Clay	30	68	69
COMPOSITION:			
Accessory minerals	—	—	Tr
Carbonate	5	15	—
Clay	17	44	55
Feldspar	5	5	—
Glass	—	Tr	—
Opaques	10	—	15
Carbonoceous fragments	—	15	15
Quartz	50	20	15
Zeolite	2	1	—
Rock fragments	5	—	—



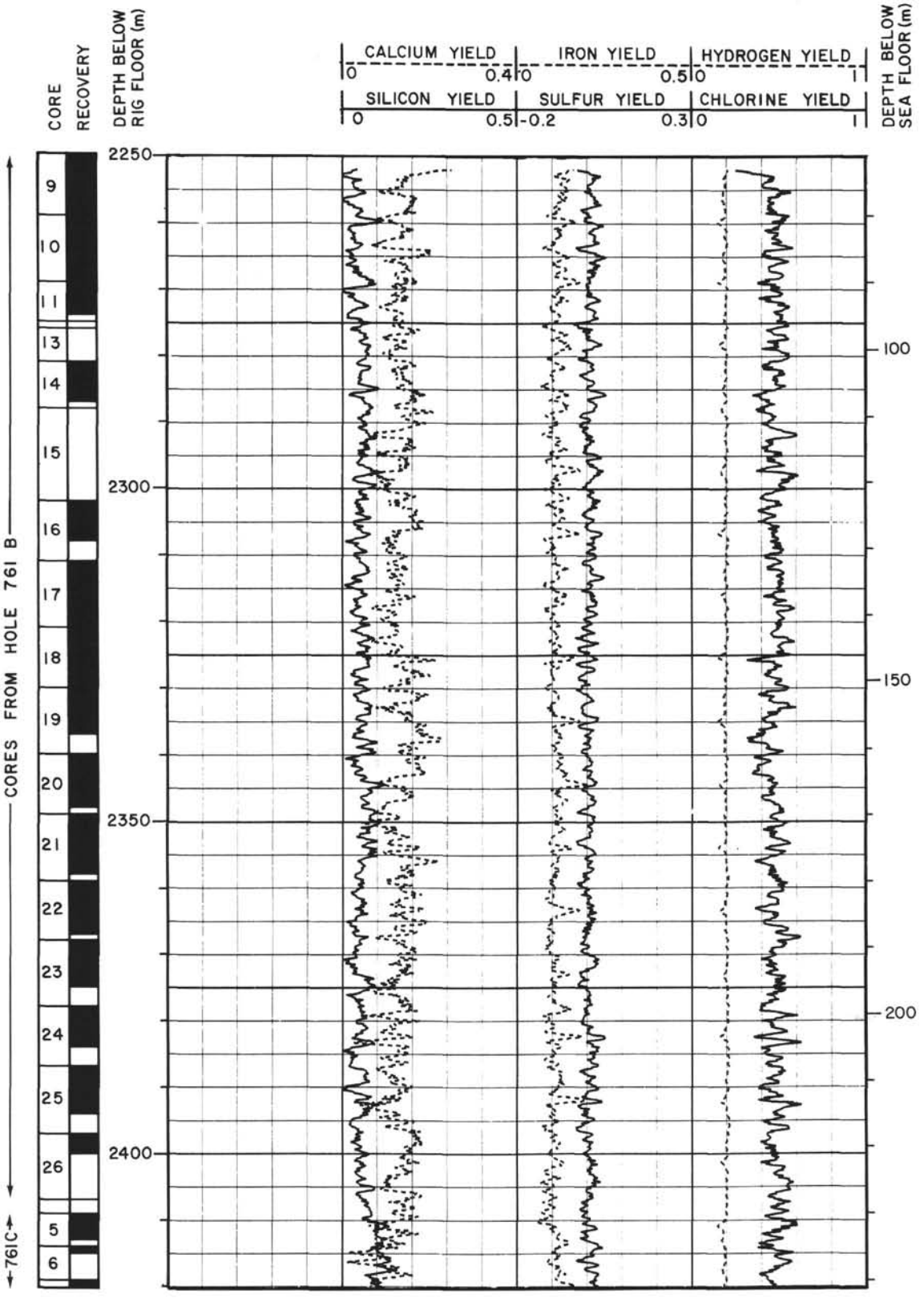
Summary Log for Site 761C



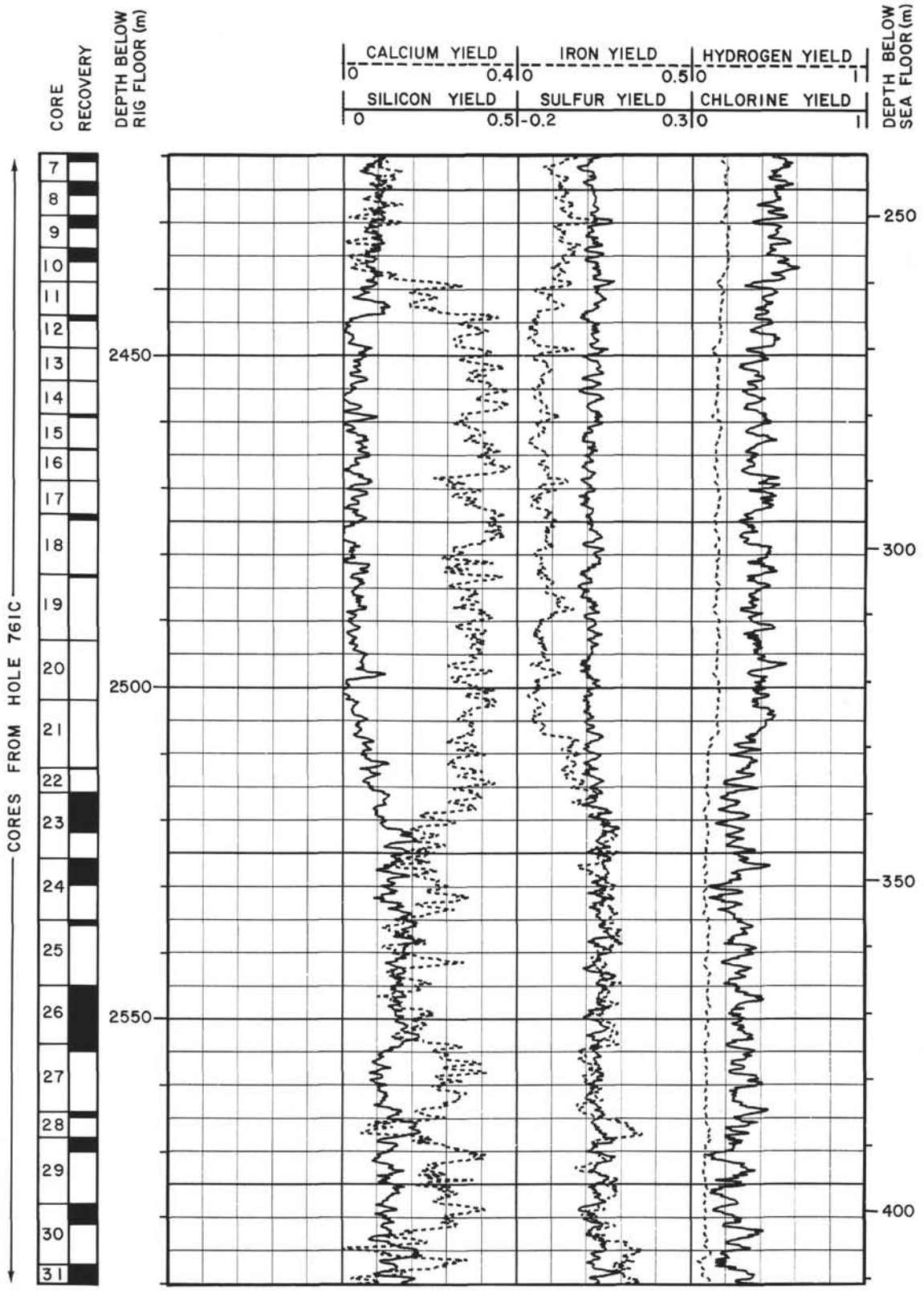
Summary Log for Site 761C (continued)



Summary Log for Site 761C (continued)



Summary Log for Site 761C (continued)



Summary Log for Site 761C (continued)