SITE 743 HOLE A CORE 1H CORED INTERVAL 0.0-1.3 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
PLIOCENE-QUATERNARY	B R/G F/G	B	R/G *Antarctissa denticulata*	B		w=169% w=176% 1.2-2.23	%$CaCO_3$=0.0 %TOC=0.51 %$CaCO_3$=0.1 %TOC=0.20 %$CaCO_3$=0.1	1 CC	0.5		O O O	 ◇ ◇	* * *

LITHOLOGIC DESCRIPTION

SAND and CLAYEY SILT

Major lithologies:

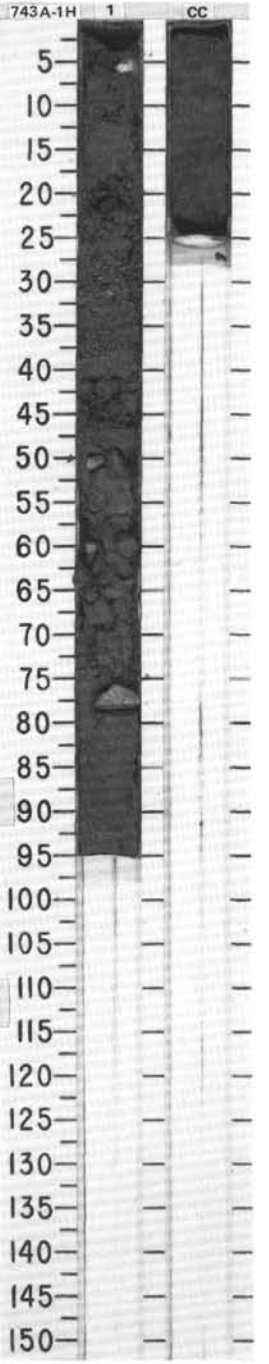
a. Sand, olive gray (5Y 5/2); with up to 50% diatoms in upper 18 cm, Section 1, 0-46 cm. The sand is loose, moderately well sorted, medium to coarse grained. Grains comprise 80% quartz and feldspar, fine grained amphibolitic rock 10%, other rock fragments (gneissic basement), biotite 2%, minor garnet. The rock fragments are subrounded to subangular, the quartz and feldspar grains angular to subangular. At 43-46 cm the sand contains about 20% foraminifers. Gneissic pebbles occur at 20 cm and 40 cm.

b. Clayey silt, dark grayish brown (10YR 4/2), Section 1, 46-94 cm. A minor gravel component (<1%) includes a clast of gneiss, 3 X 5 cm. Black streaks in core catcher may be manganese.

Drilling disturbance:
The upper diatom-rich sand may be the result of mixing of two distinct lithologies during drilling. The two main lithologies are highly disturbed by *drilling and cutting.*

SMEAR SLIDE SUMMARY (%):

	1, 12 D	1, 60 D	1, 85 D
TEXTURE:			
Sand	25	10	5
Silt	55	60	75
Clay	20	30	20
COMPOSITION:			
Access. minerals	Tr	Tr	Tr
Clay	10	20	15
Diatoms	50	1	Tr
Feldspar	15	25	25
Garnet	1	1	Tr
Mica	3	5	5
Opaques	3	5	5
Quartz	15	40	50
Radiolarians	1	—	—
Silicoflagellates	1	Tr	—



SITE 743 HOLE A CORE 2H CORED INTERVAL 1.3-1.9 mbsf

TIME-ROCK UNIT: PLIOCENE-QUATERNARY
Neogloboquadrina pachyderma Interval R/G

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS B; NANNOFOSSILS B; RADIOLARIANS B; DIATOMS B

PALEOMAGNETICS: %$CaCO_3$ =0.2 %TOC=0.31

PHYS. PROPERTIES: ρ=1.34% w=15% V=2.38

CHEMISTRY: %$CaCO_3$=0.1

SECTION: 1, CC

METERS: 0.5

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: *

LITHOLOGIC DESCRIPTION

CLAYEY SILT

Major lithology:
Clayey silt, dark gray (10YR 4/2, 5Y 4/1), with gravel in upper 14 cm.

Drilling disturbance:
Totally disturbed and soupy, with possible downhole gravel contamination.

SMEAR SLIDE SUMMARY (%):

	CC, 18 D
TEXTURE:	
Sand	15
Silt	60
Clay	25
COMPOSITION:	
Access. minerals	Tr
Clay	20
Feldspar	25
Garnet	Tr
Mica	5
Opaques	5
Quartz	45

SITE 743 HOLE A CORE 3H CORED INTERVAL 1.9-4.6 mbsf

TIME-ROCK UNIT

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS B; NANNOFOSSILS B; RADIOLARIANS B; DIATOMS B

PALEOMAGNETICS: %$CaCO_3$ =0.2 %TOC=0.28

PHYS. PROPERTIES: ρ=1.40% V=1851 w=19% ρ=2.28% V=2252 w=12% ρ=2.14 ρ=2.41

CHEMISTRY: %$CaCO_3$=0.2 %$CaCO_3$=0.2 %$CaCO_3$=0.2 %TOC=0.31

SECTION: 1, 2, CC

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES: OG, IW

SAMPLES: *, *

LITHOLOGIC DESCRIPTION

SANDY SILT, SILT, and CLAYEY SILT

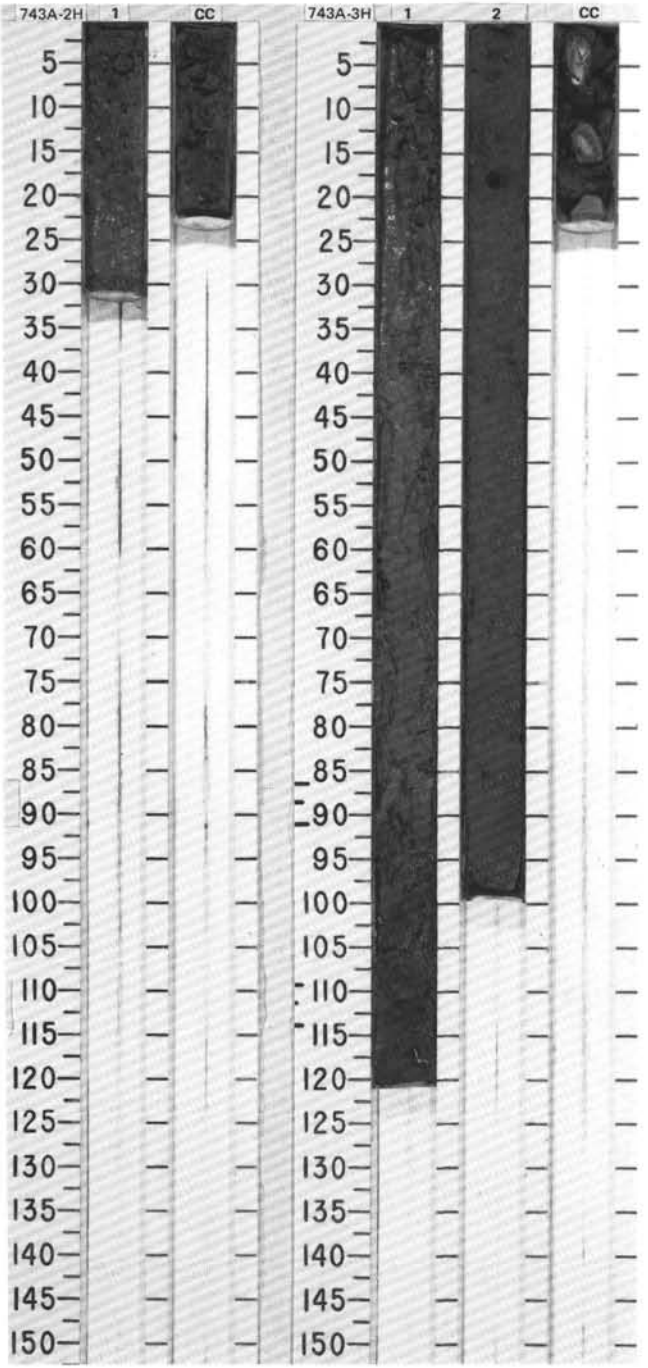
Major lithologies:
a. Sandy silt, dark gray (5Y 4/1) to grayish green (5G 4/1); relatively homogeneous, soupy. Silt, very dark gray (10YR 3/1); very firm.
b. Clayey silt, grayish green (5G 4/1); homogeneous, very sticky.

Drilling disturbance: most of the sediment highly disturbed; soupy recovery.

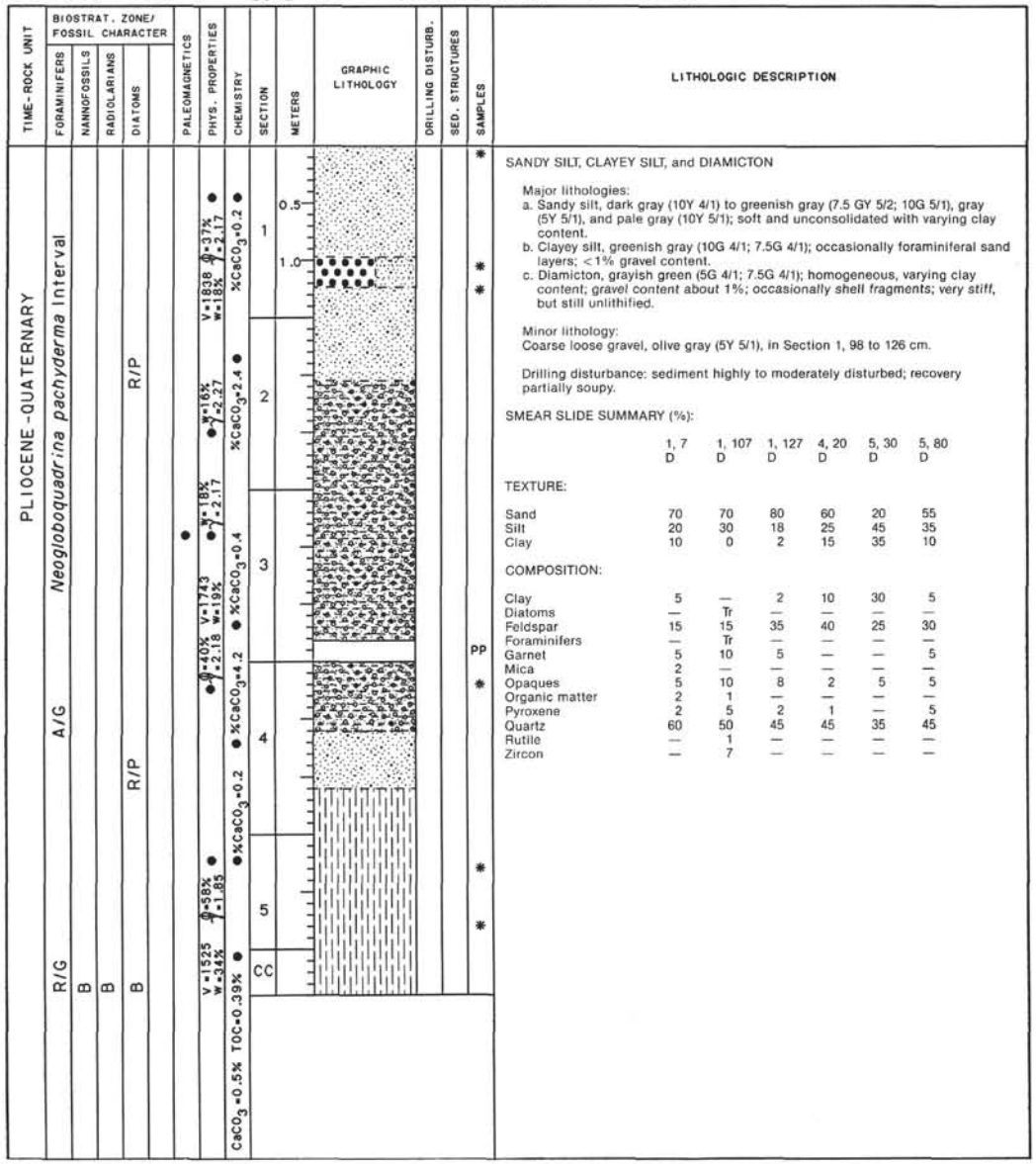
Minor lithology:
Coarse metamorphic rock fragments in core catcher.

SMEAR SLIDE SUMMARY (%):

	1, 60 D	2, 50 D
TEXTURE:		
Sand	10	40
Silt	70	35
Clay	20	25
COMPOSITION:		
Access. minerals	Tr	—
Clay	20	20
Feldspar	25	30
Garnet	Tr	—
Mica	5	—
Opaques	5	5
Organic matter	—	2
Pyroxene	—	—
Quartz	45	40



SITE 743 HOLE A CORE 4H CORED INTERVAL 4.6-12.8 mbsf



SANDY SILT, CLAYEY SILT, and DIAMICTON

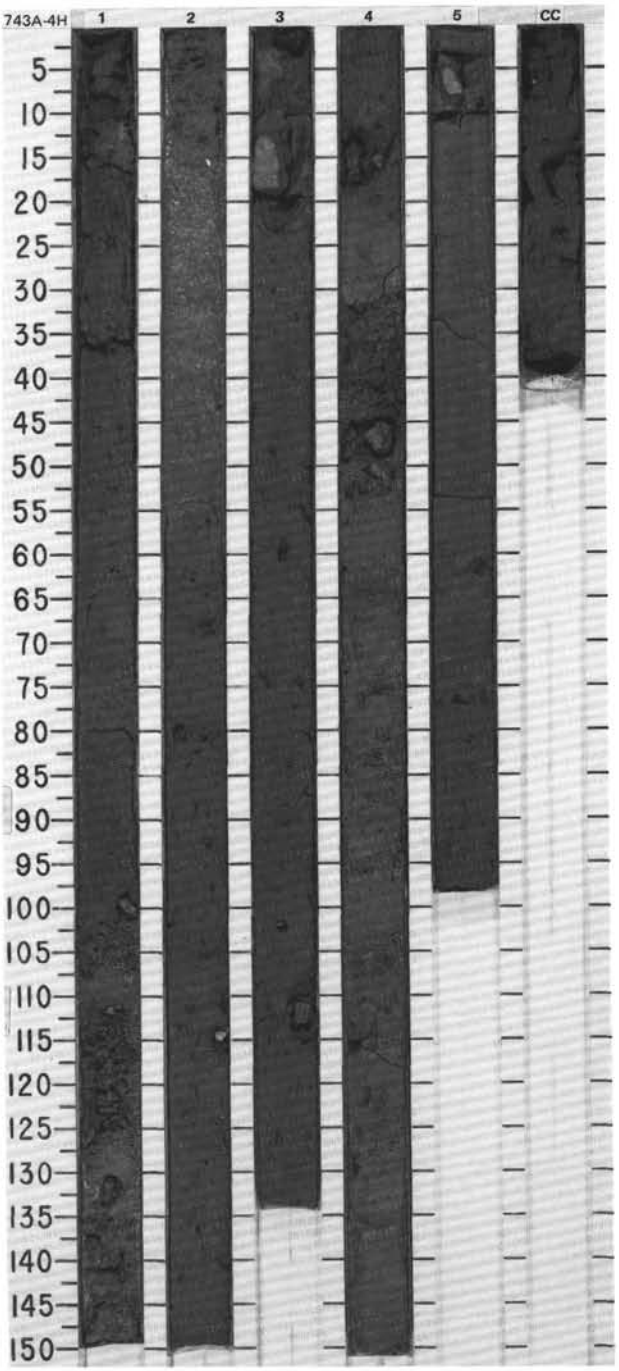
Major lithologies:
a. Sandy silt, dark gray (10Y 4/1) to greenish gray (7.5 GY 5/2; 10G 5/1), gray (5Y 5/1), and pale gray (10Y 5/1); soft and unconsolidated with varying clay content.
b. Clayey silt, greenish gray (10G 4/1; 7.5G 4/1); occasionally foraminiferal sand layers; <1% gravel content.
c. Diamicton, grayish green (5G 4/1; 7.5G 4/1); homogeneous, varying clay content; gravel content about 1%; occasionally shell fragments; very stiff, but still unlithified.

Minor lithology:
Coarse loose gravel, olive gray (5Y 5/1), in Section 1, 98 to 126 cm.

Drilling disturbance: sediment highly to moderately disturbed; recovery partially soupy.

SMEAR SLIDE SUMMARY (%):

	1, 7 D	1, 107 D	1, 127 D	4, 20 D	5, 30 D	5, 80 D
TEXTURE:						
Sand	70	70	80	60	20	55
Silt	20	30	18	25	45	35
Clay	10	0	2	15	35	10
COMPOSITION:						
Clay	5	—	2	10	30	5
Diatoms	—	Tr	—	—	—	—
Feldspar	15	15	35	40	25	30
Foraminifers	—	Tr	—	—	—	—
Garnet	5	10	5	—	—	5
Mica	2	—	—	—	—	—
Opaques	5	10	8	2	5	5
Organic matter	2	1	—	—	—	—
Pyroxene	2	5	2	1	—	5
Quartz	60	50	45	45	35	45
Rutile	—	1	—	—	—	—
Zircon	—	7	—	—	—	—



SITE 743 HOLE A CORE 5H CORED INTERVAL 12.8-15.8 mbsf

TIME-ROCK UNIT: PLIOCENE-QUATERNARY
Neogloboquadrina pachyderma Interval

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS R/G; NANNOFOSSILS; RADIOLARIANS; DIATOMS B

PALEOMAGNETICS

PHYS. PROPERTIES: V=1723 ϕ=37% W=18% ρ=2.23

CHEMISTRY: %$CaCO_3$=0.5

SECTION: 1

METERS: 0.5

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: **

LITHOLOGIC DESCRIPTION

SILTY CLAY

Major lithology:
Silty clay, gray (7.5G 4/1); homogeneous with varying clay content; < 1% gravel.

SMEAR SLIDE SUMMARY (%):

	1, 34 D
TEXTURE:	
Sand	2
Silt	38
Clay	60
COMPOSITION:	
Clay	35
Feldspar	10
Glass	Tr
Opaques	2
Pyroxene	2
Quartz	50

SITE 743 HOLE A CORE 6X CORED INTERVAL 15.8-21.2 mbsf

TIME-ROCK UNIT

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS B; NANNOFOSSILS B; RADIOLARIANS B; DIATOMS B

PALEOMAGNETICS

PHYS. PROPERTIES: V=1842 ϕ=47% W=24% ρ=2.02

CHEMISTRY: %$CaCO_3$=0.7 %TOC=0.4

SECTION: 1, CC

METERS: 0.5

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: *

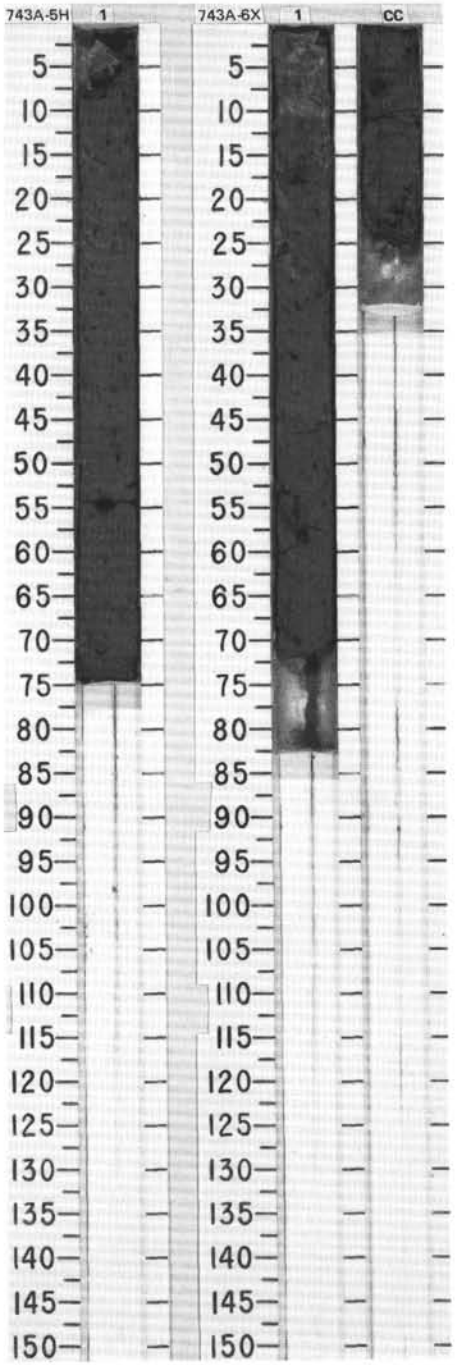
LITHOLOGIC DESCRIPTION

SILTY CLAY and DIAMICTON

Major lithologies:
a. Silty clay, greenish gray (10G 4/1); homogeneous and soft.
b. Diamicton, dark greenish gray (7.5G 4/1); relatively homogeneous, gravel content about 1%.

SMEAR SLIDE SUMMARY (%):

	1, 6 D
TEXTURE:	
Sand	26
Silt	37
Clay	37
COMPOSITION:	
Clay	30
Feldspar	20
Mica	3
Opaques	5
Organic matter	2
Pyroxene	2
Quartz	35



SITE 743 HOLE A CORE 7X CORED INTERVAL 21.2-30.7 mbsf

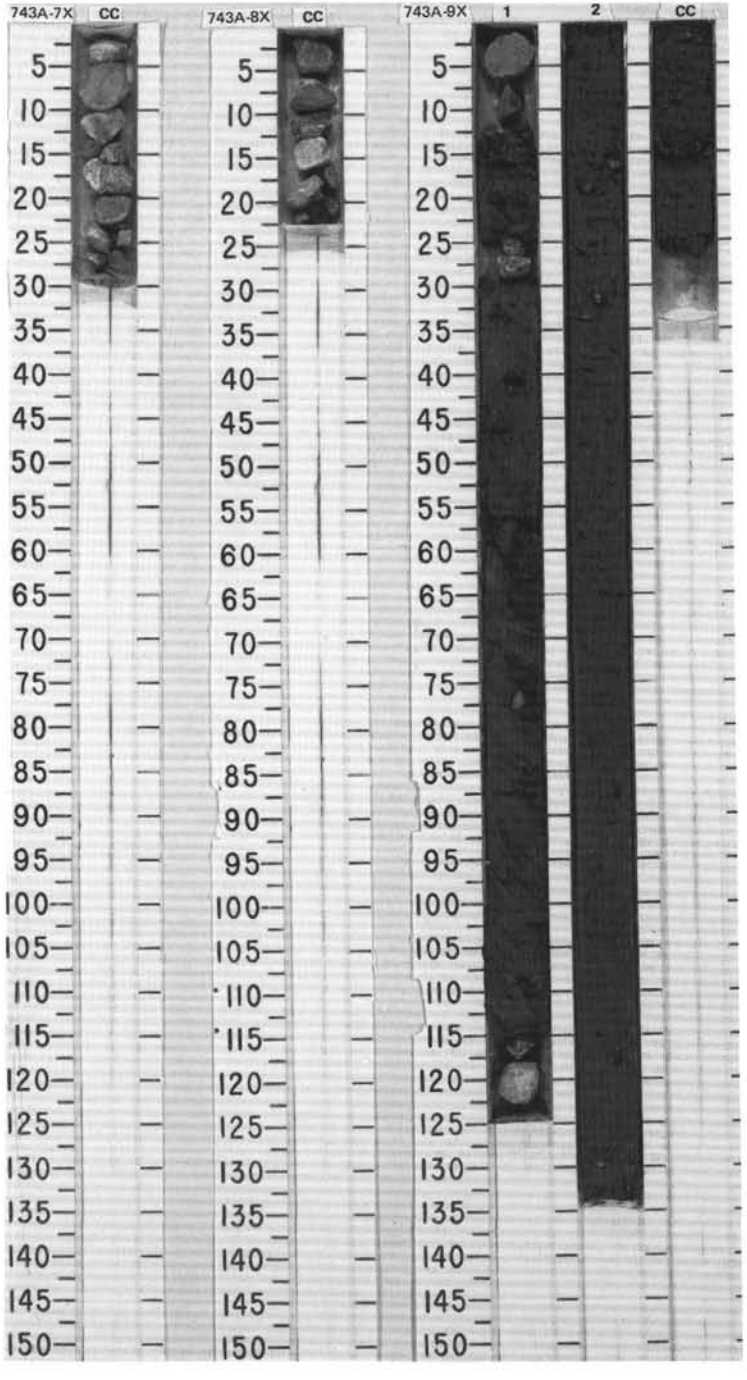
TIME-ROCK UNIT	BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
								CC			X			Major lithology: Metamorphic rock fragments, up to 5 cm in length, in core catcher; possible contamination.

SITE 743 HOLE A CORE 8X CORED INTERVAL 30.7-40.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
								CC			X			Major lithology: Metamorphic rock fragments, up to 4 cm in length, in core catcher; possible contamination.

SITE 743 HOLE A CORE 9X CORED INTERVAL 40.2-49.9 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	R/G	B		B		%CaCO3 =0.5 %TOC=0.32 %CaCO3 =0.2	V=2535 w=14% Φ=30% ρ=2.28 %CaCO3 %TOC=0.1 %TOC=0.11	1 2 CC	0.5 1.0				OG IW	DIAMICTON Major lithology: Diamicton (clayey to sandy silt), dark gray (2.5Y 3/1) to dark grayish green (5G 4/2); homogeneous, very stiff; gravel content 5 to 15%; rock fragments up to 4 cm in length.



SITE 743 HOLE A CORE 10X CORED INTERVAL 49.9-59.6 mbsf

TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
	R/G	B	B			● ϕ=32% V=1923 2.29 W=15%	● %$CaCO_3$=0.2	1	0.5 1.0		○		*
								2			X		PP
						V=1876 ϕ=30% ● W=14% 2.34		CC					*
							%$CaCO_3$=0.2 %TOC=0.19 ●						

LITHOLOGIC DESCRIPTION

DIAMICTON

Major lithology:
Diamicton (clayey silt with minor gravel), massive, structureless, very dark gray (5Y 3/1), very stiff. Clast roundness analysis indicate: 4% rounded, 40% subrounded, 44% subangular, 12% angular (sample size 50). The largest clast is 3 cm in diameter. Many clasts are faceted. They comprise feldspar-quartz-biotite gneiss, garnet-biotite-quartz-feldspar gneiss, fine grained amphibolitic rocks, one highly weathered gneiss or granite and one gneiss with a yellowish weathering rim.

Minor lithology:
A gravel layer with loose clasts and almost no diamicton matrix occurs in Section 1, 18-44 cm. The largest clast is 5 cm in diameter.

Average gravel content:
Section 1: 0-18 cm, 5-10%
18-44 cm, 90%
44-145 cm, 5%
Section 2: 0-50 cm, 5-10%
CC : 0-30 cm, 5%

Drilling disturbance:
Section 1, 0-18 cm is highly disturbed by drilling. The gravel layer is assumed to be a result of washing out during drilling.

SMEAR SLIDE SUMMARY (%):

	1, 95 D	2, 35 D
TEXTURE:		
Sand	5	10
Silt	65	60
Clay	30	30
COMPOSITION:		
Access. minerals	Tr	Tr
Amphibole	1	Tr
Clay	25	20
Feldspar	25	25
Garnet	Tr	Tr
Mica	2	3
Opaques	5	3
Pyroxene	2	2
Quartz	40	45

SITE 743 HOLE A CORE 11X CORED INTERVAL 59.6-69.3 mbsf

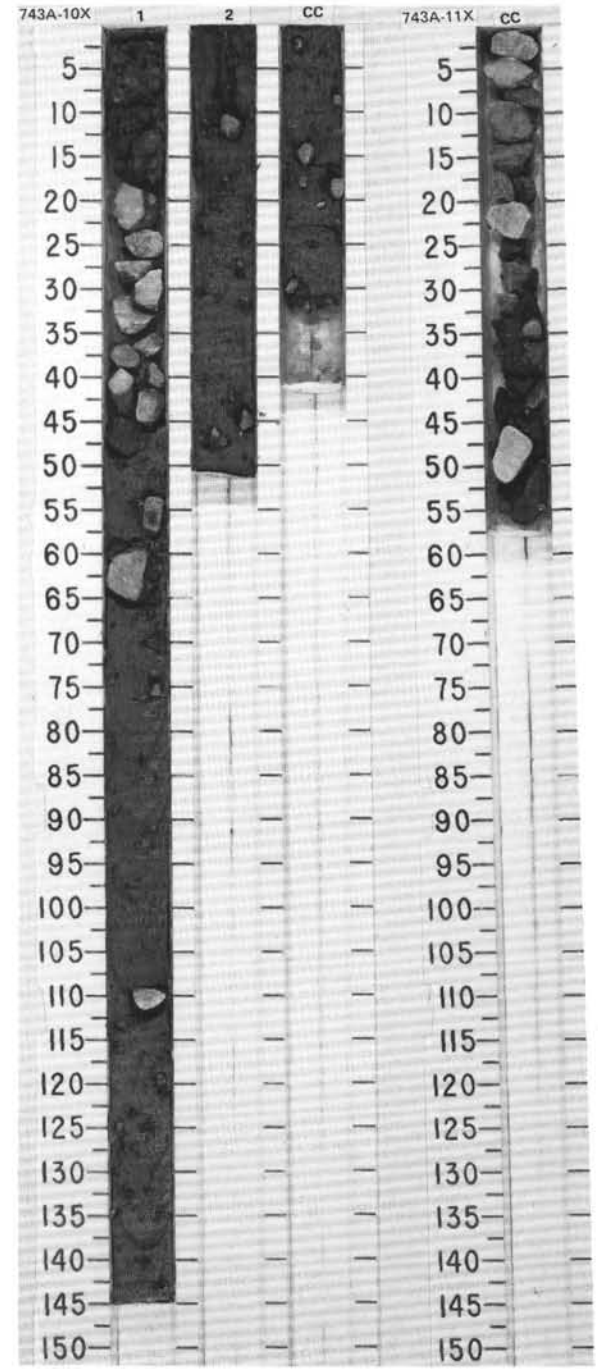
TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
	B	B		B				CC	0.5				

LITHOLOGIC DESCRIPTION

GRAVEL and DIAMICTON

Major lithologies:
a. Gravel with loose clasts and only a minor diamicton matrix, the clasts being 4-6 cm in diameter; CC, 0-30 cm.
b. Diamicton, very dark gray (5Y 3/1), massive, structureless, very stiff; CC, 30-58 cm. The average gravel content of this lithology is 40%. Clast roundness analysis indicate: 6% rounded, 41% subrounded, 41% subangular, 12% angular (sample size 17). The largest clast is 3.5 X 6 cm. The clasts comprise mainly feldspar-quartz-garnet-biotite gneiss, some quartz-feldspar-biotite gneiss, and few syenite.

Drilling disturbance:
The core is highly disturbed by drilling. The gravel layer is assumed to be a result of washing out during drilling or to be cave in.



SITE 743 HOLE A CORE 12X CORED INTERVAL 69.3-78.8 mbsf

TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
						V=1988 ϕ=28% w=13% ρ=2.36 V=2133 ϕ=28% w=13% ρ=2.46 %$CaCO_3$=0.2		1 CC				*		DIAMICTON Major lithology: Diamicton (sand-silt-clay with minor gravel), massive, structureless, very dark gray (5Y 3/1), very stiff. The largest clast is 4 X 6 cm. Clasts include quartz-feldspar-garnet-biotite gneiss, and calcareous sandstone. Average gravel content: Section 1: 25% CC: 20% SMEAR SLIDE SUMMARY (%): 1, 40 D TEXTURE: Sand 20 Silt 50 Clay 30 COMPOSITION: Access. Minerals Tr Amphibole Tr Clay 25 Feldspar 20 Garnet Tr Mica 3 Opaques 5 Pyroxene Tr Quartz 45

SITE 743 HOLE A CORE 13X CORED INTERVAL 78.8-88.4 mbsf

TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
								CC						GRAVEL Major lithology: Gravel, washed out. The largest clast is 7 X 6 cm. Clast roundness analysis indicate: 6% angular, 35% subangular, 50% subrounded, 9% rounded (sample size 34). The clasts include strongly deformed quartz-feldspar-garnet-amphibole gneiss, medium grained amphibolite, quartz-feldspar-garnet-biotite layered gneiss, amphibole-clinopyroxene-feldspar mafic gneiss, garnet-amphibole mafic gneiss, altered, coarse grained K-feldspar-green amphibole orthogneiss. Drilling disturbance: The gravel probably is cave in.

SITE 743 HOLE A CORE 14X CORED INTERVAL 88.8-98.1 mbsf

TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
								CC						GRAVEL Major lithology: Loose gravel with clasts up to 7 cm in diameter, with a minor recovery of diamictite matrix in CC, 10-27 cm, coating larger clasts. The clasts are subrounded to subangular. Drilling distubance: Gravel is cave in or wash out from probably clast-rich diamictite.