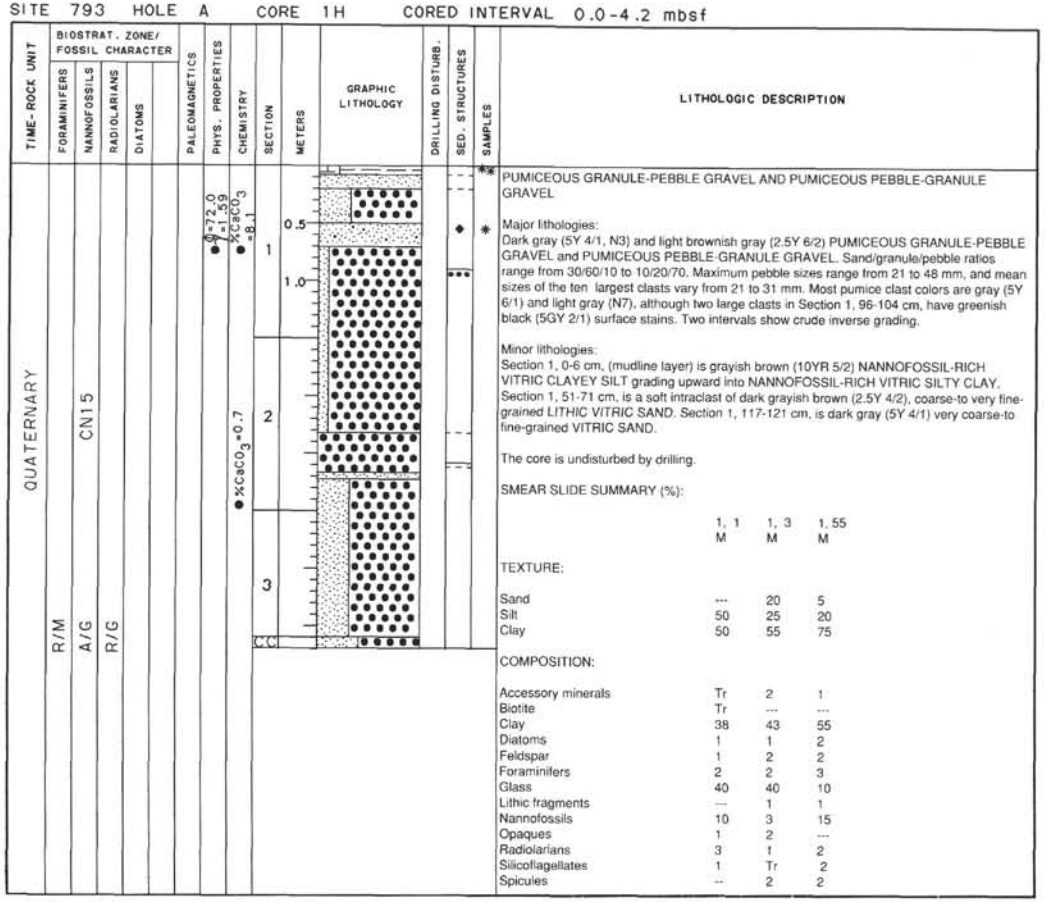
SITE 793 HOLE A CORE 1H CORED INTERVAL 0.0-4.2 mbsf



LITHOLOGIC DESCRIPTION

PUMICEOUS GRANULE-PEBBLE GRAVEL AND PUMICEOUS PEBBLE-GRANULE GRAVEL

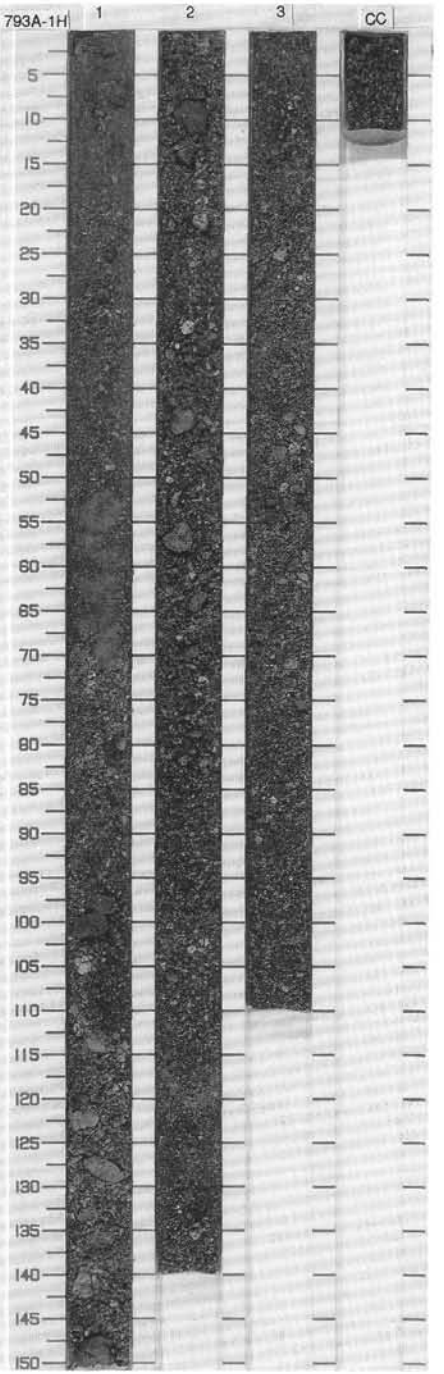
Major lithologies:
Dark gray (5Y 4/1, N3) and light brownish gray (2.5Y 6/2) PUMICEOUS GRANULE-PEBBLE GRAVEL and PUMICEOUS PEBBLE-GRANULE GRAVEL. Sand/granule/pebble ratios range from 30/60/10 to 10/20/70. Maximum pebble sizes range from 21 to 48 mm, and mean sizes of the ten largest clasts vary from 21 to 31 mm. Most pumice clast colors are gray (5Y 6/1) and light gray (N7), although two large clasts in Section 1, 96-104 cm, have greenish black (5GY 2/1) surface stains. Two intervals show crude inverse grading.

Minor lithologies:
Section 1, 0-6 cm, (mudline layer) is grayish brown (10YR 5/2) NANNOFOSSIL-RICH VITRIC CLAYEY SILT grading upward into NANNOFOSSIL-RICH VITRIC SILTY CLAY. Section 1, 51-71 cm, is a soft intraclast of dark grayish brown (2.5Y 4/2), coarse-to very fine-grained *LITHIC VITRIC* SAND. Section 1, 117-121 cm, is dark gray (5Y 4/1) very coarse-to fine-grained VITRIC SAND.

The core is undisturbed by drilling.

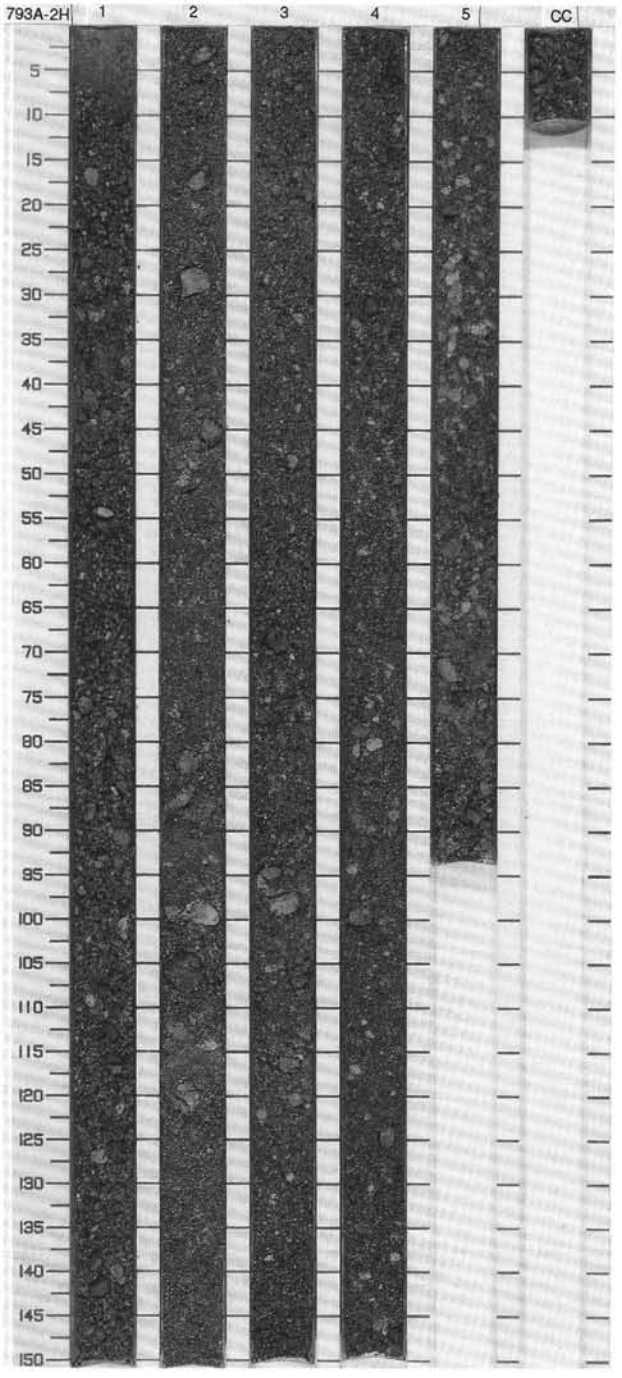
SMEAR SLIDE SUMMARY (%):

	1, 1 M	1, 3 M	1, 55 M
TEXTURE:			
Sand	---	20	5
Silt	50	25	20
Clay	50	55	75
COMPOSITION:			
Accessory minerals	Tr	2	1
Biotite	Tr	---	---
Clay	38	43	55
Diatoms	1	1	2
Feldspar	1	2	2
Foraminifers	2	2	3
Glass	40	40	10
Lithic fragments	---	1	1
Nannofossils	10	3	15
Opaques	1	2	---
Radiolarians	3	1	2
Silicoflagellates	1	Tr	2
Spicules	--	2	2

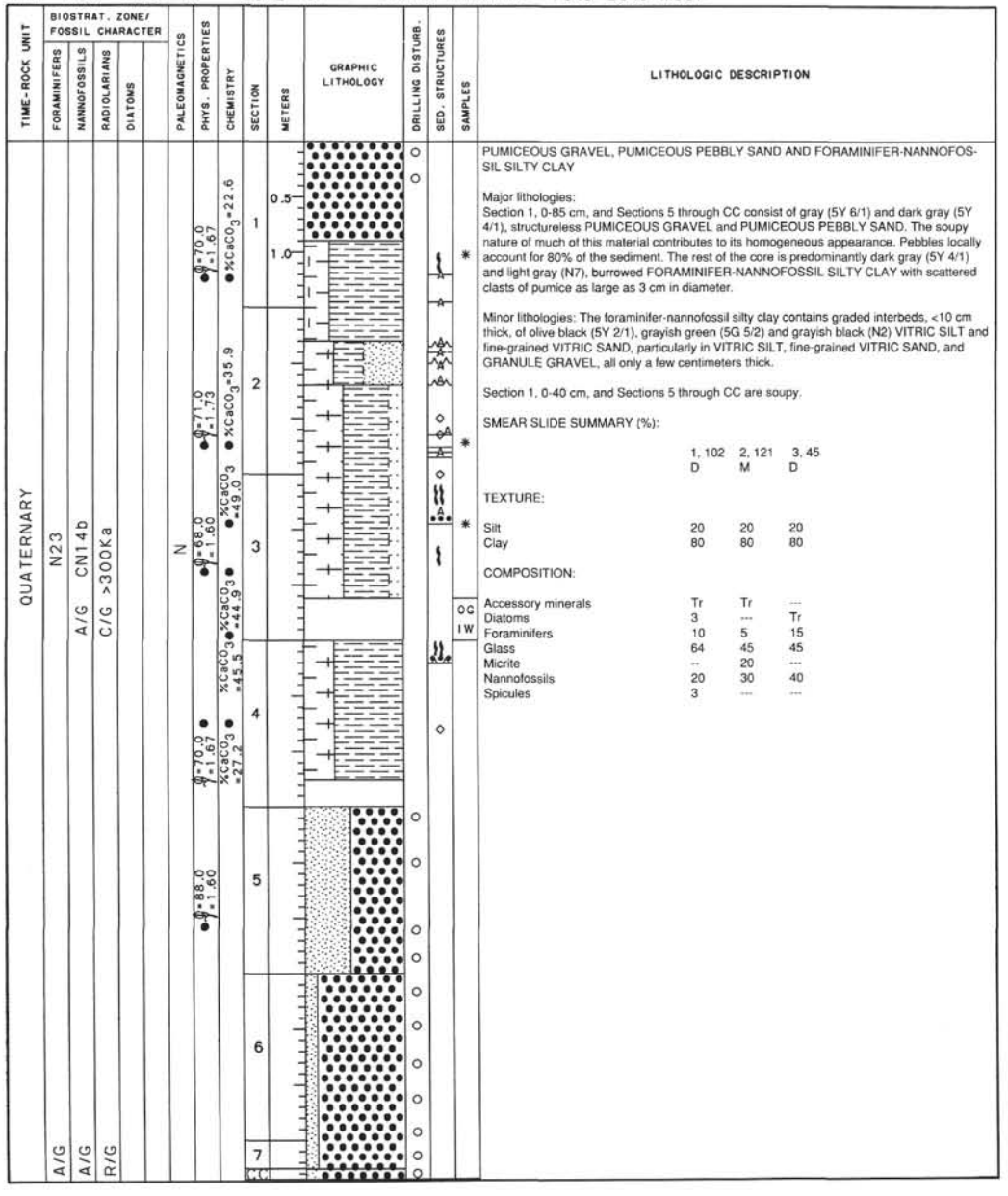


SITE 793 HOLE A CORE 2H CORED INTERVAL 4.2-13.5 mbsf

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
QUATERNARY	R/G A/G B	CN15				ϕ=20.0 ρ=1.10	• %$CaCO_3$=1.0	1 2 3 4 5 CC	0.5 1.0					PUMICEOUS PEBBLE-GRANULE GRAVEL AND PUMICEOUS GRANULE-PEBBLE GRAVEL Major lithologies: Dark gray (N3, 5Y 4/1) and dark greenish gray (10Y 4/1, 5/1) PUMICEOUS PEBBLE-GRANULE GRAVEL in Sections 1-3, and PUMICEOUS GRANULE-PEBBLE GRAVEL in Section 4-CC. Sand/granule/pebble ratios vary from 15/80/5 to 25/35/40. Maximum clast sizes are 30-50 mm across, and mean size of the ten largest clasts per section is 22-36 mm. Pebble colors are gray, (5Y 6/1), dark greenish gray (10GY 4/1), very light gray (N8), and dark gray (5Y 4/1). Minor lithology: Section 1, 0-7 cm, is dark gray (5Y 4/1), medium-to fine-grained VITRIC SAND that probably represents cavings. Section 1 is very disturbed, and the rest of the core is moderately disturbed by drilling.



SITE 793 HOLE A CORE 3H CORED INTERVAL 13.5-23.0 mbsf



LITHOLOGIC DESCRIPTION

PUMICEOUS GRAVEL, PUMICEOUS PEBBLY SAND AND FORAMINIFER-NANNOFOSSIL SILTY CLAY

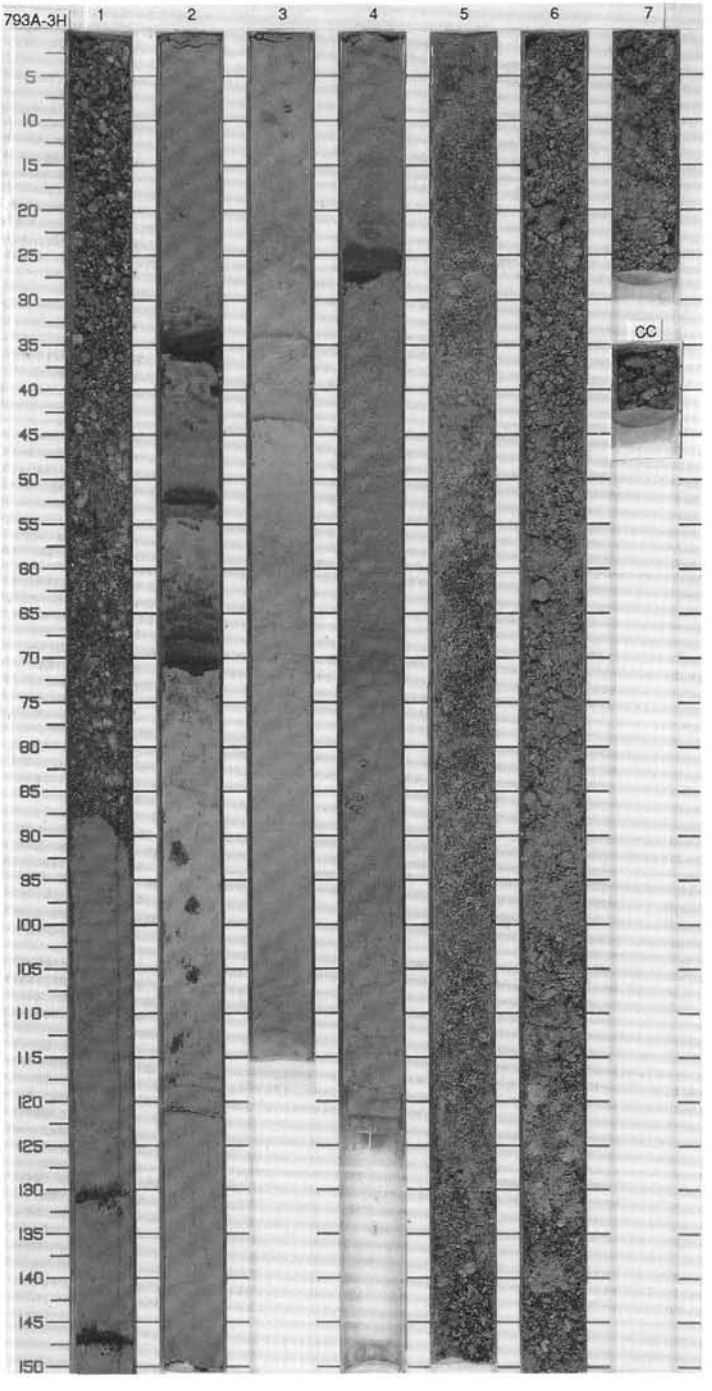
Major lithologies:
Section 1, 0-85 cm, and Sections 5 through CC consist of gray (5Y 6/1) and dark gray (5Y 4/1), structureless PUMICEOUS GRAVEL and PUMICEOUS PEBBLY SAND. The soupy nature of much of this material contributes to its homogeneous appearance. Pebbles locally account for 80% of the sediment. The rest of the core is predominantly dark gray (5Y 4/1) and light gray (N7), burrowed FORAMINIFER-NANNOFOSSIL SILTY CLAY with scattered clasts of pumice as large as 3 cm in diameter.

Minor lithologies: The foraminifer-nannofossil silty clay contains graded interbeds, <10 cm thick, of olive black (5Y 2/1), grayish green (5G 5/2) and grayish black (N2) VITRIC SILT and fine-grained VITRIC SAND, particularly in VITRIC SILT, fine-grained VITRIC SAND, and GRANULE GRAVEL, all only a few centimeters thick.

Section 1, 0-40 cm, and Sections 5 through CC are soupy.

SMEAR SLIDE SUMMARY (%):

	1, 102 D	2, 121 M	3, 45 D
TEXTURE:			
Silt	20	20	20
Clay	80	80	80
COMPOSITION:			
Accessory minerals	Tr	Tr	---
Diatoms	3	---	Tr
Foraminifers	10	5	15
Glass	64	45	45
Micrite	--	20	---
Nannofossils	20	30	40
Spicules	3	---	---



SITE 793 HOLE A CORE 4H CORED INTERVAL 23.0-32.5 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
QUARTERNARY	A/G	N23	A/G	CN14b	F/G	>300Ka	I	0-68.0 cm; 1-1.68; 0-54.0 cm; 1-1.72	%$CaCO_3$=29.7; %$CaCO_3$=5.7	1 2 3 4 5 6 7 CC	0.5 1.0			* *	

LITHOLOGIC DESCRIPTION

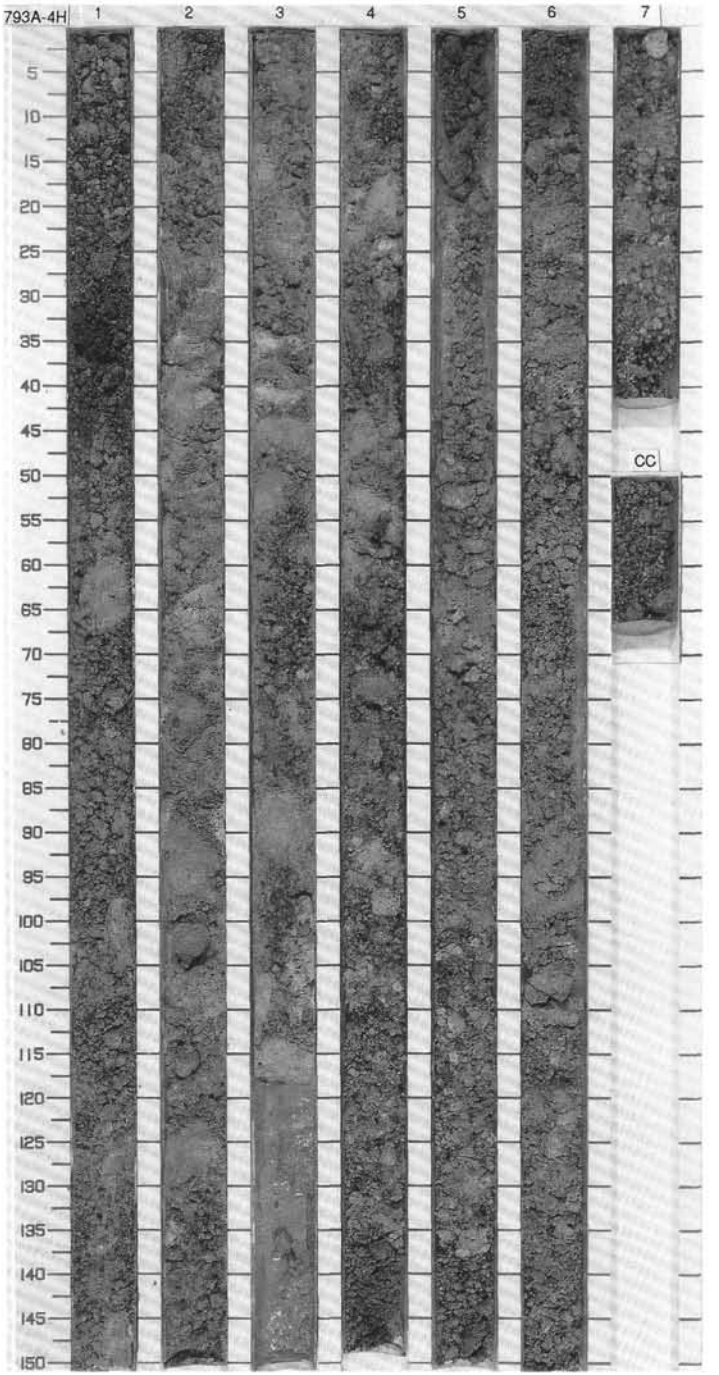
PUMICEOUS GRAVEL, PUMICEOUS PEBBLY SAND AND NANNOFOSSIL CLAY

Major lithologies:
Section 1, 0 cm, to Section 2, 25 cm, and Sections 4, 95 cm to CC consist of soupy, dark gray (5Y 4/1) to medium gray (N5), structureless PUMICEOUS GRAVEL and PUMICEOUS PEBBLY SAND. Pebbles constitute as much as 80% of the sediment, and consist of clasts of black andesite and white rhyolite. The rest of the core is a soupy mixture of pieces of gray (5Y 6/1) NANNOFOSSIL CLAY surrounded by envelopes of pumiceous gravel, with little evidence for or against primary interbedding.

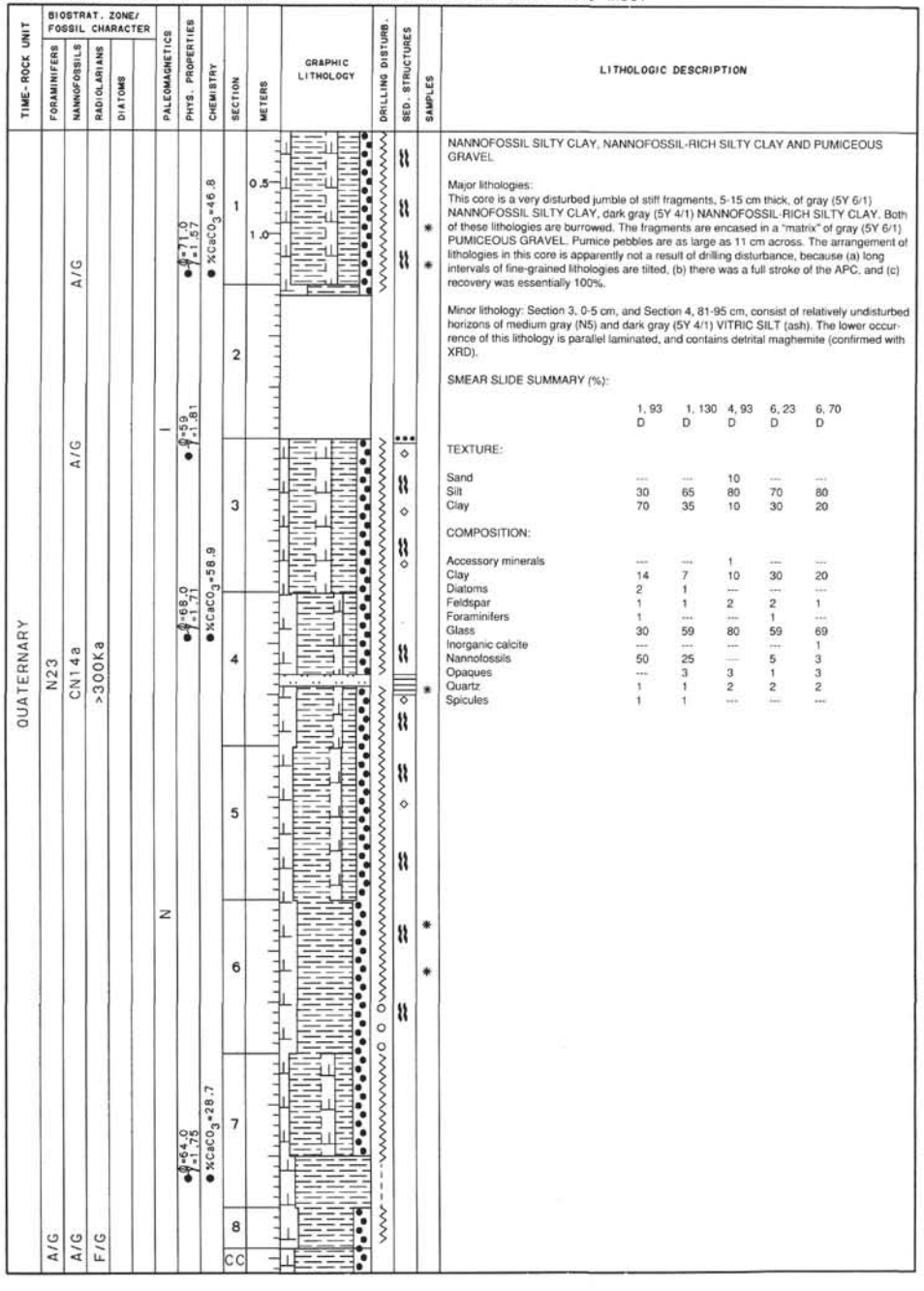
Minor lithologies:
In Section 3, 32-42 cm, there is a fine-scale, primary interlayering of nannofossil clay and SCORIACEOUS GRAVEL. Some inferred drilling fragments consist of very light gray (N8) NANNOFOSSIL OOZE. In the fine-grained sediments, there are rare, very thin, grayish green (5G 5/2) ash beds of VITRIC CLAYEY SILT.

SMEAR SLIDE SUMMARY (%):

	1, 66 D	2, 68 D
TEXTURE:		
Silt	20	20
Clay	80	80
COMPOSITION:		
Clay	25	22
Diatoms	--	1
Fe oxide	1	---
Feldspar	---	1
Foraminifers	2	2
Glass	20	20
Nannofossils	50	50
Opaques	1	1
Quartz	---	1
Spicules	1	2



SITE 793 HOLE A CORE 5H CORED INTERVAL 32.5-42.0 mbsf



LITHOLOGIC DESCRIPTION

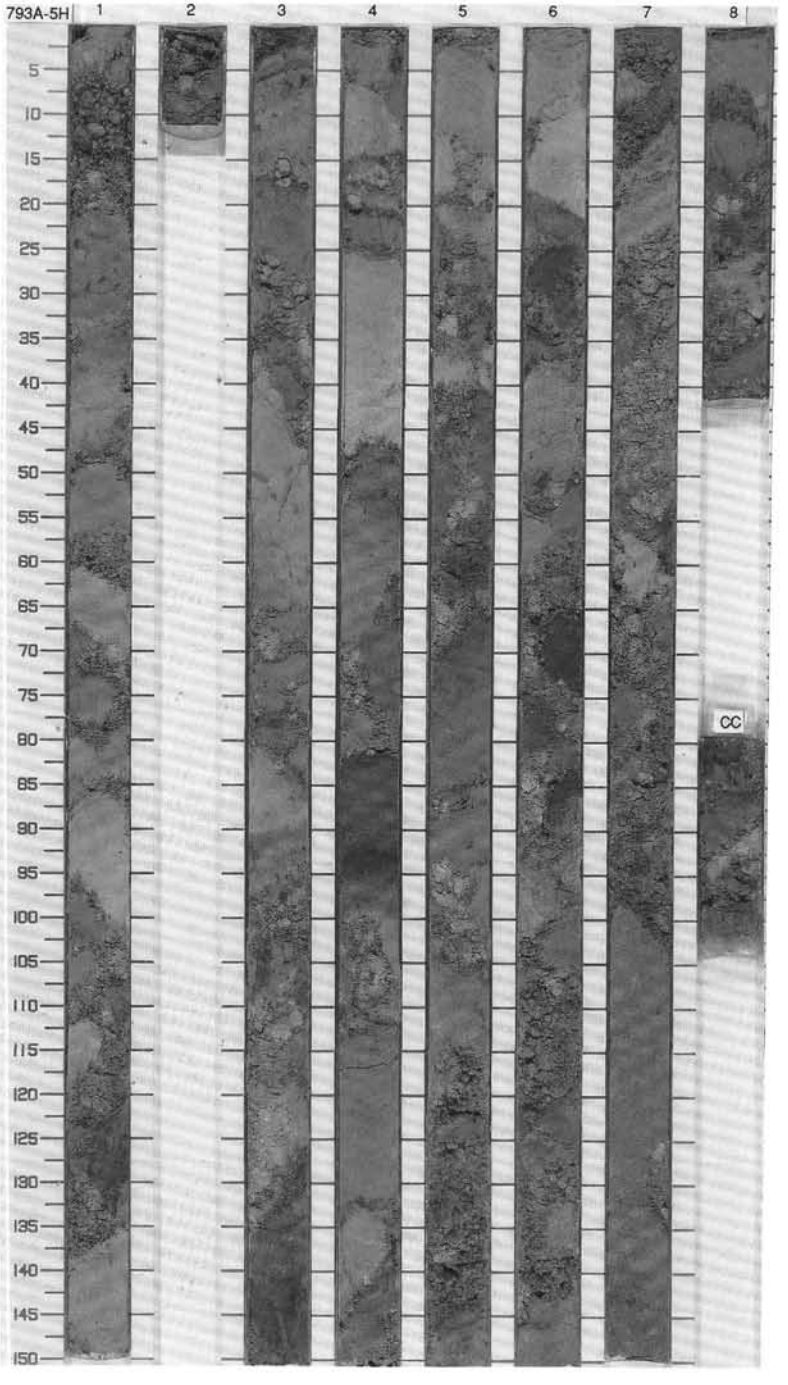
NANNOFOSSIL SILTY CLAY, NANNOFOSSIL-RICH SILTY CLAY AND PUMICEOUS GRAVEL

Major lithologies:
This core is a very disturbed jumble of stiff fragments, 5-15 cm thick, of gray (5Y 6/1) NANNOFOSSIL SILTY CLAY, dark gray (5Y 4/1) NANNOFOSSIL-RICH SILTY CLAY. Both of these lithologies are burrowed. The fragments are encased in a "matrix" of gray (5Y 6/1) PUMICEOUS GRAVEL. Pumice pebbles are as large as 11 cm across. The arrangement of lithologies in this core is apparently not a result of drilling disturbance, because (a) long intervals of fine-grained lithologies are tilted, (b) there was a full stroke of the APC, and (c) recovery was essentially 100%.

Minor lithology: Section 3, 0-5 cm, and Section 4, 81-95 cm, consist of relatively undisturbed horizons of medium gray (N5) and dark gray (5Y 4/1) VITRIC SILT (ash). The lower occurrence of this lithology is parallel laminated, and contains detrital maghemite (confirmed with XRD).

SMEAR SLIDE SUMMARY (%):

	1, 93 D	1, 130 D	4, 93 D	6, 23 D	6, 70 D
TEXTURE:					
Sand	---	---	10	---	---
Silt	30	65	80	70	80
Clay	70	35	10	30	20
COMPOSITION:					
Accessory minerals	---	---	1	---	---
Clay	14	7	10	30	20
Diatoms	2	1	---	---	---
Feldspar	1	1	2	2	1
Foraminifers	1	---	---	1	---
Glass	30	59	80	59	69
Inorganic calcite	---	---	---	---	1
Nannofossils	50	25	---	5	3
Opaques	---	3	3	1	3
Quartz	1	1	2	2	2
Spicules	1	1	---	---	---



SITE 793 HOLE A CORE 6H CORED INTERVAL 42.0-51.6 mbsf

TIME-ROCK UNIT: A/G
BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS A/G; NANNOFOSSILS N23 / CN14a; RADIOLARIANS A/G; DIATOMS R/M
PALEOMAGNETICS: N R I
PHYS. PROPERTIES: ρ=70.0 γ=1.73; ρ=66.0 γ=1.73; ρ=73.0 γ=1.72; ρ=69.0 γ=1.70
CHEMISTRY: %CaCO3 =31.0; %CaCO3 =36.4; %CaCO3=47.4; %CaCO3=59.4; %CaCO3=47.9
SECTION: 1, 2, 3, 4, 5, 6, 7, CC
METERS: 0.5, 1.0
GRAPHIC LITHOLOGY
DRILLING DISTURB.
SED. STRUCTURES
SAMPLES: OG, IW

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CLAYEY SILT, NANNOFOSSIL CLAY, PUMICEOUS PEBBLY GRANULE GRAVEL AND PUMICEOUS SAND

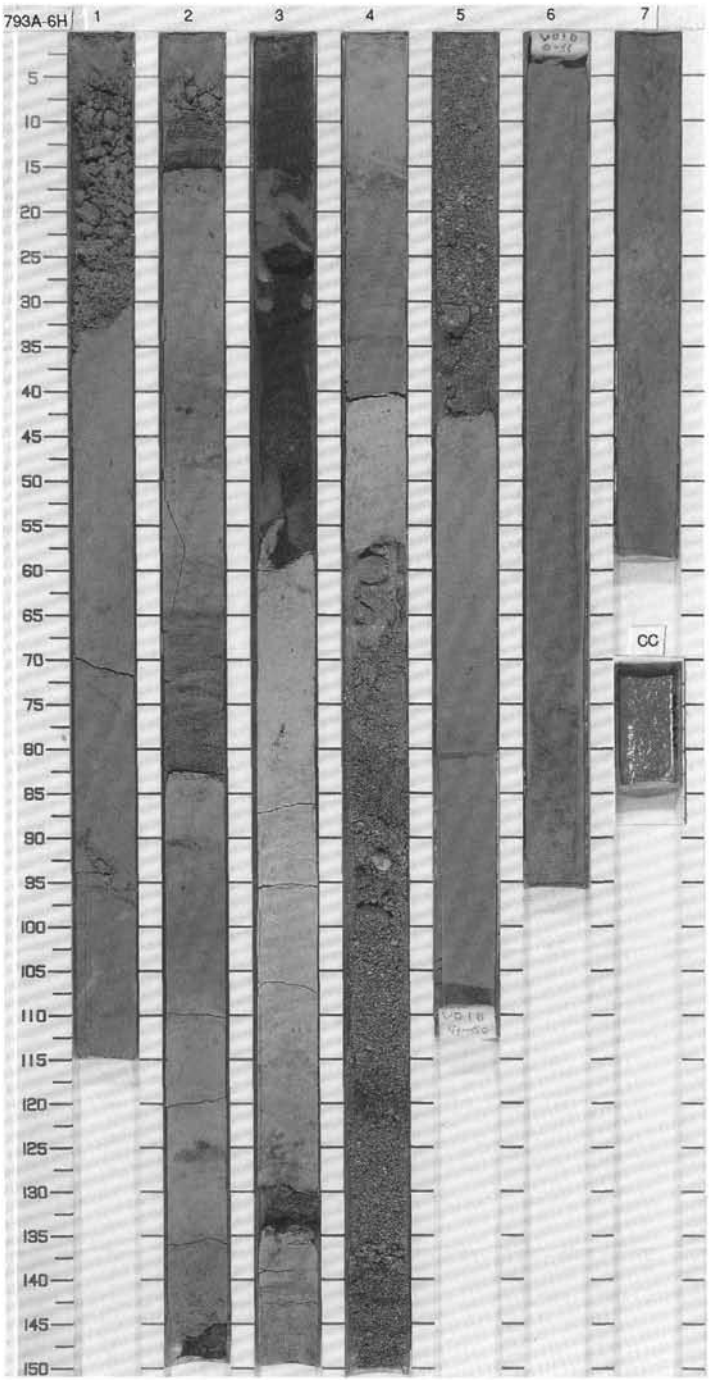
Major lithologies:
About 50% of the core consists of variably burrowed, gray (5Y 6/1) to dark gray (5Y 4/1) NANNOFOSSIL CLAYEY SILT and NANNOFOSSIL CLAY with scattered pumice pebbles. The rest of the core is mainly dark gray (5Y 4/1) to gray (5Y 6/1), locally stratified and graded PUMICEOUS PEBBLY GRANULE GRAVEL, and dark gray (N3) to medium gray (N5), fine-to medium-grained, graded beds of PUMICEOUS SAND, locally parallel laminated.

Minor lithologies:
Section 3, 130-135 cm and Section 4, 18-34 cm, consist of thin graded beds of dark gray (N3, 5Y 4/1) VITRIC SILT and fine-grained VITRIC SAND. Section 2, 12-15 cm, consists of a graded ash bed of VITRIC SILT that is dark greenish gray (5G 4/1) at the top and olive black (5Y 2/1) at the base. It passes upward (7-12 cm) into an inversely graded horizon of pumice granules and pebbles encased in nannofossil clayey silt.

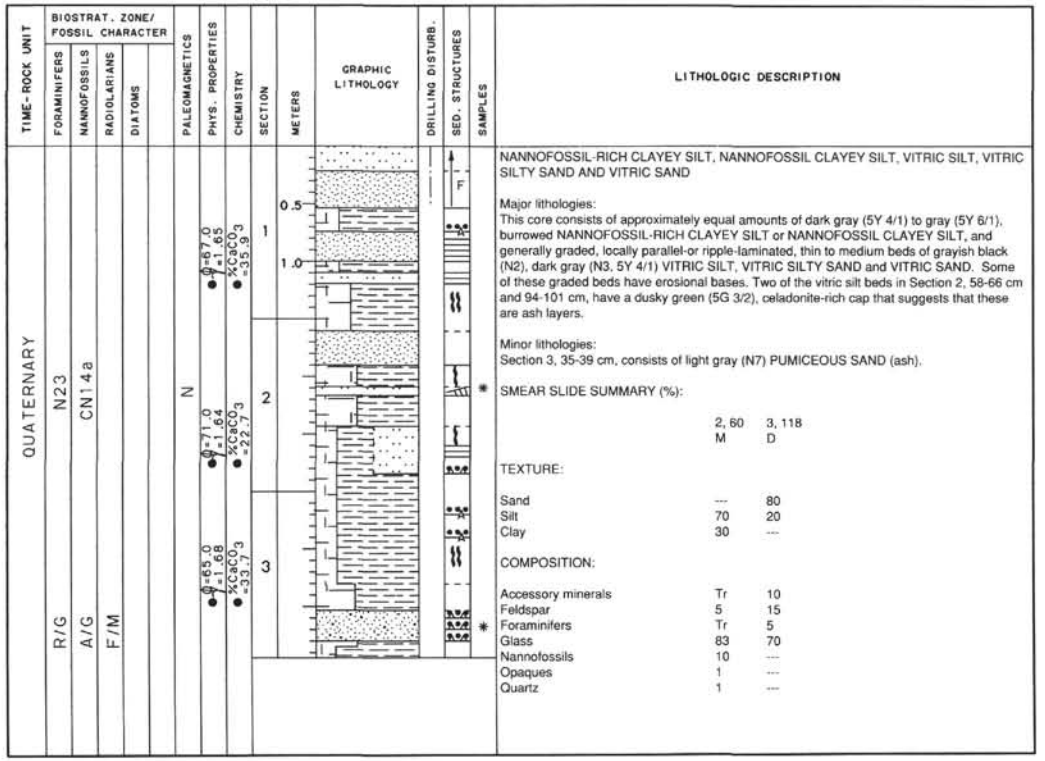
Only small intervals in the core are very disturbed by drilling, or soupy. The rest of the core is undisturbed.

SMEAR SLIDE SUMMARY (%):

	2, 73 D	3, 70 D	3, 134 M	4, 28 M	4, 30 D
TEXTURE:					
Sand	---	---	80	---	---
Silt	60	20	20	80	70
Clay	40	80	---	20	30
COMPOSITION:					
Accessory minerals	---	---	10	Tr	---
Clay	15	20	---	---	10
Diatoms	2	1	---	Tr	1
Fe oxide	---	1	---	---	---
Feldspar	2	1	13	10	1
Foraminifers	1	2	2	2	---
Glass	60	20	70	76	66
Inorganic calcite	1	1	---	---	---
Nannofossils	15	50	---	10	20
Opaques	1	1	---	---	1
Quartz	2	1	5	2	1
Spicules	---	2	---	---	---



SITE 793 HOLE A CORE 7H CORED INTERVAL 51.6-61.2 mbsf



LITHOLOGIC DESCRIPTION

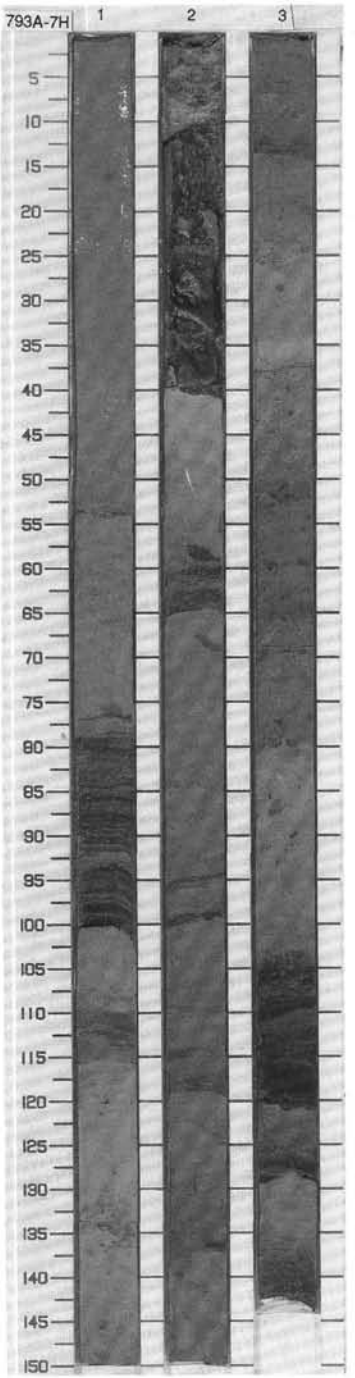
NANNOFOSSIL-RICH CLAYEY SILT, NANNOFOSSIL CLAYEY SILT, VITRIC SILT, VITRIC SILTY SAND AND VITRIC SAND

Major lithologies:
This core consists of approximately equal amounts of dark gray (5Y 4/1) to gray (5Y 6/1), burrowed NANNOFOSSIL-RICH CLAYEY SILT or NANNOFOSSIL CLAYEY SILT, and generally graded, locally parallel-or ripple-laminated, thin to medium beds of grayish black (N2), dark gray (N3, 5Y 4/1) VITRIC SILT, VITRIC SILTY SAND and VITRIC SAND. Some of these graded beds have erosional bases. Two of the vitric silt beds in Section 2, 58-66 cm and 94-101 cm, have a dusky green (5G 3/2), celadonite-rich cap that suggests that these are ash layers.

Minor lithologies:
Section 3, 35-39 cm, consists of light gray (N7) PUMICEOUS SAND (ash).

SMEAR SLIDE SUMMARY (%):

	2, 60 M	3, 118 D
TEXTURE:		
Sand	---	80
Silt	70	20
Clay	30	---
COMPOSITION:		
Accessory minerals	Tr	10
Feldspar	5	15
Foraminifers	Tr	5
Glass	83	70
Nannofossils	10	---
Opaques	1	---
Quartz	1	---



SITE 793 HOLE A CORE 8H CORED INTERVAL 61.2-70.9 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
QUATERNARY		CN14a	C/G	B	N	ϕ=65.0 ρ=1.68 ϕ=53.0 ρ=1.73		1 2 3 4 5 CC	0.5 1.0				* * *

LITHOLOGIC DESCRIPTION

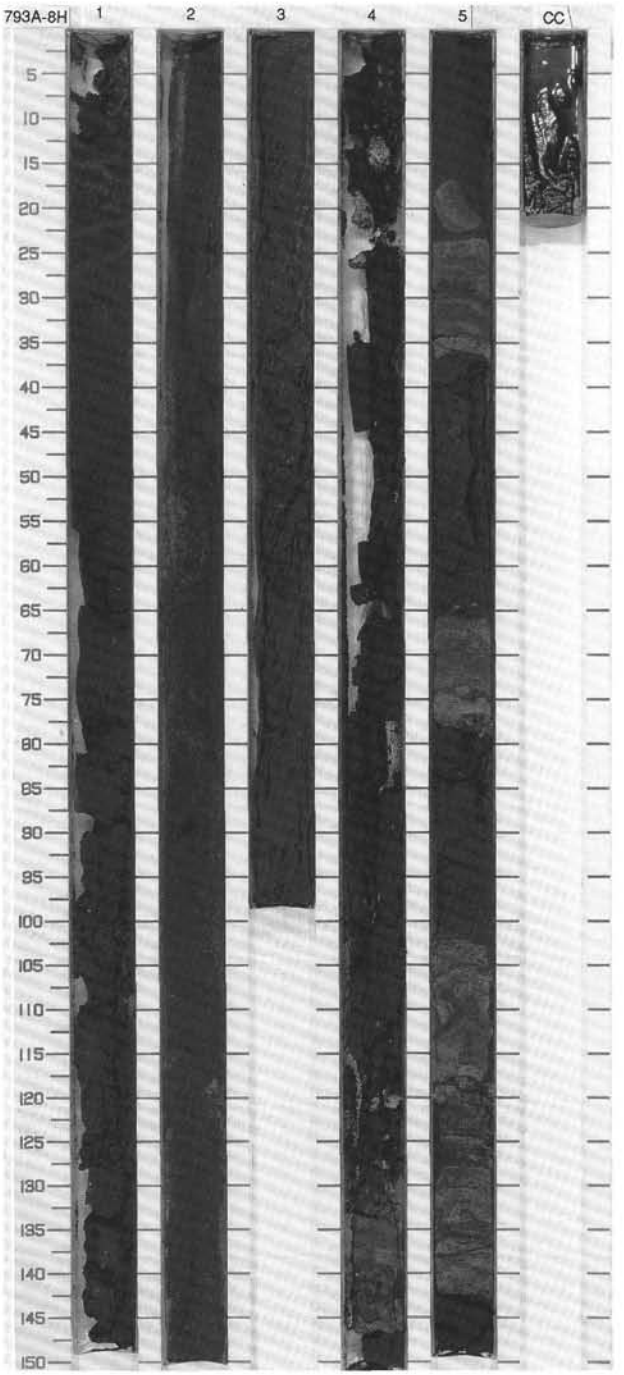
VITRIC SAND

Major lithology: This core is very disturbed to soupy, and consists of probable flow-in of black (N1), fine-grained VITRIC SAND. There are local pieces of nannofossil-bearing silty clay and scattered granules and pebbles in this material.

Minor lithologies:
In Sections 4 and 5, there are intervals of drilling-disturbed lithologies that may have formed thin interbeds in the vitric sand. These now resemble drilling "biscuits". The lithologies represented are dark gray (5Y 4/1), parallel-laminated NANNOFOSSIL-BEARING VITRIC SILT and very fine-grained VITRIC SAND.

SMEAR SLIDE SUMMARY (%):

	1, 50 D	4, 140 M	5, 30 D
TEXTURE:			
Sand	80	10	70
Silt	20	80	15
Clay	---	10	15
COMPOSITION:			
Clay	---	10	10
Diatoms	2	---	---
Fe oxide	---	---	1
Feldspar	15	2	2
Foraminifers	2	1	1
Glass	77	79	80
Inorganic calcite	---	---	1
Nannofossils	2	5	3
Opaques	1	1	1
Quartz	---	1	1
Spicules	Tr	---	---



SITE 793 HOLE A CORE 9H CORED INTERVAL 70.9-80.5 mbsf

TIME-ROCK UNIT: QUATERNARY?

BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS N21 - N22 (F/M); NANNOFOSSILS CN14a (A/G); RADIOLARIANS >300Ka (C/G); DIATOMS

PALEOMAGNETICS: I / N / R

PHYS. PROPERTIES: ϕ=63.0, ρ=1.79; ϕ=66.0, ρ=1.91; ϕ=70.0, ρ=1.74; ϕ=64.0, ρ=1.79; ϕ=64.0, ρ=1.78

CHEMISTRY: %CaCO3=2.1; %CaCO3=4.7; %CaCO3=9.7; %CaCO3=12.7; %CaCO3=8.1; %CaCO3=11.2

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: OC, IW

LITHOLOGIC DESCRIPTION

VITRIC SAND, VITRIC SILT AND CLAYEY VITRIC SILT

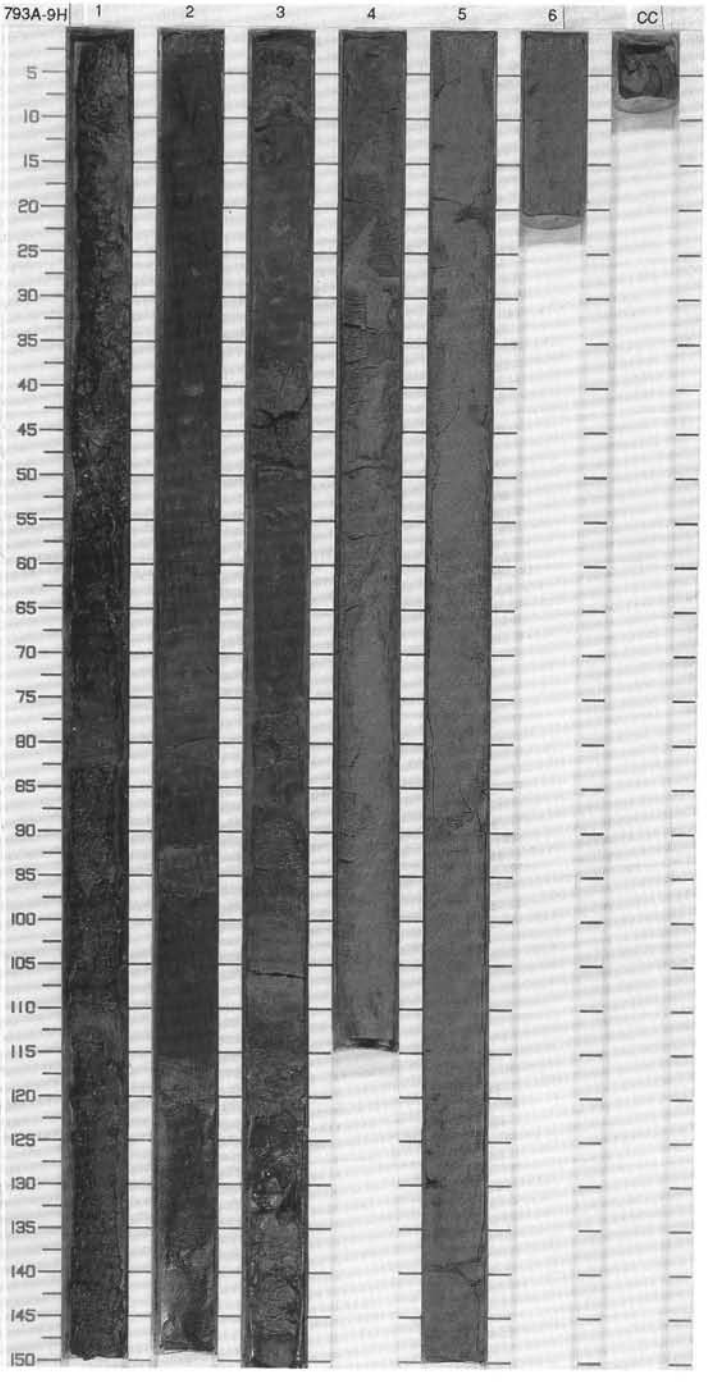
Major lithologies:
34% of the core is black (N1), structureless, fine-to very fine-grained VITRIC SAND, 32% is olive black (5Y 2/1), structureless VITRIC SILT, and 28% is olive black (5Y 2/1), structureless VITRIC CLAYEY SILT.

Minor lithologies:
5% of the core is olive black (5Y 2/1) NANNOFOSSIL-RICH VITRIC SANDY CLAY and 1% is black (N1) VITRIC SILTY SAND.

The entire core is very disturbed by drilling.

SMEAR SLIDE SUMMARY (%):

	3, 32 D	3, 107 M	3, 127 M
TEXTURE:			
Sand	80	15	50
Silt	10	35	40
Clay	10	50	10
COMPOSITION:			
Accessory minerals	Tr	Tr	1
Clay	10	43	10
Diatoms	Tr	2	Tr
Feldspar	5	3	5
Foraminifers	1	2	Tr
Glass	82	30	80
Nannofossils	2	20	3
Opaques	---	---	1
Radiolarians	---	Tr	---
Silicoflagellates	---	Tr	---
Spicules	Tr	---	Tr



SITE 793 HOLE A CORE 10H CORED INTERVAL 80.5-90.1 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
QUATERNARY	R/G N21 / N22	A/G CN14a	R/G		N I	ϕ=71.0 ● γ=1.58 ϕ=64.0 ● γ=1.78	● XCaCO$_3$=13.8	1 2 CC	0.5 1.0				*

LITHOLOGIC DESCRIPTION

VITRIC SAND, VITRIC SILTY CLAY AND VITRIC CLAYEY SILT

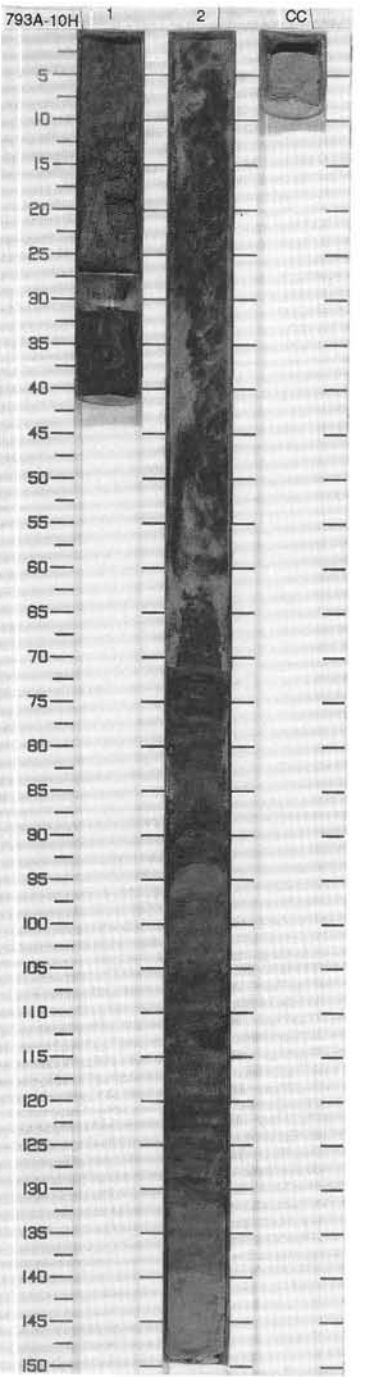
Major lithologies:
65% of the core is olive gray (5Y 3/2), brownish black (5YR 2/1), and light olive gray (5Y 5/2), structureless, very fine- to fine-grained, fine- to medium-grained, and medium-grained VITRIC SAND. 23% is gray (5Y 6/1), structureless VITRIC CLAYEY SILT and VITRIC SILTY CLAY.

Minor lithology: 5% of the core is light olive gray (5Y 5/2) VITRIC SILT.

Drilling disturbance varies from soupy to moderately disturbed.

SMEAR SLIDE SUMMARY (%):

	1, 25 M	CC, 6 M
TEXTURE:		
Sand	10	20
Silt	30	65
Clay	60	15
COMPOSITION:		
Accessory minerals	Tr	1
Clay	48	15
Diatoms	2	—
Feldspar	2	1
Glass	35	83
Micrite	1	—
Nannofossils	6	Tr
Radiolarians	2	Tr
Silicoflagellates	2	—
Spicules	2	—



SITE 793 HOLE A CORE 11H CORED INTERVAL 90.1-99.7 mbsf

TIME-ROCK UNIT: QUATERNARY

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS R/G N21 / N22; NANNOFOSSILS C/G CN14a; RADIOLARIANS R/M >300Ka; DIATOMS

PALEOMAGNETICS: R ? I R

PHYS. PROPERTIES: ●ρ=63.0 ▽=1.64; ●ρ=64.0 ▽=1.62; ●ρ=65.0 ▽=1.63; ●ρ=73.0 ▽=1.72

CHEMISTRY: ●%$CaCO_3$=2.4; ●%$CaCO_3$=2.7; ●%$CaCO_3$=9.1; ●%$CaCO_3$=47.6

SECTION: 1 2 3 4 5 6 7 CC

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

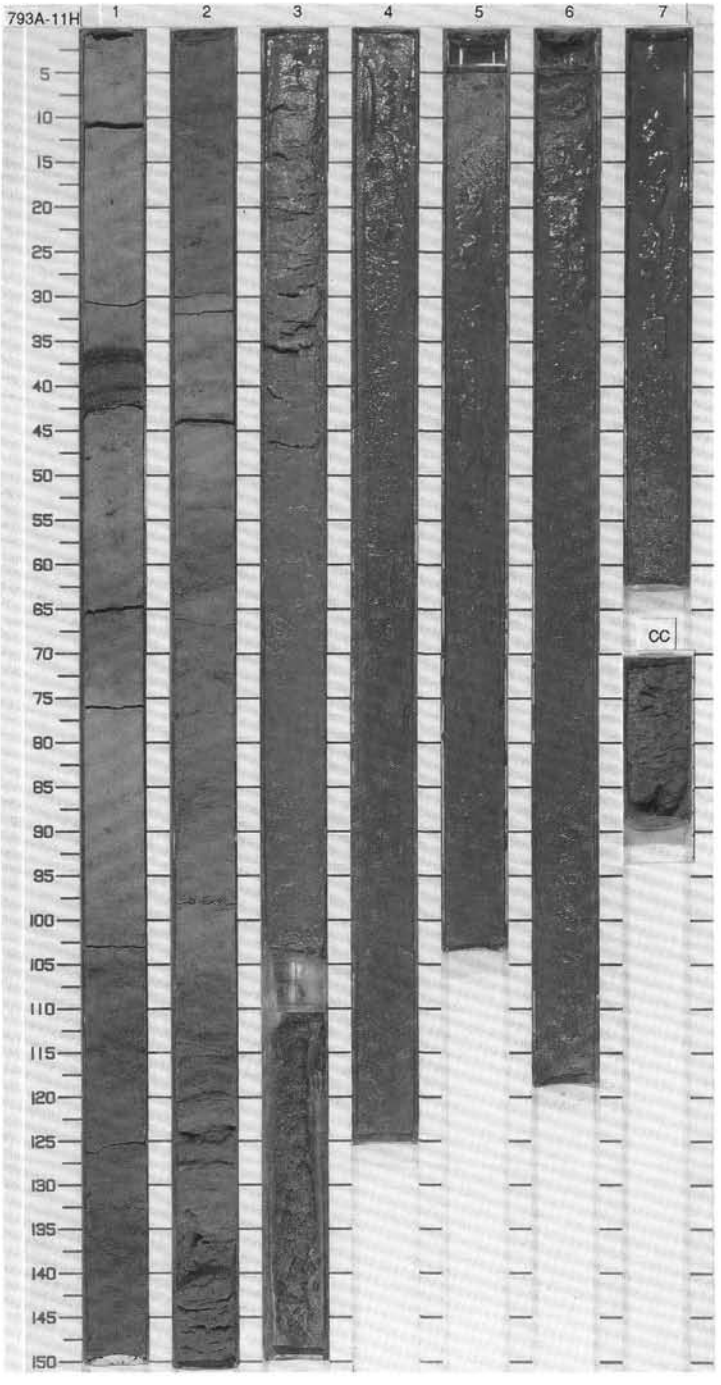
VITRIC SAND AND VITRIC SILT

Major lithologies:
Dark gray (5Y 4/1), medium to very fine-grained VITRIC SAND comprises 48% of the core. In Sections 1 and 2, which are only moderately disturbed by drilling, the sands display planar and cross lamination. In Sections 3 through CC, the sediment is very disturbed and the sand is homogenized. Structureless, gray (5Y 5/1) VITRIC SILT comprises 35% of the core.

Minor lithology: The remaining 17% of the core is composed of gray (5Y 6/1, 5/1) NANNOFOSSIL-RICH VITRIC SILTY CLAY, which occurs only in Sections 1 and 2. Some intervals in Section 1 are slightly burrowed.

SMEAR SLIDE SUMMARY (%):

	1, 79 M	1, 147 M	3, 50 D	6, 28 D
TEXTURE:				
Sand	---	5	5	75
Silt	15	25	80	20
Clay	85	70	15	5
COMPOSITION:				
Accessory minerals	Tr	Tr	1	1
Clay	66	65	15	5
Diatoms	2	1	---	Tr
Feldspar	Tr	2	5	3
Foraminifers	1	---	Tr	2
Glass	10	25	77	89
Glauconite	---	---	---	Tr
Lithic fragments	Tr	---	---	Tr
Micrite	1	2	Tr	Tr
Nannofossils	15	Tr	1	---
Opaques	---	2	1	---
Pellets	2	---	---	---
Radiolarians	1	1	---	Tr
Silicoflagellates	2	1	---	---
Spicules	Tr	1	Tr	---



SITE 793 HOLE B CORE 1R CORED INTERVAL 586.5-594.7 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
		B R/P							1 2 3 4	0.5 1.0	IGNEOUS ROCK			*	

φ=13.0 ρ=3.13
φ=10.0 ρ=3.27
φ=12.0 ρ=2.88
φ=9.0 ρ=2.75
φ=10.0 ρ=2.76
φ=12.0 ρ=2.77

126-793B-1R

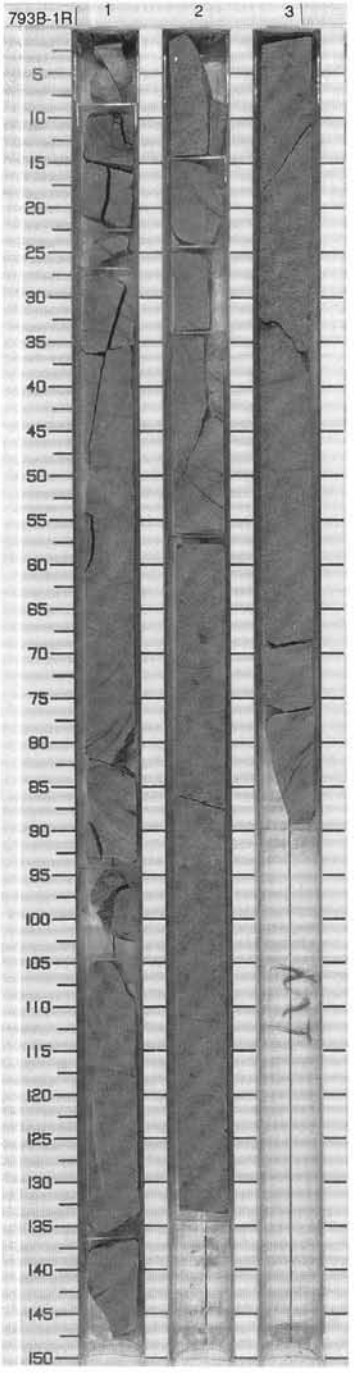
EPIDOTE-RICH CALCITE and MICROCRYSTALLINE QUARTZ

Major lithologies:
Light gray (N7), burrowed, recrystallized EPIDOTE-RICH CALCITE and MICROCRYSTALLINE QUARTZ. There are granules and pebbles of basalt, as large as 1 cm across, in Section 1, 8-9 cm, just above the contact with olivine basalt that constitutes the rest of the core. There are vesicles in this sediment just above the basalt contact. The original lithology of this material may have been carbonate-rich claystone, but the predominant components are now finely crystalline calcite and microcrystalline quartz.

This sediment occurs as drilling fragments above the basalt.

SMEAR SLIDE SUMMARY (%):

	1, 5 M
TEXTURE:	
Silt	30
Clay	70
COMPOSITION:	
Accessory minerals	5
Epidote	15
Glass	5
Inorganic calcite	20
Silcia	55

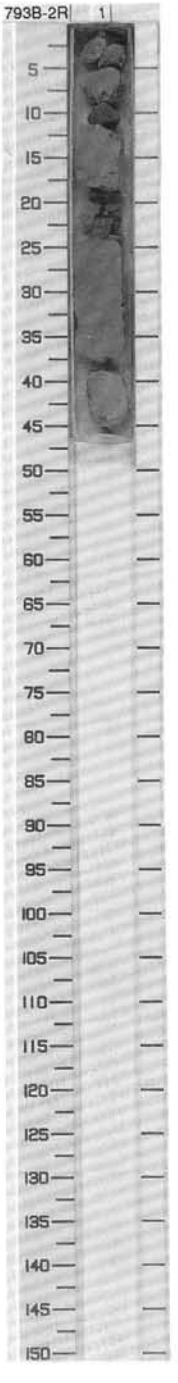


SITE 793 HOLE B CORE 2R CORED INTERVAL 594.70-604.30 mbsf

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
MIDDLE MIOCENE	A/P	N10			R	● ϕ=70.0 ρ=1.63	● %CaCO3 =30.65	1	0.5				*	NANNOFOSSIL CLAYSTONE
	C/G	CN4							1.0				*	Major lithology: Grayish green (5GY 6/1), burrowed NANNOFOSSIL CLAYSTONE with very thin, partly burrowed bands of mafic volcanic granules and pebbles as large as 9 mm across.
	R/P	*D. alata - C. costata*						2						Minor lithology: Section 1, 8-10 cm, consists of a drilling fragment of burrowed NANNOFOSSIL-RICH VITRIC CLAYEY SILTSTONE.
								3						The core is moderately to highly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 10 M	1, 33 D
TEXTURE:		
Silt	60	15
Clay	40	85
COMPOSITION:		
Accessory minerals	---	Tr
Clay	30	47
Diatoms	---	Tr
Feldspar	Tr	1
Glass	60	1
Nannofossils	10	50
Opaques	---	1



SITE 793 HOLE B CORE 3R CORED INTERVAL 604.3-614.0 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
MIDDLE MIOCENE	R/P	N9 -N10	C/G	- CN4	B	R	ϕ=67.0 ρ=1.78 %CaCO3 =4.7 ϕ=66.0 ρ=1.78 %CaCO3 =1.0 ϕ=55.0 ρ=1.97 %CaCO3=11.1 ϕ=61.0 ρ=1.69 %CaCO3=0.3 %CaCO3 =0.2	1 2 3 4 CC	0.5 1.0				IW	

LITHOLOGIC DESCRIPTION

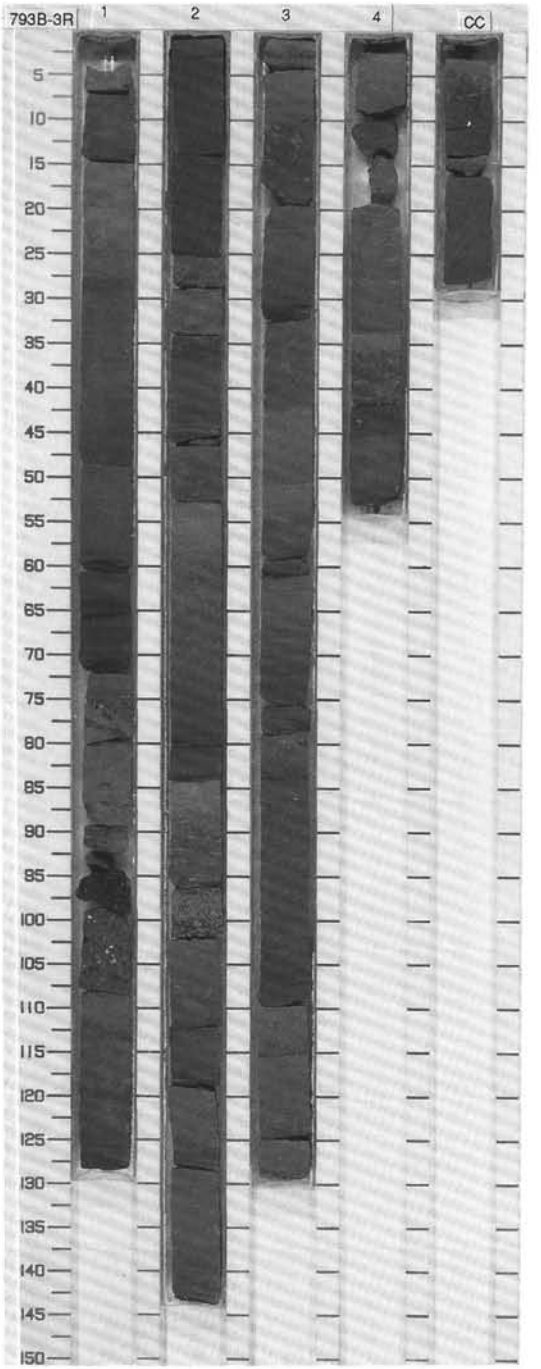
VITRIC SANDSTONE, VITRIC SILTSTONE and SILTY CLAYSTONE

Major lithologies:
The core is predominantly thin to medium graded beds, consisting of a lower, very thin to thin division of fine-grained, parallel- or ripple-laminated VITRIC SANDSTONE or VITRIC SILTSTONE, overlain by a thicker division of parallel-laminated SILTY CLAYSTONE that becomes strongly burrowed at the top. This uppermost sediment locally contains bands of scattered black volcanic sand that have been mixed into the sediment by burrowers.

Minor lithology: Section 1, 73-107 cm, consists of a bed of poorly sorted, very coarse-grained PEBBLY MUDDY SANDSTONE with a sharp top and base that contains a cobble of basalt 7 cm in diameter, and what are interpreted as large slabs of nannofossil-rich clayey siltstone. These are believed to be much larger than the core diameter, and their interpretation as clasts is not unequivocal.

SMEAR SLIDE SUMMARY (%):

	1, 68 D	2, 100 M	3, 52 D
TEXTURE:			
Sand	80	60	---
Silt	20	10	20
Clay	---	30	80
COMPOSITION:			
Accessory minerals	Tr	---	---
Clay	---	20	---
Feldspar	5	2	5
Foraminifers	Tr	---	---
Glass	95	38	95
Inorganic calcite	---	30	---
Nannofossils	---	10	---



SITE 793 HOLE B CORE 4R CORED INTERVAL 614.0-623.6 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
MIDDLE MIOCENE	F/M N9 - N10	F/P CN4	R/M		R	ϕ=58.0 ρ=1.71 ϕ=60.0 ρ=1.88 ϕ=67.0 ρ=1.89 ϕ=67.0 ρ=1.81 ϕ=61.0 ρ=1.78	%CaCO3=2.0 %CaCO3=2.6 %CaCO3=27.1 %CaCO3=1.1	1 2 3 4 CC	0.5 1.0				* * *

LITHOLOGIC DESCRIPTION

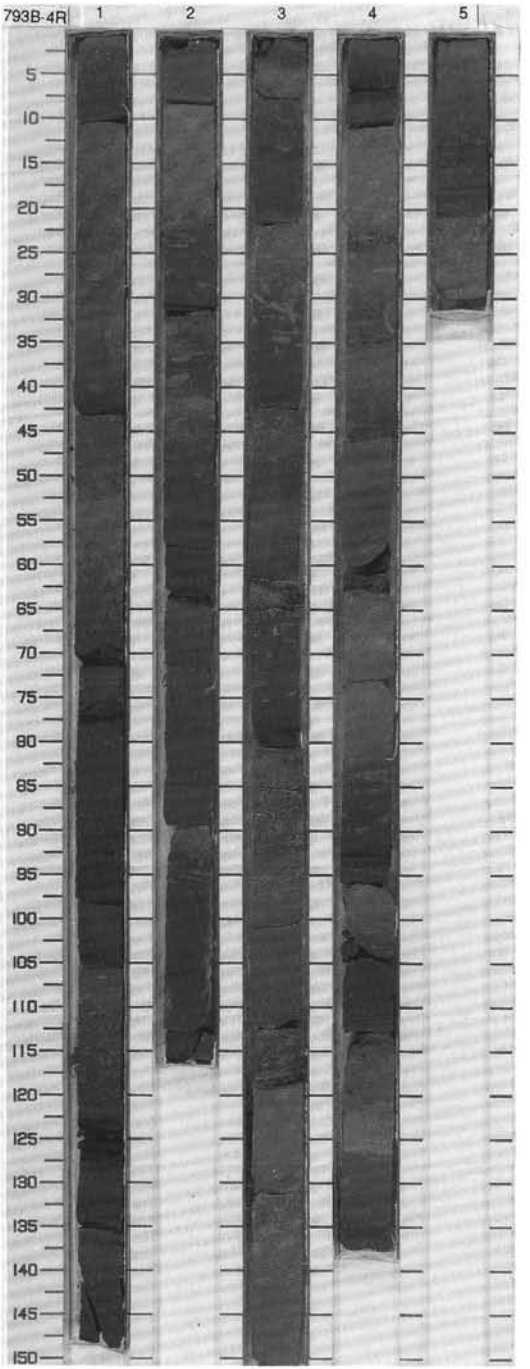
VITRIC SANDSTONE, VITRIC SILTSTONE, VITRIC SILTY CLAYSTONE AND NANNOFOSSIL-RICH CLAYSTONE

Major lithologies:
The core is predominantly thin to medium, graded beds, consisting of a lower very thin to thin division of fine-grained, parallel- or ripple-laminated VITRIC SANDSTONE or VITRIC SILTSTONE, overlain by a thicker division of parallel-laminated VITRIC SILTY CLAYSTONE, overlain, in turn, by strongly burrowed NANNOFOSSIL-RICH CLAYSTONE. This uppermost sediment locally contains bands of scattered black volcanic sand that have been mixed into the sediment by burrowers. Section 2, 70-115 cm, contains sub-vertical veinlets.

Most of the core is slightly fractured by drilling. Small intervals are moderately fractured.

SMEAR SLIDE SUMMARY (%):

	1, 38 D	2, 10 D	3, 79 M
TEXTURE:			
Silt	80	15	80
Clay	20	85	20
COMPOSITION:			
Accessory minerals	2	---	Tr
Clay	---	50	---
Diatoms	---	1	---
Feldspar	10	1	10
Foraminifers	---	2	---
Glass	88	5	88
Nannofossils	Tr	35	2
Opaques	---	1	---
Quartz	---	1	---
Spicules	---	1	---



SITE 793 HOLE B CORE 5R CORED INTERVAL 623.6-633.3 mbsf

TIME-ROCK UNIT: MIDDLE MIOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER:
- FORAMINIFERS: R/P N9 - N10; C/G CN4; R/M *D. alata - C. costata*
- NANNOFOSSILS
- RADIOLARIANS
- DIATOMS

PALEOMAGNETICS: R

PHYS. PROPERTIES: ●0=59.0 γ=1.74; ●0=45.0 γ=1.77; ●0=60.0 γ=1.84; ●0=60.0 γ=1.70; ●0=66.0 γ=1.68

CHEMISTRY: %$CaCO_3$ 10.6; %$CaCO_3$=1.4; %$CaCO_3$=3.6; %$CaCO_3$=3.2; %$CaCO_3$ =1.8

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

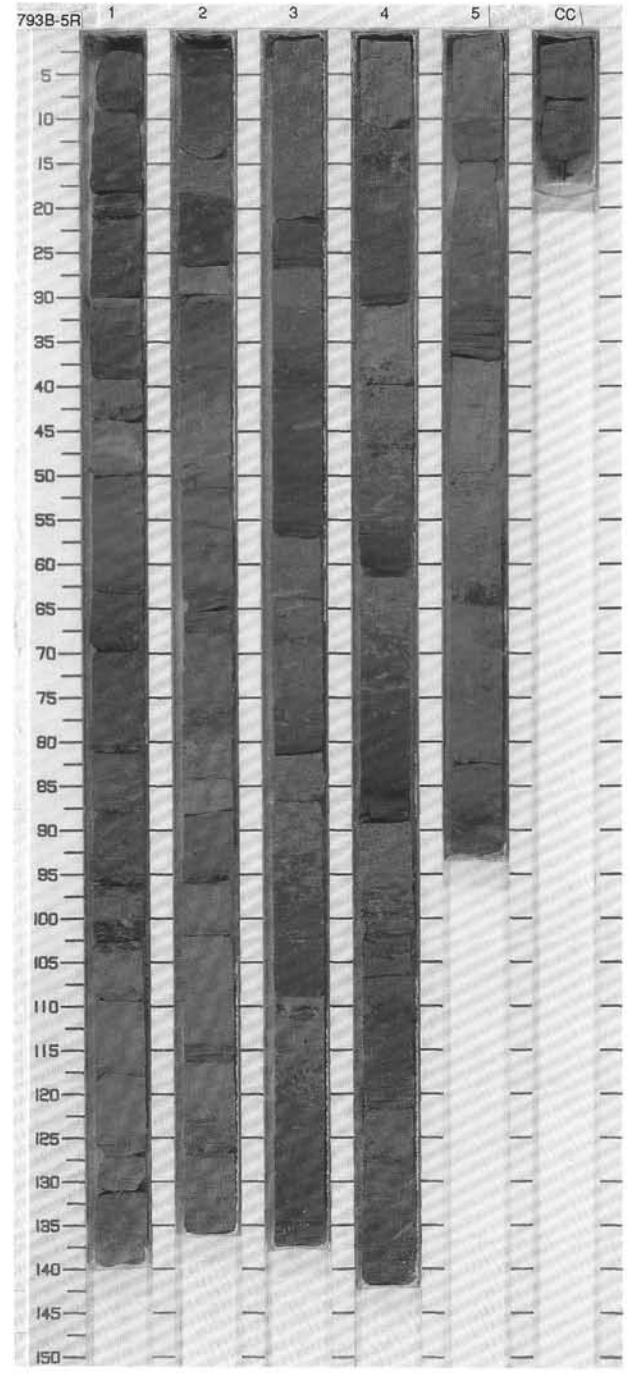
VITRIC SANDSTONE, VITRIC SILTSTONE, VITRIC SILTY CLAYSTONE, SILTY CLAYSTONE AND NANNOFOSSIL CLAYSTONE

Major lithologies:
The core is predominantly thin to medium, graded beds, consisting of a lower very thin to thin division of fine-grained, parallel-or ripple-laminated VITRIC SANDSTONE or VITRIC SILTSTONE, overlain by a thicker division of parallel-laminated VITRIC SILTY CLAYSTONE, overlain, in turn, by strongly burrowed SILTY CLAYSTONE or NANNOFOSSIL CLAYSTONE. This uppermost sediment locally contains bands of scattered black volcanic sand that have been mixed into the sediment by burrowers. Bedding dips at 3°-4°. There are faults that dip at about 60° and have about 1 cm displacement in Section 2, 90-100 cm, Section 3, 65-80 cm, and Section 4, 127-142 cm. Sub-vertical dewatering veinlets occur in Section 3, 65-75 cm.

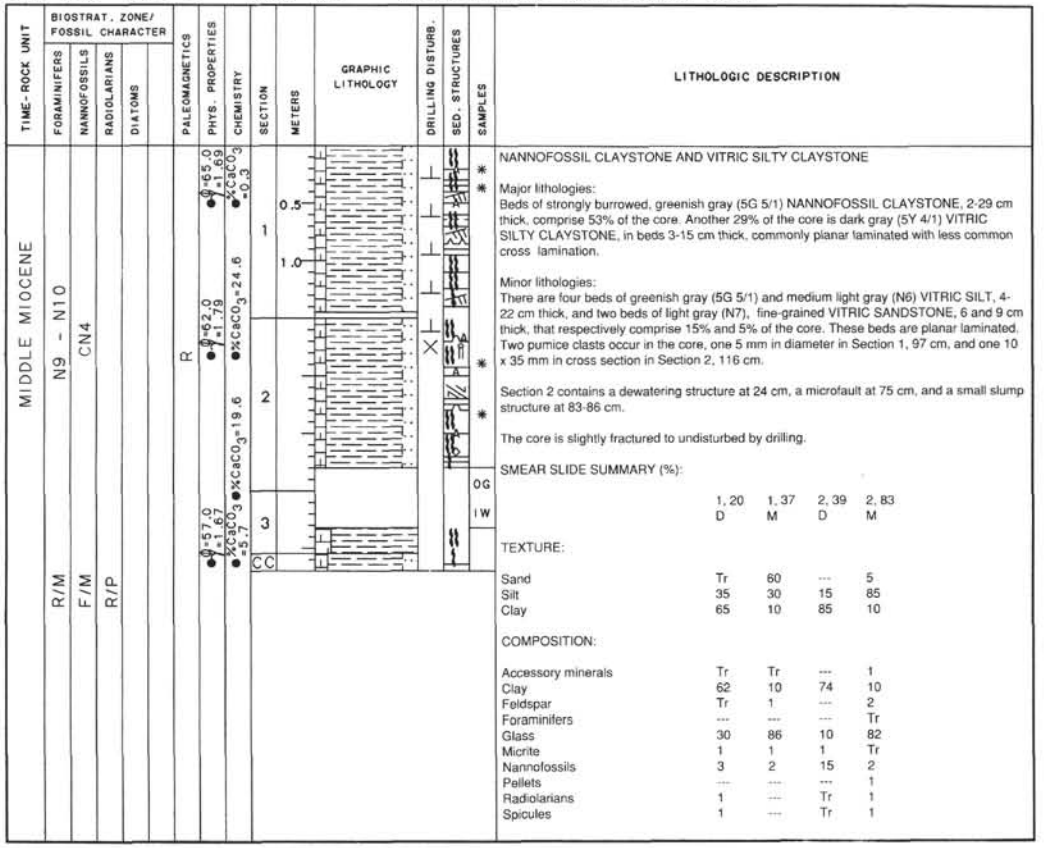
Most of the core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	2, 58 D	4, 10 M	5, 3 M
TEXTURE:			
Sand	---	80	---
Silt	30	20	20
Clay	70	---	80
COMPOSITION:			
Accessory minerals	---	2	---
Clay	10	2	30
Diatoms	Tr	---	---
Feldspar	5	15	3
Foraminifers	---	Tr	3
Glass	85	81	35
Inorganic calcite	---	---	7
Nannofossils	---	---	20
Radiolarians	Tr	Tr	---



SITE 793 HOLE B CORE 6R CORED INTERVAL 633.3-642.8 mbsf



LITHOLOGIC DESCRIPTION

NANNOFOSSIL CLAYSTONE AND VITRIC SILTY CLAYSTONE

Major lithologies:
Beds of strongly burrowed, greenish gray (5G 5/1) NANNOFOSSIL CLAYSTONE, 2-29 cm thick, comprise 53% of the core. Another 29% of the core is dark gray (5Y 4/1) VITRIC SILTY CLAYSTONE, in beds 3-15 cm thick, commonly planar laminated with less common cross lamination.

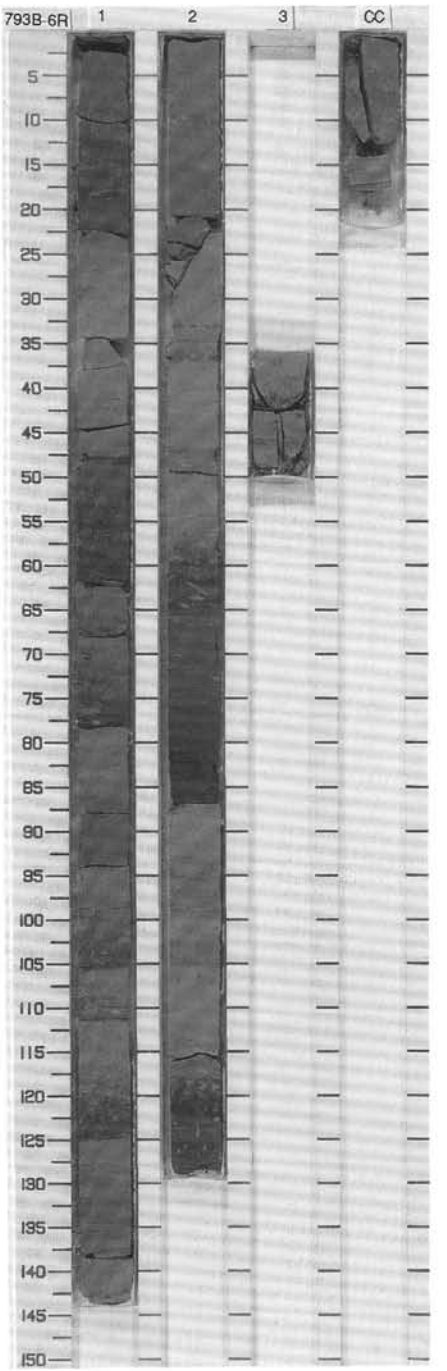
Minor lithologies:
There are four beds of greenish gray (5G 5/1) and medium light gray (N6) VITRIC SILT, 4-22 cm thick, and two beds of light gray (N7), fine-grained VITRIC SANDSTONE, 6 and 9 cm thick, that respectively comprise 15% and 5% of the core. These beds are planar laminated. Two pumice clasts occur in the core, one 5 mm in diameter in Section 1, 97 cm, and one 10 x 35 mm in cross section in Section 2, 116 cm.

Section 2 contains a dewatering structure at 24 cm, a microfault at 75 cm, and a small slump structure at 83-86 cm.

The core is slightly fractured to undisturbed by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 20 D	1, 37 M	2, 39 D	2, 83 M
TEXTURE:				
Sand	Tr	60	---	5
Silt	35	30	15	85
Clay	65	10	85	10
COMPOSITION:				
Accessory minerals	Tr	Tr	---	1
Clay	62	10	74	10
Feldspar	Tr	1	---	2
Foraminifers	---	---	---	Tr
Glass	30	86	10	82
Micrite	1	1	1	Tr
Nannofossils	3	2	15	2
Pellets	---	---	---	1
Radiolarians	1	---	Tr	1
Spicules	1	---	Tr	1



SITE 793 HOLE B CORE 7R CORED INTERVAL 642.8-652.4 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
MIDDLE MIOCENE	N9 - N10	CN4	*D. alata - C. costata*		R	ρ=59.0 ● ρ=1.92	%CaCO3 =40.3 ●	1 CC					* ***

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CLAYSTONE

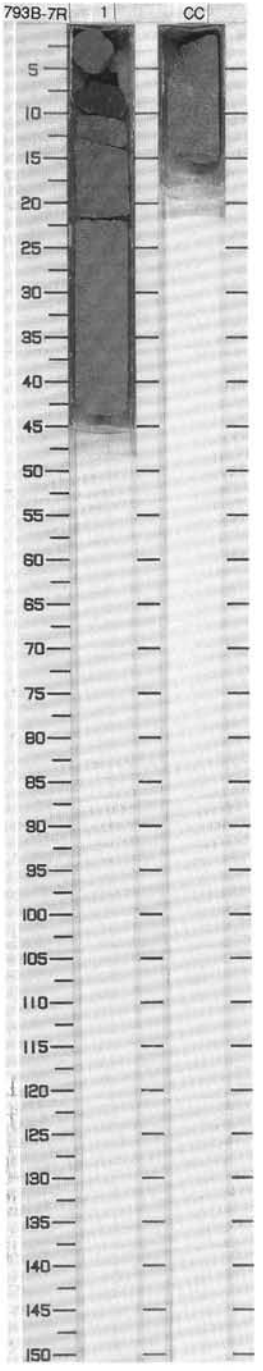
Major lithology: Strongly bioturbated, greenish gray (5G 6/1) NANNOFOSSIL CLAYSTONE comprises 96% of the core.

Minor lithology: Two layers of very dark gray (5Y 3/1) VITRIC SILTY CLAYSTONE, each 2 cm thick and probably representing ash falls, comprise the remaining 4% of the core.

Drilling has highly fractured the top 10 cm of the core, and moderately fractured the rest.

SMEAR SLIDE SUMMARY (%):

	1, 8 M	1, 16 D	1, 25 D	CC, 1 M	CC, 13 M
TEXTURE:					
Sand	5	5	Tr	60	15
Silt	60	35	20	30	35
Clay	35	60	80	10	50
COMPOSITION:					
Accessory minerals	Tr	---	---	30	2
Clay	62	50	63	10	40
Feldspar	2	Tr	Tr	20	1
Foraminifers	---	---	1	Tr	15
Glass	35	35	12	38	30
Mica	---	---	---	---	3
Micrite	Tr	Tr	2	---	3
Nannofossils	1	15	20	2	5
Radiolarians	Tr	---	1	---	---
Spicules	---	---	1	---	1



SITE 793 HOLE B CORE 8R CORED INTERVAL 652.4-662.1 mbsf

TIME-ROCK UNIT	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES
MIDDLE MIOCENE	C/G	N9	R/M		R	ϕ +61.0 ϕ 1.87 ϕ 64.0 ϕ 2.04	%$CaCO_3$ =42.8 %$CaCO_3$ =62.3	1 2 CC	0.5 1.0				*
	A/G	CN4	*D. alata - C. costata*										

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CLAYSTONE

Major lithology: 75% of the core is composed of greenish gray (5G 6/1) NANNOFOSSIL CLAYSTONE, much of which is strongly bioturbated, in layers 5-40 cm thick.

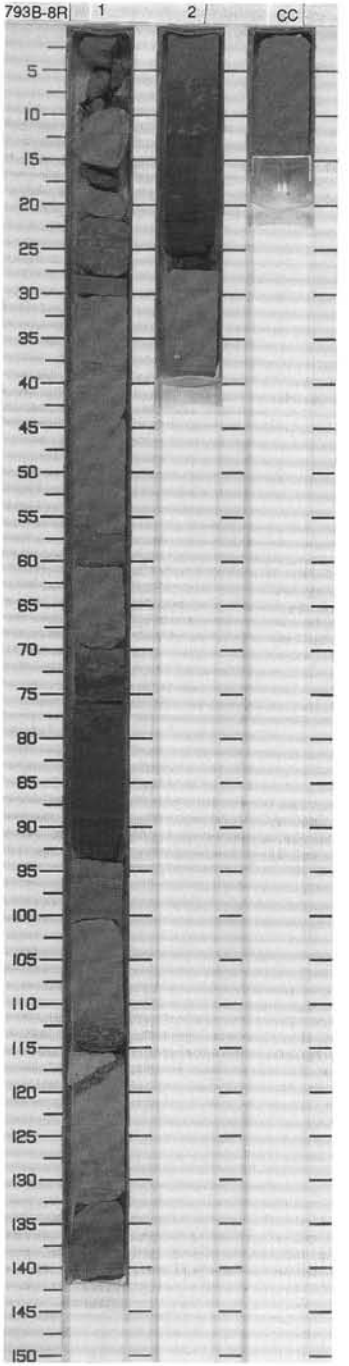
Minor lithology: Intervals of very dark gray (5Y 3/1) VITRIC SILTSTONE (13%), greenish black (5GY 2/1) VITRIC SANDSTONE (9%), very dark gray (5Y 3/1) CLAYEY SILTSTONE (4%) and SILTY CLAYSTONE (3%), all 1-12 cm thick, comprise the rest of the core. These lithologies *are typically planar laminated. Two intervals have basal cross* lamination, and one has a scoured base.

Microfaults occur in Section 1, 10-15 cm, 43-49 cm, 96-100 cm and 117-122 cm, the latter with slickensided surfaces that dip 60°.

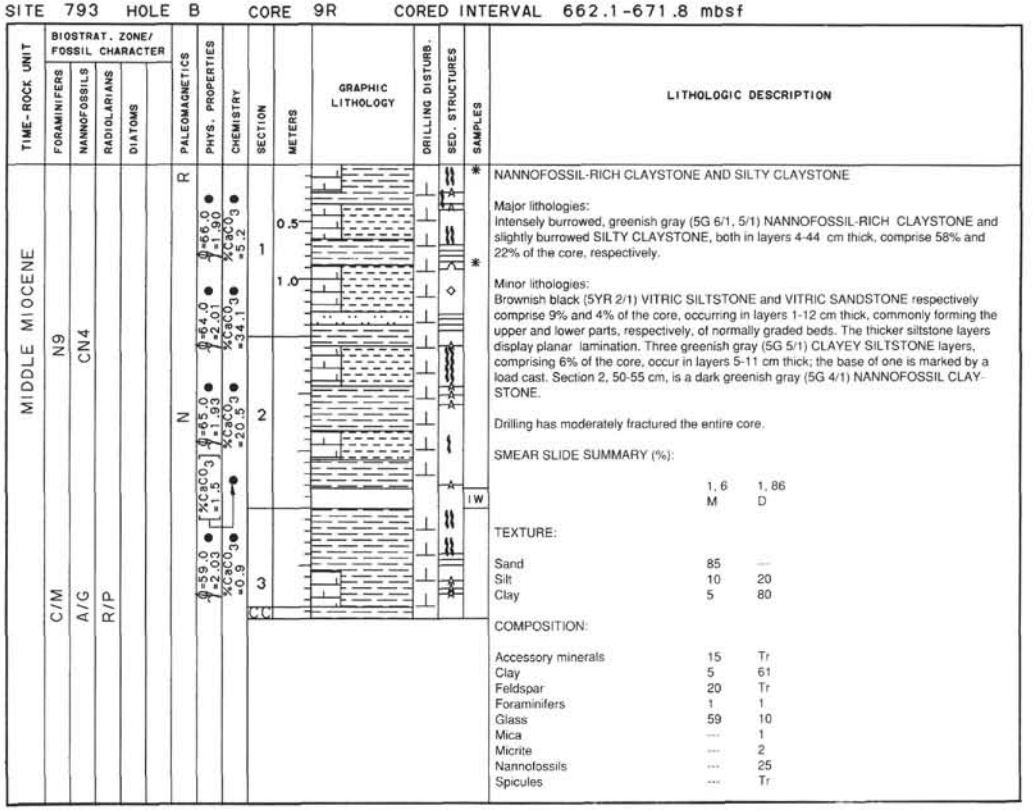
Section 1, 0-30 cm, is highly fractured, and the rest of the core is moderately fractured.

SMEAR SLIDE SUMMARY (%):

	1, 76 M	2, 13 M
TEXTURE:		
Sand	90	Tr
Silt	10	40
Clay	---	60
COMPOSITION:		
Accessory minerals	Tr	Tr
Clay	---	34
Feldspar	Tr	2
Glass	99	60
Micrite	---	1
Nannofossils	1	2
Radiolarians	---	Tr
Spicules	---	1



SITE 793 HOLE B CORE 9R CORED INTERVAL 662.1-671.8 mbsf



LITHOLOGIC DESCRIPTION

NANNOFOSSIL-RICH CLAYSTONE AND SILTY CLAYSTONE

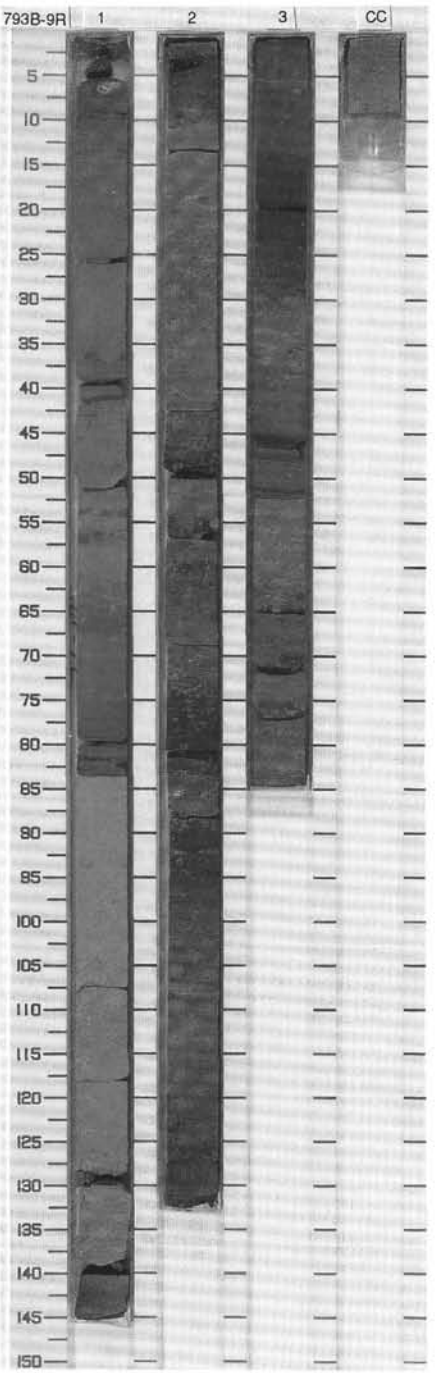
Major lithologies:
Intensely burrowed, greenish gray (5G 6/1, 5/1) NANNOFOSSIL-RICH CLAYSTONE and slightly burrowed SILTY CLAYSTONE, both in layers 4-44 cm thick, comprise 58% and 22% of the core, respectively.

Minor lithologies:
Brownish black (5YR 2/1) VITRIC SILTSTONE and VITRIC SANDSTONE respectively comprise 9% and 4% of the core, occurring in layers 1-12 cm thick, commonly forming the upper and lower parts, respectively, of normally graded beds. The thicker siltstone layers display planar lamination. Three greenish gray (5G 5/1) CLAYEY SILTSTONE layers, comprising 6% of the core, occur in layers 5-11 cm thick; the base of one is marked by a load cast. Section 2, 50-55 cm, is a dark greenish gray (5G 4/1) NANNOFOSSIL CLAYSTONE.

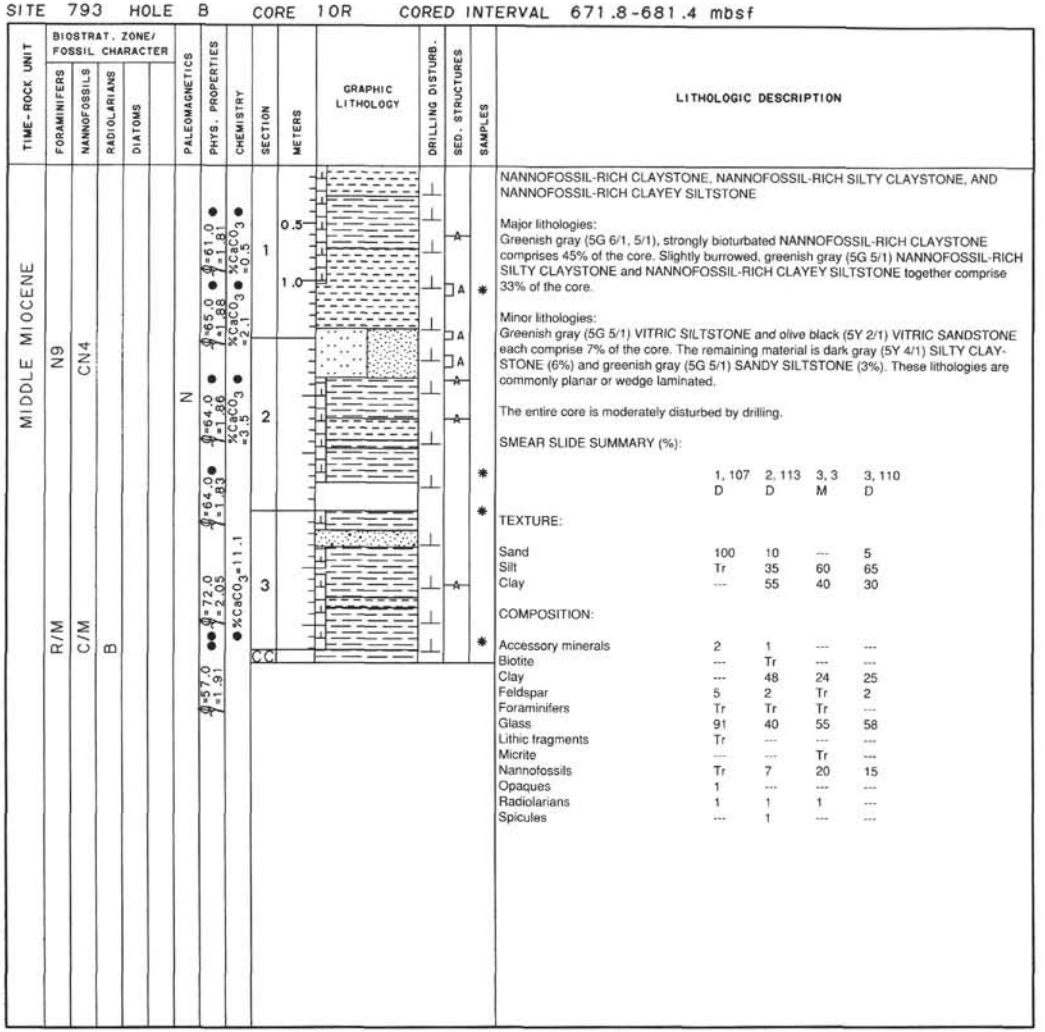
Drilling has moderately fractured the entire core.

SMEAR SLIDE SUMMARY (%):

	1, 6 M	1, 86 D
TEXTURE:		
Sand	85	---
Silt	10	20
Clay	5	80
COMPOSITION:		
Accessory minerals	15	Tr
Clay	5	61
Feldspar	20	Tr
Foraminifers	1	1
Glass	59	10
Mica	---	1
Micrite	---	2
Nannofossils	---	25
Spicules	---	Tr



SITE 793 HOLE B CORE 10R CORED INTERVAL 671.8-681.4 mbsf



NANNOFOSSIL-RICH CLAYSTONE, NANNOFOSSIL-RICH SILTY CLAYSTONE, AND NANNOFOSSIL-RICH CLAYEY SILTSTONE

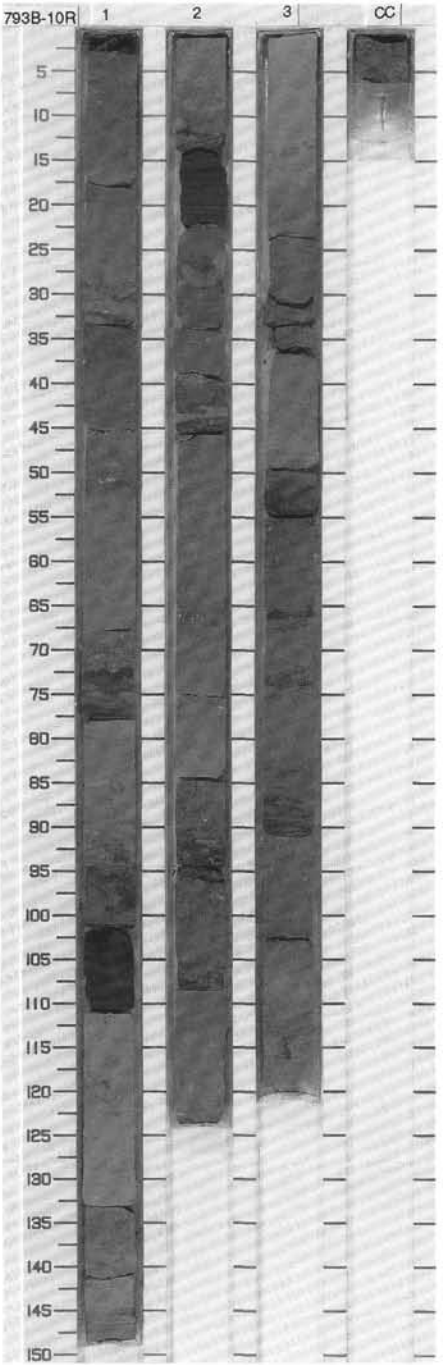
Major lithologies:
Greenish gray (5G 6/1, 5/1), strongly bioturbated NANNOFOSSIL-RICH CLAYSTONE comprises 45% of the core. Slightly burrowed, greenish gray (5G 5/1) NANNOFOSSIL-RICH SILTY CLAYSTONE and NANNOFOSSIL-RICH CLAYEY SILTSTONE together comprise 33% of the core.

Minor lithologies:
Greenish gray (5G 5/1) *VITRIC SILTSTONE* and olive black (5Y 2/1) VITRIC SANDSTONE each comprise 7% of the core. The remaining material is dark gray (5Y 4/1) SILTY CLAYSTONE (6%) and greenish gray (5G 5/1) SANDY SILTSTONE (3%). These lithologies are commonly planar or wedge laminated.

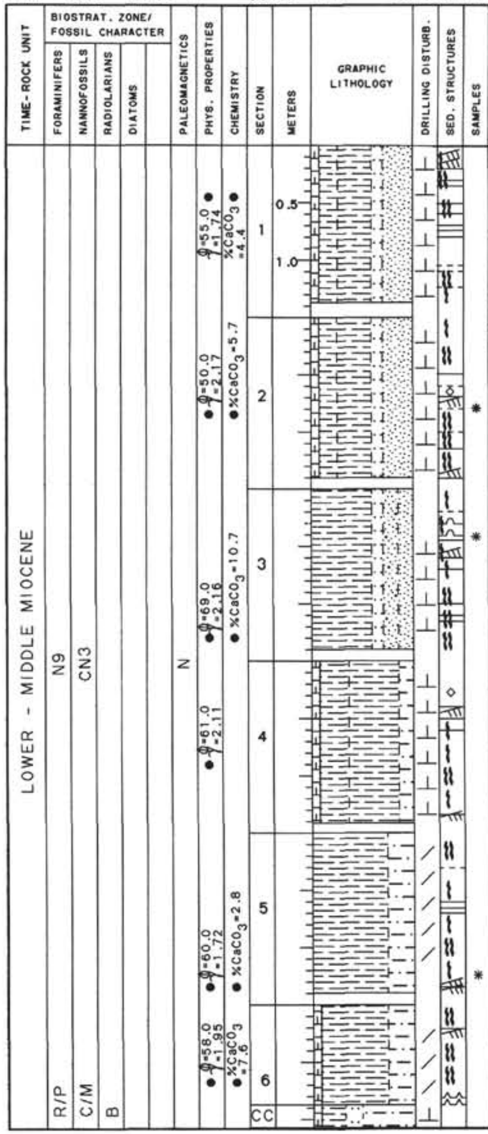
The entire core is moderately disturbed by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 107 D	2, 113 D	3, 3 M	3, 110 D
TEXTURE:				
Sand	100	10	---	5
Silt	Tr	35	60	65
Clay	---	55	40	30
COMPOSITION:				
Accessory minerals	2	1	---	---
Biotite	---	Tr	---	---
Clay	---	48	24	25
Feldspar	5	2	Tr	2
Foraminifers	Tr	Tr	Tr	---
Glass	91	40	55	58
Lithic fragments	Tr	---	---	---
Micrite	---	---	Tr	---
Nannofossils	Tr	7	20	15
Opaques	1	---	---	---
Radiolarians	1	1	1	---
Spicules	---	1	---	---



SITE 793 HOLE B CORE 11R CORED INTERVAL 681.4-691.1 mbsf



LITHOLOGIC DESCRIPTION

NANNOFOSSIL-RICH SILTY CLAYSTONE AND SILTY CLAYSTONE

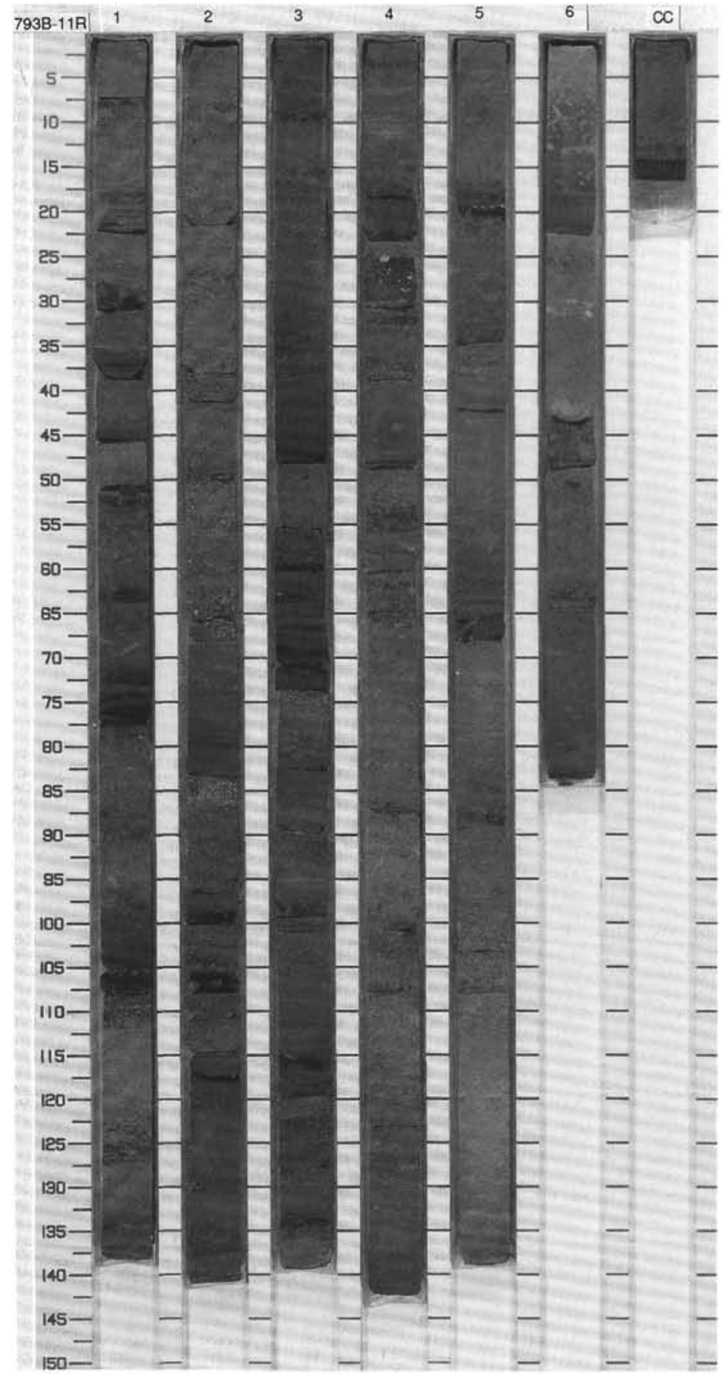
Major lithologies:
Dark gray (5Y 4/1), moderately to intensely bioturbated NANNOFOSSIL-RICH SILTY CLAYSTONE (40%), and structureless SILTY CLAYSTONE (26%) occur as couplets 6-34 cm thick.

Minor lithologies:
Bioturbation has disseminated sandy ash layers into finer lithologies, producing dark gray (5Y 4/1) SANDY MUDSTONE beds 2-29 cm thick (9% of the core). Olive black (5Y 2/1) and very dark gray (5Y 3/1) VITRIC SANDSTONE layers, 2-17 cm thick, and VITRIC SILTSTONE layers, 1-8 cm thick, comprise 7% and 6% of the core, respectively, and commonly display planar lamination and basal cross lamination. Section 3, 31-49 cm, is an interval of syn-sedimentary slumping.

The core is moderately to slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	2, 77 M	3, 41 M	5, 123 M
TEXTURE:			
Sand	---	70	5
Silt	25	10	55
Clay	72	20	40
COMPOSITION:			
Accessory minerals	1	Tr	Tr
Clay	71	15	33
Feldspar	1	2	1
Foraminifers	---	---	Tr
Glass	20	83	50
Lithic fragments	1	Tr	Tr
Micrite	---	---	1
Nannofossils	4	Tr	15
Opaques	Tr	---	---
Radiolarians	---	Tr	Tr
Spicules	Tr	---	Tr
Unknown	2	---	---



SITE 793 HOLE B CORE 12R CORED INTERVAL 691.1-700.8 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
LOWER-MIDDLE MIOCENE	C/M	N9	C/G	CN3	R	φ=62.0 ρ=1.79 %CaCO3=9.9	%CaCO3=16.9	1	0.5 1.0				*
			R/P			φ=57.0 ρ=1.82 %CaCO3=11.5		2					*

LITHOLOGIC DESCRIPTION

CLAYSTONE AND SILTY CLAYSTONE

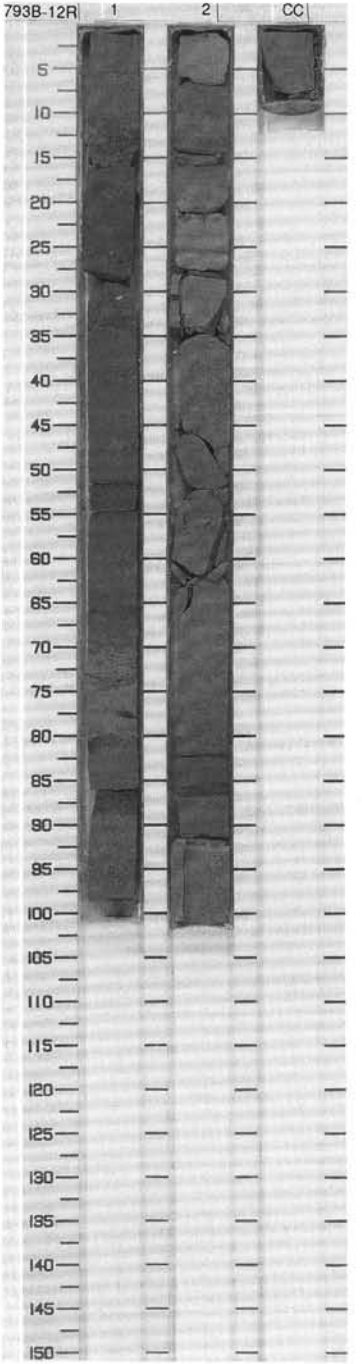
Major lithologies:
Dark greenish gray (10GY 4/1), heavily bioturbated CLAYSTONE and slightly bioturbated, medium greenish gray (10GY 5/1) SILTY CLAYSTONE comprise 37% and 31% of the core, respectively. Some of the coarser intervals are planar laminated, with rarer cross lamination. A dewatering structure occurs in Section 1, 20-24 cm.

Minor lithologies:
Locally, the principal lithologies are enriched in nannofossils, producing light greenish gray (10GY 6/1) NANNOFOSSIL-RICH CLAYSTONE and NANNOFOSSIL-RICH SILTY CLAYSTONE (17% and 6% of the core, respectively). Bioturbation of thin, sandy ash layers with the principal lithologies has produced dark greenish gray (10Y 5/1) NANNOFOSSIL-RICH SANDY MUDSTONE (6% of the core).

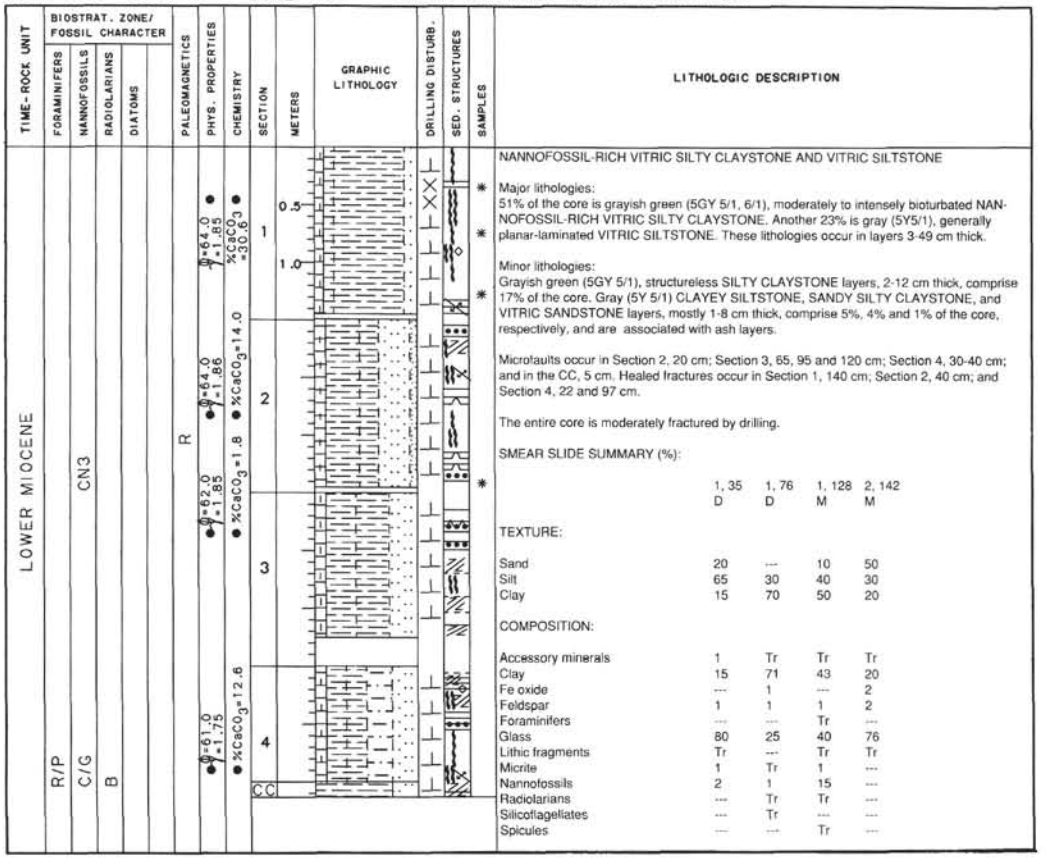
Drilling has moderately fractured Section 1, and moderately to slightly fractured Section 2.

SMEAR SLIDE SUMMARY (%):

	1, 3 M	1, 58 D
TEXTURE:		
Sand	15	Tr
Silt	75	10
Clay	10	90
COMPOSITION:		
Accessory minerals	---	Tr
Clay	10	89
Fe oxide	Tr	---
Feldspar	1	1
Glass	86	10
Micrite	1	---
Nannofossils	2	Tr



SITE 793 HOLE B CORE 13R CORED INTERVAL 700.8-710.4 mbsf



LITHOLOGIC DESCRIPTION

NANNOFOSSIL-RICH VITRIC SILTY CLAYSTONE AND VITRIC SILTSTONE

Major lithologies:
51% of the core is grayish green (5GY 5/1, 6/1), moderately to intensely bioturbated NANNOFOSSIL-RICH VITRIC SILTY CLAYSTONE. Another 23% is gray (5Y5/1), generally planar-laminated VITRIC SILTSTONE. These lithologies occur in layers 3-49 cm thick.

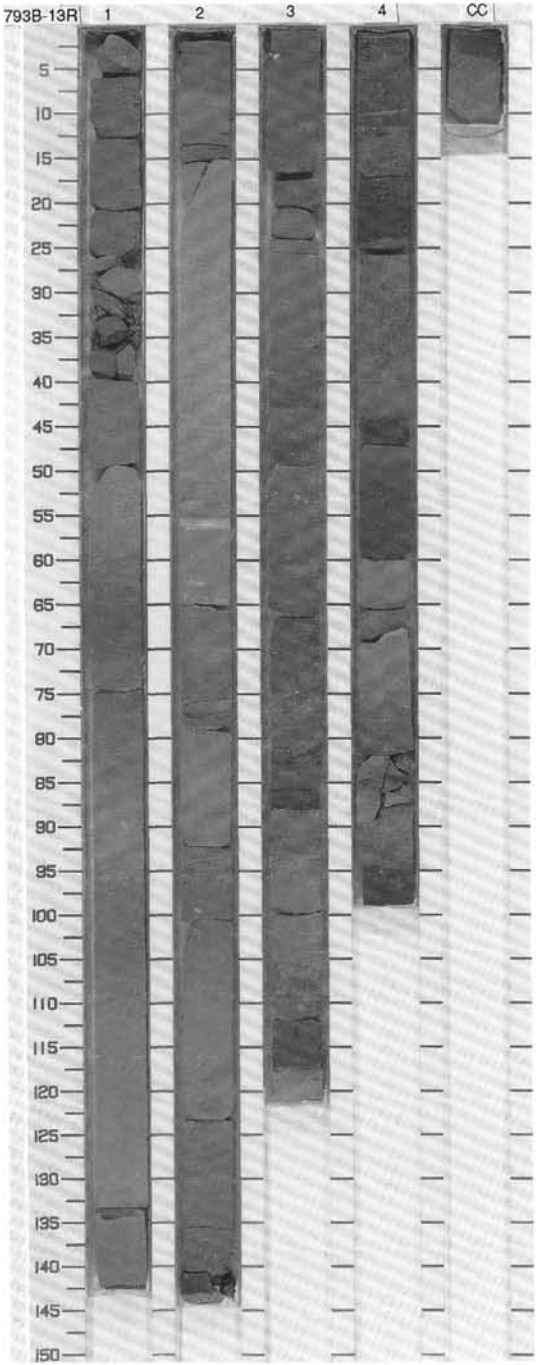
Minor lithologies:
Grayish green (5GY 5/1), structureless SILTY CLAYSTONE layers, 2-12 cm thick, comprise 17% of the core. Gray (5Y 5/1) CLAYEY SILTSTONE, SANDY SILTY CLAYSTONE, and VITRIC SANDSTONE layers, mostly 1-8 cm thick, comprise 5%, 4% and 1% of the core, respectively, and are associated with ash layers.

Microfaults occur in Section 2, 20 cm; Section 3, 65, 95 and 120 cm; Section 4, 30-40 cm; and in the CC, 5 cm. Healed fractures occur in Section 1, 140 cm; Section 2, 40 cm; and Section 4, 22 and 97 cm.

The entire core is moderately fractured by drilling.

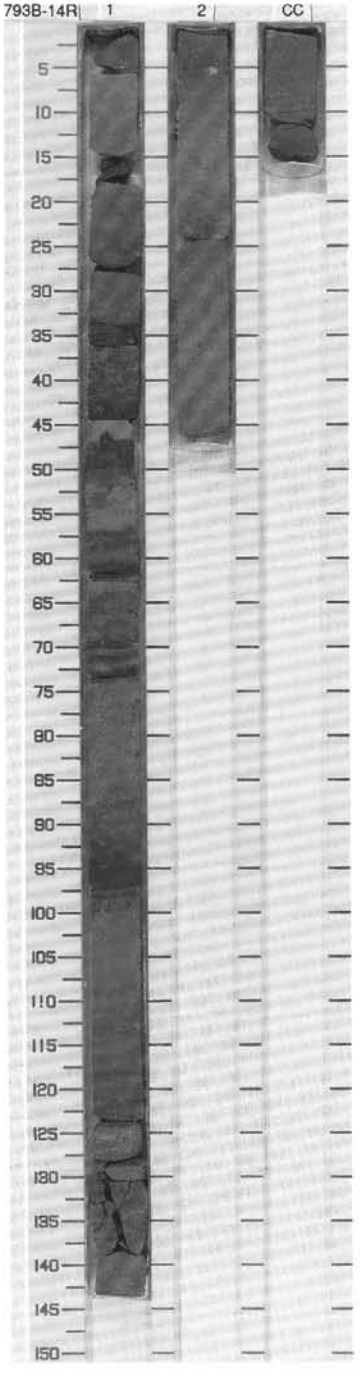
SMEAR SLIDE SUMMARY (%):

	1, 35 D	1, 76 D	1, 128 M	2, 142 M
TEXTURE:				
Sand	20	---	10	50
Silt	65	30	40	30
Clay	15	70	50	20
COMPOSITION:				
Accessory minerals	1	Tr	Tr	Tr
Clay	15	71	43	20
Fe oxide	---	1	---	2
Feldspar	1	1	1	2
Foraminifers	---	---	Tr	---
Glass	80	25	40	76
Lithic fragments	Tr	---	Tr	Tr
Micrite	1	Tr	1	---
Nannofossils	2	1	15	---
Radiolarians	---	Tr	Tr	---
Silicoflagellates	---	Tr	---	---
Spicules	---	---	Tr	---

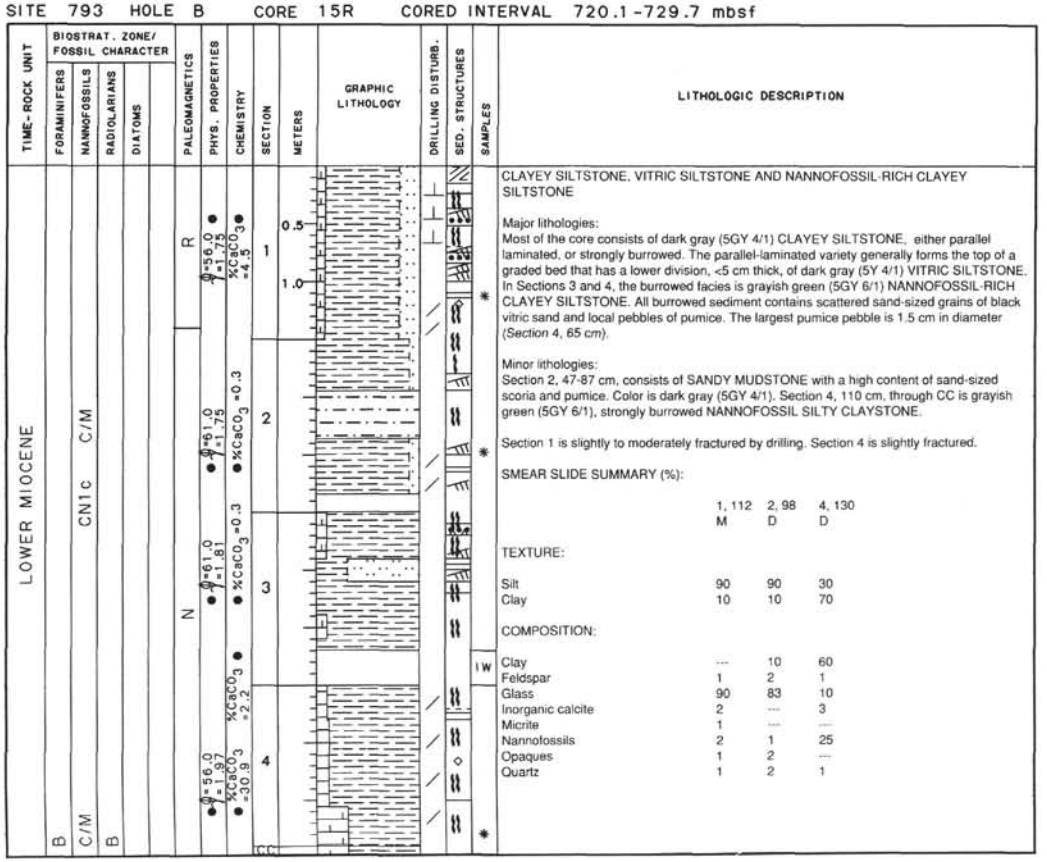


SITE 793 HOLE B CORE 14R CORED INTERVAL 710.4-720.1 mbsf

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
LOWER - MIDDLE MIOCENE	B / C/G	A/M / CN3	B		R	●φ=61.0 ●φ=56.0 ●ρ=1.77 ●ρ=1.83 ●%CaCO3=10.0 ●%CaCO3=1.4		1	0.5 1.0					NANNOFOSSIL-RICH SILTY CLAYSTONE Major lithology: Slightly to intensely bioturbated, grayish green (5GY 5/1) NANNOFOSSIL-RICH SILTY CLAYSTONE, in layers 4-25 cm thick, comprises 62% of the core. Minor lithologies: Very dark gray (5Y 3/1) VITRIC SILTSTONE and dark gray (5GY 4/1) VITRIC SILTY CLAYSTONE comprise 16% and 13% of the core, respectively, and occur in layers 1-15 cm thick. The remaining 8% of the core consists of very dark gray (5Y 3/1) SANDY MUDSTONE, in part nannofossil-rich, and a grayish green (5GY 5/1) VITRIC SANDSTONE layer, 4 cm thick, that probably represents an ash bed. Several of the coarser lithologies display planar lamination. One bed contains cross lamination. Microfaults occur in Section 1, 45-53 cm, 56-60 cm, and 68-73 cm. The core is moderately fractured by drilling.
								2						
								CC						



SITE 793 HOLE B CORE 15R CORED INTERVAL 720.1-729.7 mbsf



LITHOLOGIC DESCRIPTION

CLAYEY SILTSTONE, VITRIC SILTSTONE AND NANNOFOSSIL-RICH CLAYEY SILTSTONE

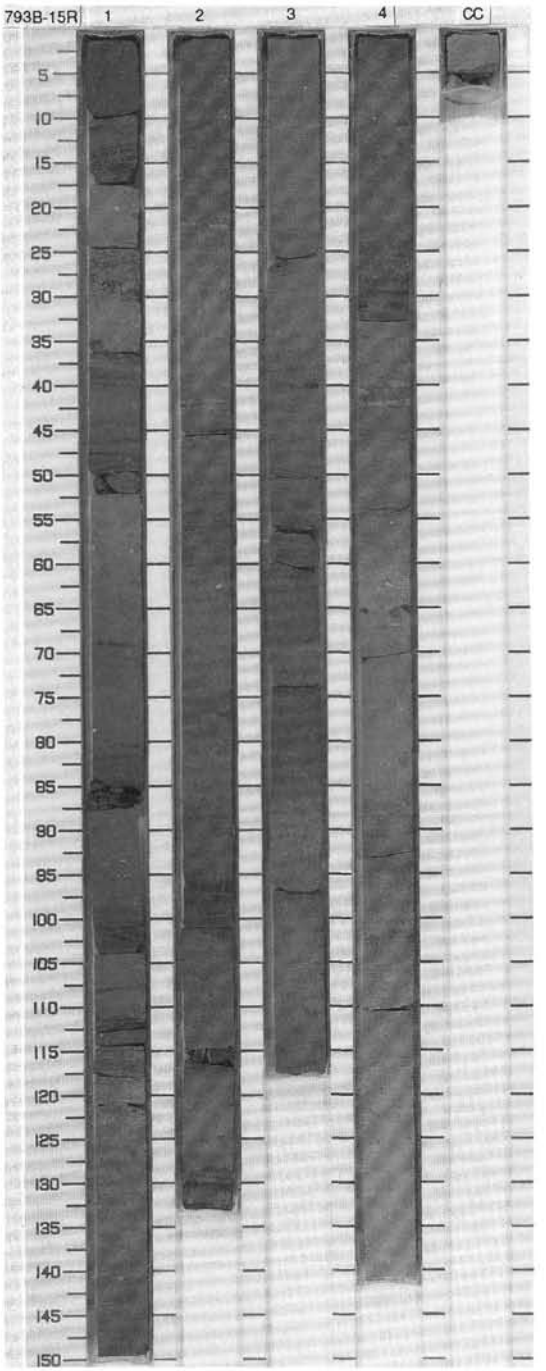
Major lithologies:
Most of the core consists of dark gray (5GY 4/1) CLAYEY SILTSTONE, either parallel laminated, or strongly burrowed. The parallel-laminated variety generally forms the top of a graded bed that has a lower division, <5 cm thick, of dark gray (5Y 4/1) VITRIC SILTSTONE. In Sections 3 and 4, the burrowed facies is grayish green (5GY 6/1) NANNOFOSSIL-RICH CLAYEY SILTSTONE. All burrowed sediment contains scattered sand-sized grains of black vitric sand and local pebbles of pumice. The largest pumice pebble is 1.5 cm in diameter (*Section 4, 65 cm*).

Minor lithologies:
Section 2, 47-87 cm, consists of SANDY MUDSTONE with a high content of sand-sized scoria and pumice. Color is dark gray (5GY 4/1). Section 4, 110 cm, through CC is grayish green (5GY 6/1), strongly burrowed NANNOFOSSIL SILTY CLAYSTONE.

Section 1 is slightly to moderately fractured by drilling. Section 4 is slightly fractured.

SMEAR SLIDE SUMMARY (%):

	1, 112 M	2, 98 D	4, 130 D
TEXTURE:			
Silt	90	90	30
Clay	10	10	70
COMPOSITION:			
Clay	---	10	60
Feldspar	1	2	1
Glass	90	83	10
Inorganic calcite	2	---	3
Micrite	1	---	---
Nannofossils	2	1	25
Opaques	1	2	---
Quartz	1	2	1



TIME-ROCK UNIT: LOWER MIOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS C/G; NANNOFOSSILS C/M, CN1c; RADIOLARIANS A/M; DIATOMS B

PALEOMAGNETICS: N

PHYS. PROPERTIES: ●Φ=59.0 ρ=1.80; ●Φ=57.0 ρ=1.81; ●Φ=48.0 ρ=1.93; ●Φ=54.0 ρ=2.02; ●Φ=41.0 ρ=2.12; ●Φ=39.0 ρ=2.18

CHEMISTRY: ●%CaCO3=3.9; ●%CaCO3=16.9; ●%CaCO3=0.1; ●%CaCO3=22.3; ●%CaCO3=32.2; ●%CaCO3=38.8

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES: *, *, *, **

SAMPLES

LITHOLOGIC DESCRIPTION

NANNOFOSSIL-RICH VITRIC SILTY CLAYSTONE AND NANNOFOSSIL CLAYSTONE

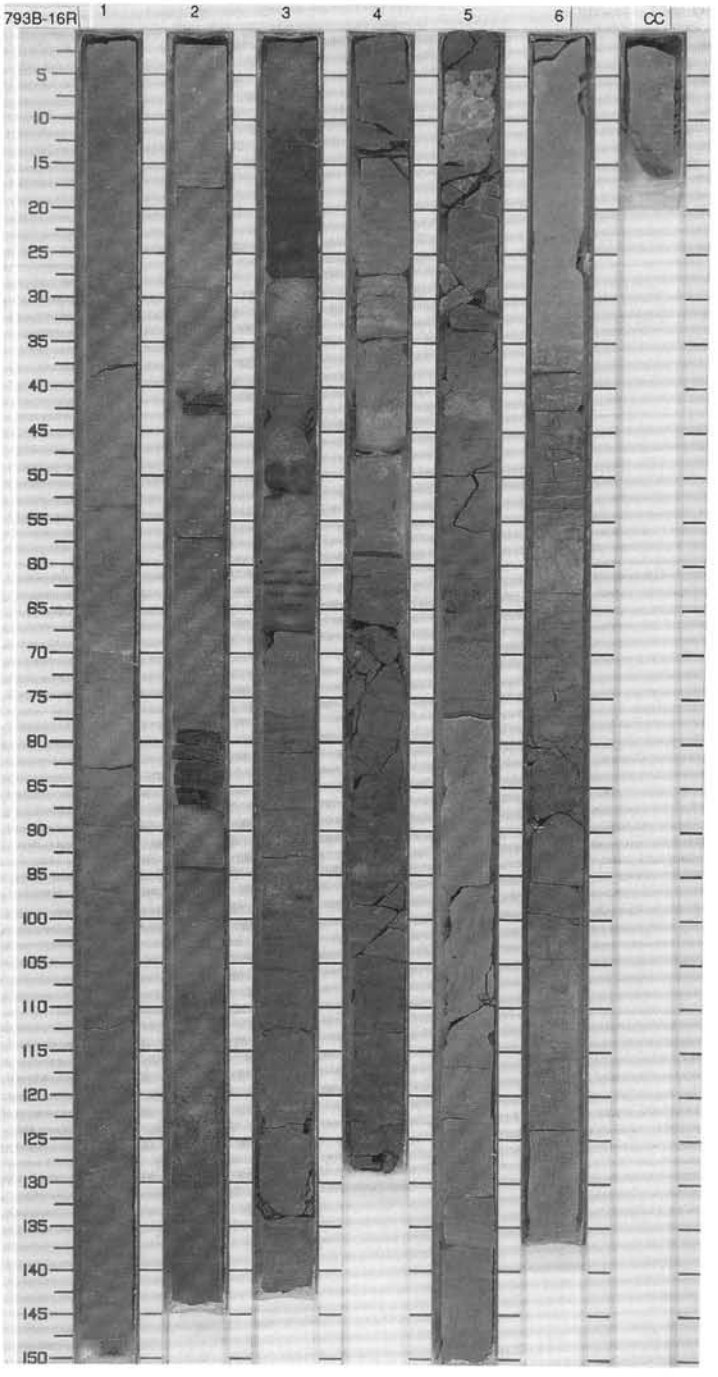
Major lithologies:
Sections 1 through 4 consist of grayish green (5GY 6/1), strongly burrowed NANNOFOSSIL-RICH VITRIC SILTY CLAYSTONE. There are extensional micro-faults in Sections 1, 2 and 4. Below this lithology, there is a compositional and color change that is slightly gradational, but that is most striking between Sections 4 and 5. From Section 5 to CC, the sediment is light reddish brown (5YR 6/4), strongly burrowed NANNOFOSSIL CLAYSTONE with abundant, sub-vertical, extensional veinlets. This part of the core also contains several extensional micro-faults. Some of the fault surfaces have slickensides.

Minor lithologies:
About 10% of Sections 1 through 4 consists of graded beds, <10 cm thick, of gray (5YR 6/1), dark gray (5YR 4/1), greenish black (5G 2/1) and medium gray (N5) VITRIC SANDSTONE and VITRIC SILTSTONE. The thicker beds are parallel laminated or ripple laminated. The thinner examples are probably ash beds. Section 5, 13-15 cm, consists of medium-grained PUMICEOUS SANDSTONE.

Section 1 is slightly fractured by drilling. The rest of the core is moderately to highly fractured.

SMEAR SLIDE SUMMARY (%):

	1, 80 D	1, 120 D	2, 42 D	5, 44 M	5, 53 D
TEXTURE:					
Sand	---	---	70	---	---
Silt	20	30	30	10	10
Clay	80	70	---	90	90
COMPOSITION:					
Accessory minerals	Tr	---	5	5	---
Clay	20	36	---	50	37
Feldspar	2	1	50	10	1
Glass	48	30	43	---	5
Hornblende	---	1	---	---	---
Inorganic calcite	10	2	---	---	1
Micrite	---	---	---	20	1
Nannofossils	20	25	2	15	50
Opaques	---	1	---	---	1
Quartz	---	2	---	---	1



SITE 793 HOLE B CORE 17R CORED INTERVAL 739.1-748.8 mbsf

TIME-ROCK UNIT: LOWER MIOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS B; NANNOFOSSILS R/P A/M CN1c; RADIOLARIANS B; DIATOMS A/M

PALEOMAGNETICS: N R

PHYS. PROPERTIES: ρ=54.0 γ=1.92; ρ=47.0 γ=2.00; ρ=41 γ=2.2; ρ=47.0 γ=2.09; ρ=40.0 γ=2.17; ρ=34.0 γ=2.24

CHEMISTRY: $CaCO_3$=6.1%; $CaCO_3$=4.5%; $CaCO_3$=0.5%; $CaCO_3$=42.0; %$CaCO_3$ 39.4; %$CaCO_3$ 11.1; %$CaCO_3$ 60.9

SECTION: 1 2 3 4 5 6 CC

METERS: 0.5 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

NANNOFOSSIL CLAYSTONE, NANNOFOSSIL-RICH CLAYSTONE AND CLAYSTONE

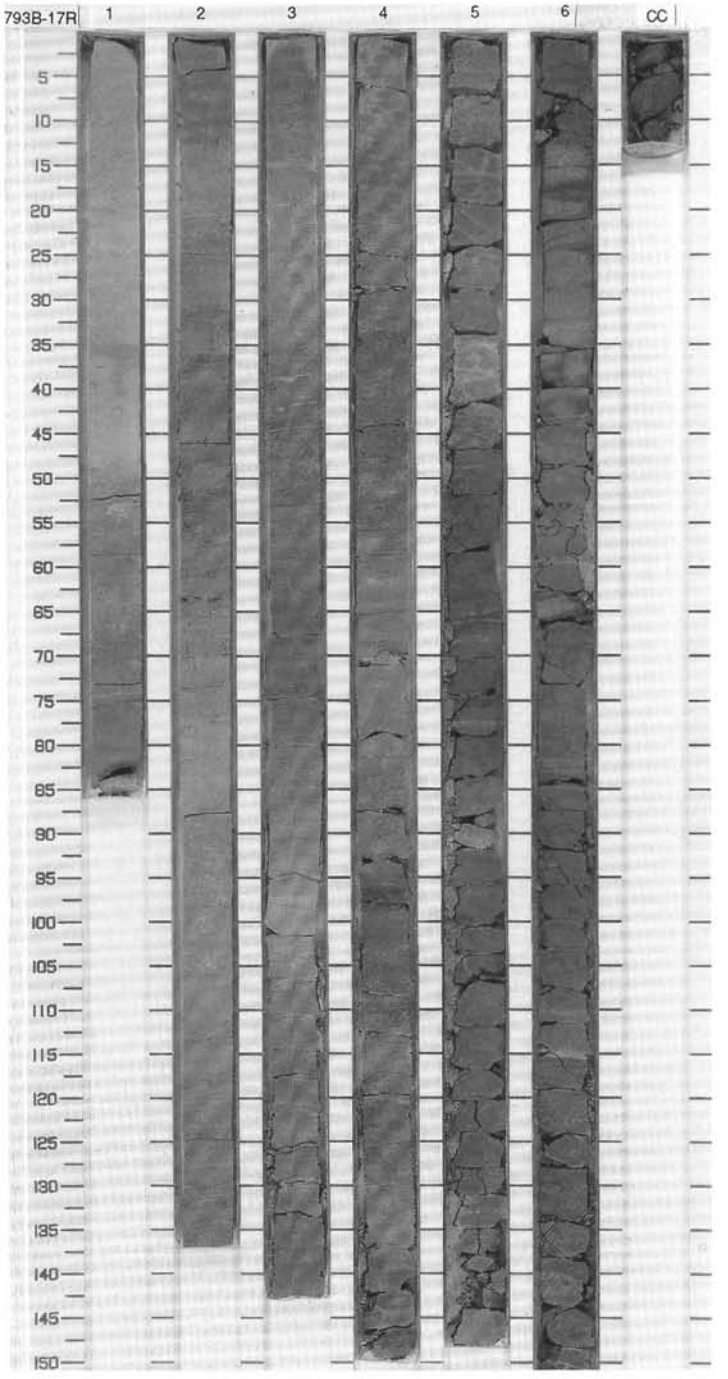
Major lithologies:
Sections 1 and 2 consist of pale red (10R 6/4) and weak red (10R 5/4), strongly burrowed NANNOFOSSIL CLAYSTONE. Section 1, 84-86 cm, contains a nodule of gypsum, and Section 2, 10-70 cm, contains several intervals with diagenetic manganese oxide (todorokite), locally as dendrites. Zoophycos is a common trace fossil. Sub-vertical dewatering veinlets occur in Section 1, 0-45 cm, and Section 2, 60-85 cm. Section 3 through Section 5, 50 cm, consists of pale yellowish brown (10YR 6/2) to light olive gray (5Y 5/2), burrowed NANNOFOSSIL-RICH CLAYSTONE. Section 6 and the core catcher are mainly slightly burrowed, dark yellowish brown (10YR 4/2) CLAYSTONE. Dip is about 10°.

Minor lithologies:
The nannofossil-rich claystone contains numerous pale green (10G 6/2) SILTSTONE beds, <1 cm thick, that are parallel laminated or partly mixed by burrowers. Section 6, 12-45 cm, consists of four, grayish green (5G 5/2), graded beds of very fine-grained VITRIC SANDSTONE to VITRIC SILTSTONE. These are parallel laminated and ripple laminated.

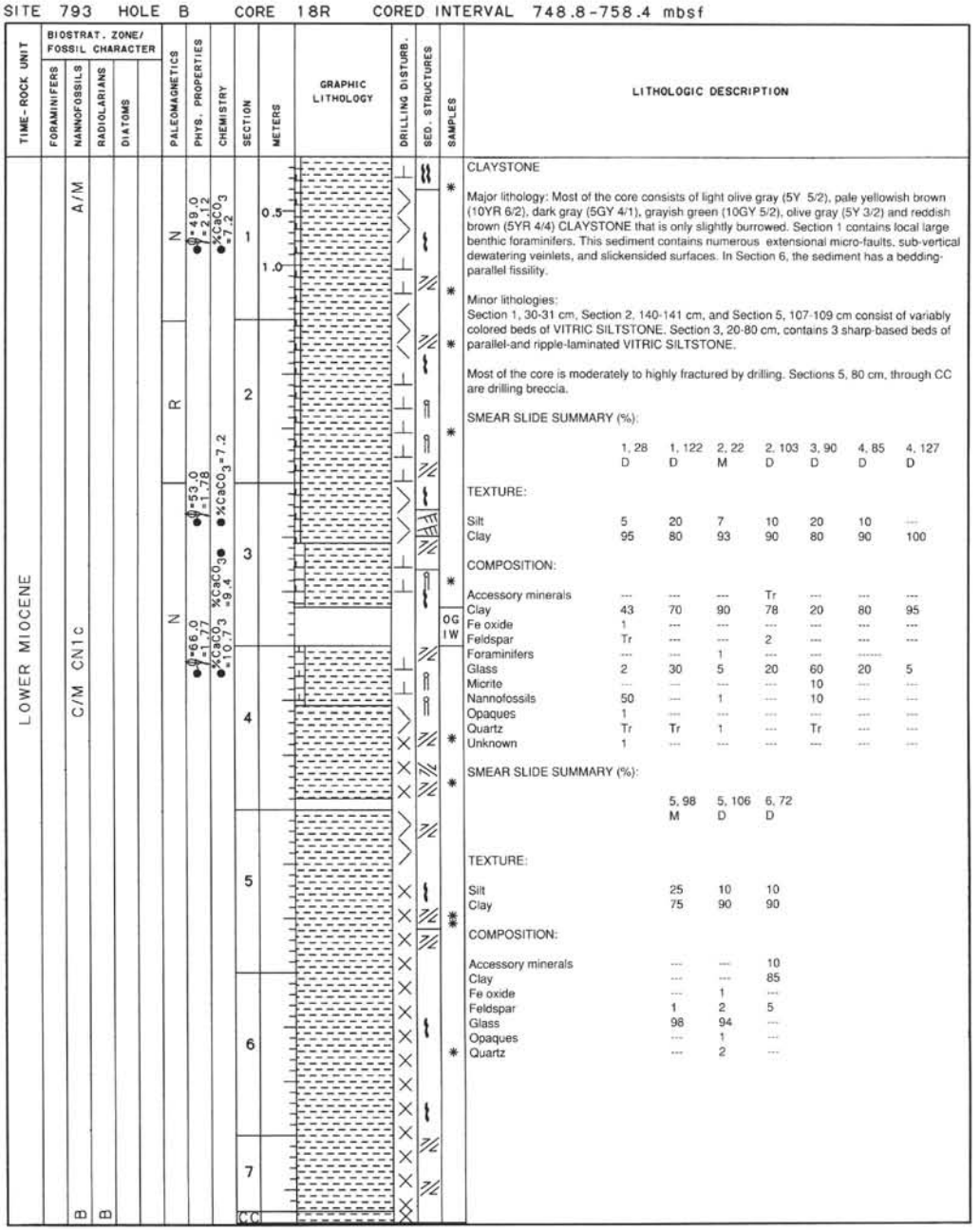
Sections 5 and 6 are moderately to highly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 75 M	2, 12 M	2, 80 D	3, 98 D	6, 70 D
TEXTURE:					
Silt	---	10	20	10	15
Clay	---	90	80	90	85
COMPOSITION:					
Clay	---	28	70	57	56
Fe oxide	---	---	1	1	1
Feldspar	Tr	1	1	1	1
Foraminifers	---	---	---	3	1
Glass	---	---	3	5	10
Gypsum	99	---	---	---	---
Hornblende	---	---	---	---	1
Inorganic calcite	---	---	1	---	---
Micrite	---	---	---	1	---
Manganese oxide	---	50	---	---	---
Nannofossils	---	20	20	25	25
Opaques	---	---	1	1	2
Pyroxene	---	---	---	2	---
Quartz	Tr	1	1	1	1
Spicules	---	---	---	1	---



SITE 793 HOLE B CORE 18R CORED INTERVAL 748.8-758.4 mbsf



CLAYSTONE

Major lithology: Most of the core consists of light olive gray (5Y 5/2), pale yellowish brown (10YR 6/2), dark gray (5GY 4/1), grayish green (10GY 5/2), olive gray (5Y 3/2) and reddish brown (5YR 4/4) CLAYSTONE that is only slightly burrowed. Section 1 contains local large benthic foraminifers. This sediment contains numerous extensional micro-faults, sub-vertical dewatering veinlets, and slickensided surfaces. In Section 6, the sediment has a bedding-parallel fissility.

Minor lithologies:
Section 1, 30-31 cm, Section 2, 140-141 cm, and Section 5, 107-109 cm consist of variably colored beds of VITRIC SILTSTONE. Section 3, 20-80 cm, contains 3 sharp-based beds of parallel-and ripple-laminated VITRIC SILTSTONE.

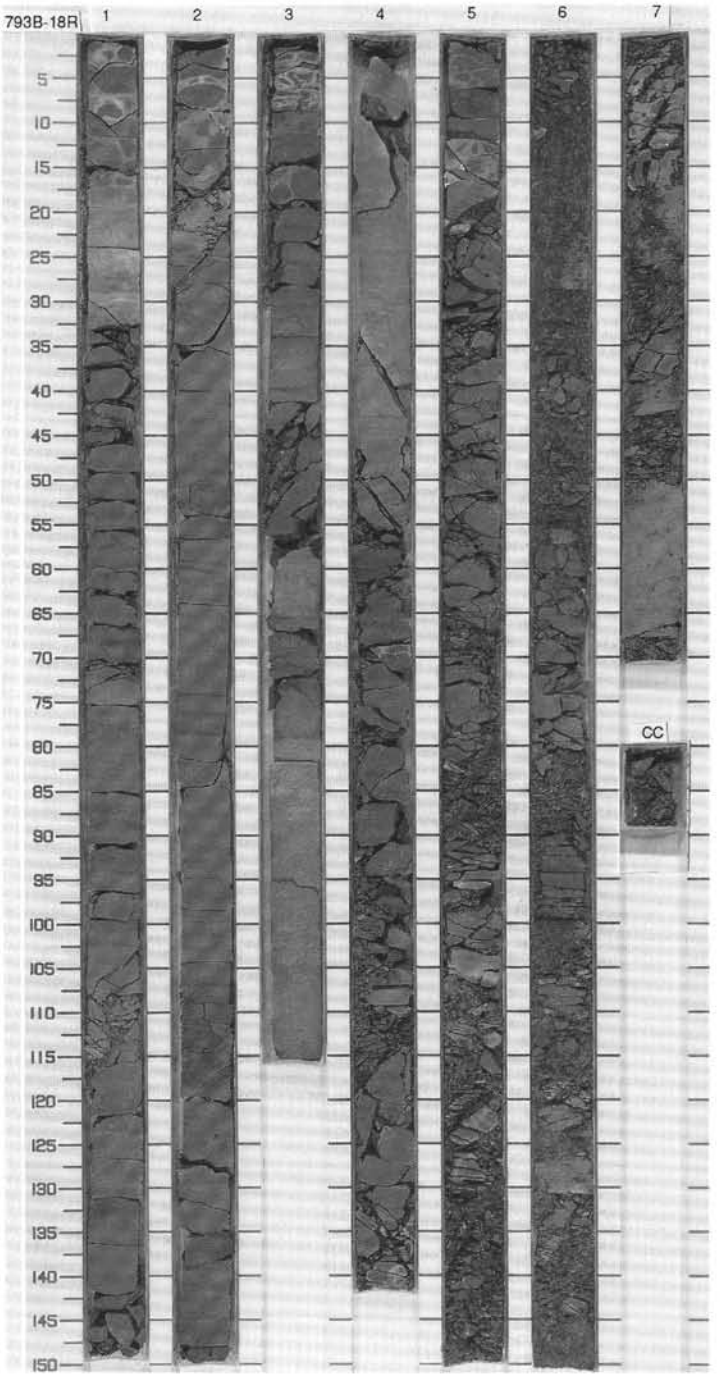
Most of the core is moderately to highly fractured by drilling. Sections 5, 80 cm, through CC are drilling breccia.

SMEAR SLIDE SUMMARY (%):

	1, 28 D	1, 122 D	2, 22 M	2, 103 D	3, 90 D	4, 85 D	4, 127 D
TEXTURE:							
Silt	5	20	7	10	20	10	---
Clay	95	80	93	90	80	90	100
COMPOSITION:							
Accessory minerals	---	---	---	Tr	---	---	---
Clay	43	70	90	78	20	80	95
Fe oxide	1	---	---	---	---	---	---
Feldspar	Tr	---	---	2	---	---	---
Foraminifers	---	---	1	---	---	-----	
Glass	2	30	5	20	60	20	5
Micrite	---	---	---	---	10	---	---
Nannofossils	50	---	1	---	10	---	---
Opaques	1	---	---	---	---	---	---
Quartz	Tr	Tr	1	---	Tr	---	---
Unknown	1	---	---	---	---	---	---

SMEAR SLIDE SUMMARY (%):

	5, 98 M	5, 106 D	6, 72 D
TEXTURE:			
Silt	25	10	10
Clay	75	90	90
COMPOSITION:			
Accessory minerals	---	---	10
Clay	---	---	85
Fe oxide	---	1	---
Feldspar	1	2	5
Glass	98	94	---
Opaques	---	1	---
Quartz	---	2	---



SITE 793 HOLE B CORE 19R CORED INTERVAL 758.4-768.0 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
	B	B			N	Φ=52.0 ρ=1.89 Φ=53.0 ρ=2.02 Φ=34 ρ=2.11 Φ=33.0 ρ=2.22	%$CaCO_3$=0.6 %$CaCO_3$ =1.6 %$CaCO_3$=0.3 %$CaCO_3$=0.3	1 2 3 4	0.5 1.0				* *

LITHOLOGIC DESCRIPTION

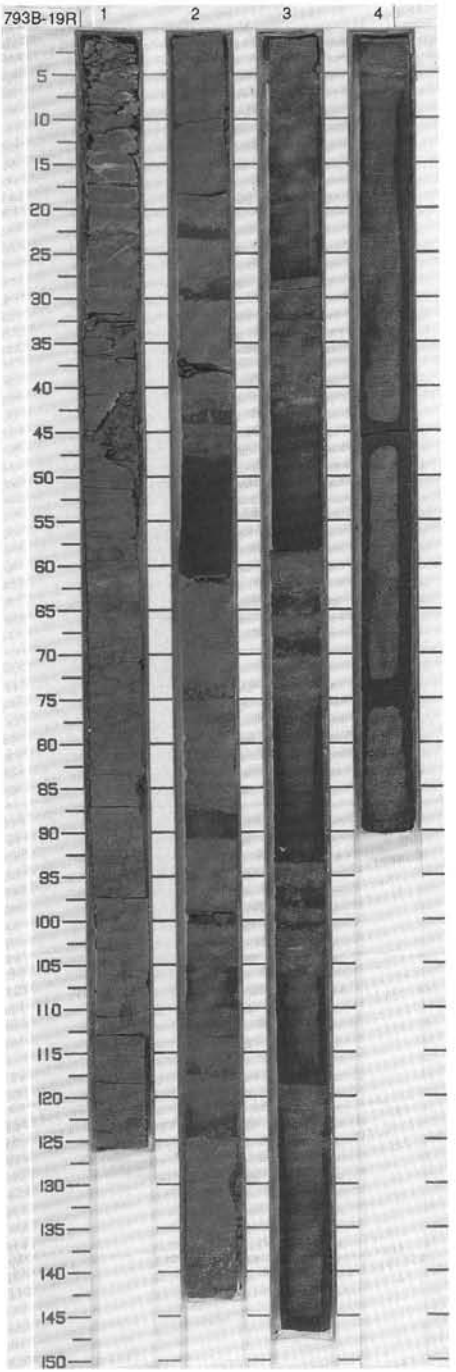
CLAYSTONE, SILTY CLAYSTONE AND VITRIC SANDSTONE

Major lithologies:
Section 1, 0-60 cm, consists of pale yellowish brown (10YR 6/2), slightly burrowed, fissile CLAYSTONE. There is a sharp change below this level to slightly calcareous, grayish green (5GY 5/1), strongly burrowed CLAYSTONE. The rest of the core consists of equal amounts of grayish green (5GY 5/1), burrowed SILTY CLAYSTONE, and dark gray (N3), sharp-based, graded, generally thin to medium beds of VITRIC SANDSTONE. An exceptionally thick sandstone, 80 cm thick, occurs in Section 4.

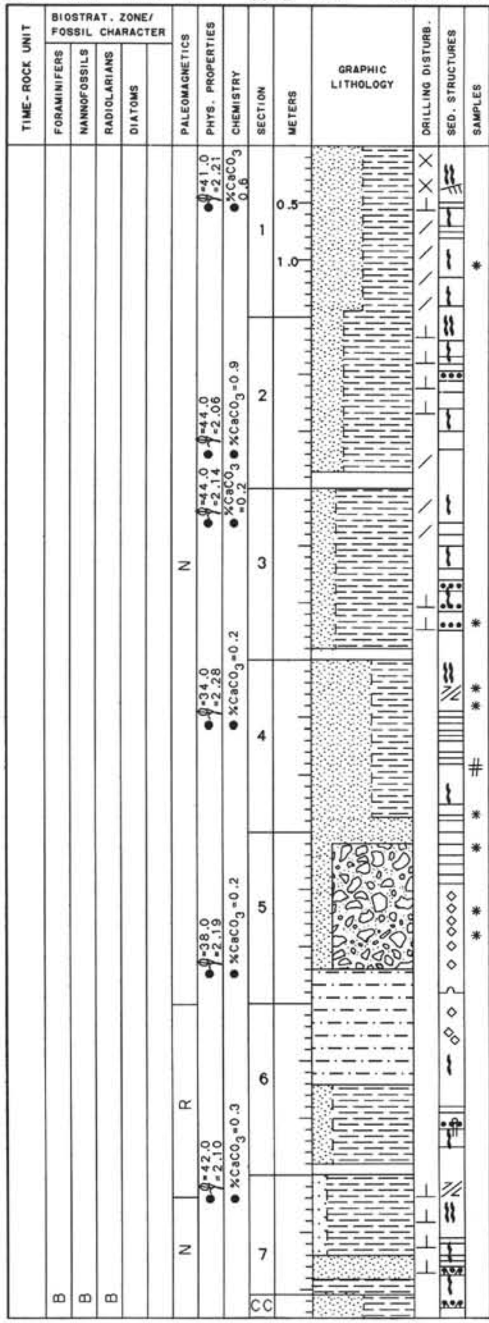
Section 1 and Section 2, 0-50 cm, are slightly fractured by drilling. The rest of the core is undisturbed.

SMEAR SLIDE SUMMARY (%):

	1, 75 D	3, 57 D
TEXTURE:		
Sand	---	20
Silt	30	60
Clay	70	20
COMPOSITION:		
Clay	30	20
Feldspar	1	2
Glass	66	72
Hornblende	---	1
Opaques	3	1
Quartz	---	2



SITE 793 HOLE B CORE 20R CORED INTERVAL 768.0-777.7 mbsf



LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE AND CLAYEY SILTSTONE

Major lithologies:
Interbedded very thin to medium, graded beds of dark gray (5GY 4/1, N3) to greenish black (5G 2/1), parallel- to ripple-laminated VITRIC SANDSTONE and dark gray (5GY 4/1) to grayish green (5GY 6/1), burrowed CLAYEY SILTSTONE. A few sandstone beds have scoured bases. The clayey siltstone has local concentrations of sand-sized pumice and scoria grains. In Section 6, 71 cm, to CC, the color of the clayey siltstone includes dark yellowish brown (10YR 4/2), olive gray (5Y 3/2), dark greenish gray (5G 4/1) and light olive gray (5Y 5/2). Extensional microfaults occur in Sections 4 and 7.

Minor lithologies:
Section 5, 65-125 cm, consists of dark gray (5GY 4/1), poorly sorted PEBBLE CONGLOMERATE with pumice pebbles as large as 5x2 cm in cross section, and clayey siltstone clasts at least 10 cm across. This is the lower part of a graded conglomerate-sandstone bed. Section 5, 125 cm, to Section 6, 71 cm, is a clast-rich mud flow with a matrix of SANDY MUDSTONE and deformed clasts. Maximum mud clast diameter is at least 20 cm. Section 7, 56-64 cm and 70-90 cm, are graded beds of light bluish gray (5B 7/1), fine-to medium-grained PUMICEOUS SANDSTONE.

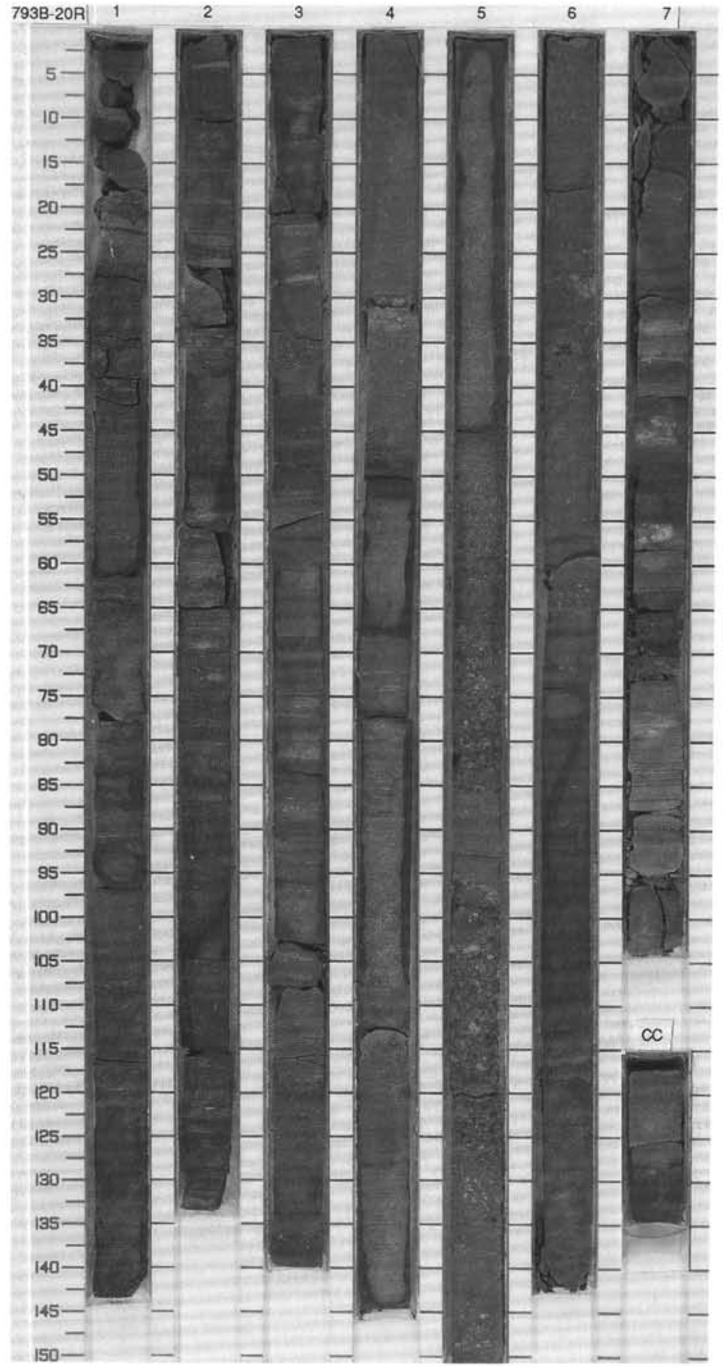
Some of the core is slightly fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	1, 105 D	3, 118 D	4, 25 D	4, 40 D	4, 96 D	4, 135 D	5, 13 D
TEXTURE:							
Sand	---	---	---	---	95	---	---
Silt	85	80	80	65	5	80	80
Clay	15	20	20	35	---	20	20
COMPOSITION:							
Accessory minerals	---	---	---	---	10	---	---
Cement	---	---	---	---	30	---	---
Clay	10	20	5	30	---	20	20
Fe oxide	1	---	---	---	---	1	---
Feldspar	2	2	1	1	20	3	3
Foraminifers	---	---	---	---	Tr	---	---
Glass	82	75	88	64	30	69	74
Hornblende	---	---	1	1	---	---	---
Inorganic calcite	---	---	1	---	---	---	---
Micrite	---	---	1	---	---	---	---
Opaques	3	2	1	2	---	3	1
Quartz	1	1	1	1	Tr	3	1
Rock fragment	---	---	---	---	10	---	---

SMEAR SLIDE SUMMARY (%):

	5, 69 D	5, 90 D
TEXTURE:		
Sand	30	---
Silt	60	75
Clay	10	25
COMPOSITION:		
Accessory minerals	---	1
Clay	10	25
Feldspar	3	1
Glass	81	69
Hornblende	3	1
Opaques	1	1
Quartz	1	1



SITE 793 HOLE B CORE 21R CORED INTERVAL 777.7-787.3 mbsf

TIME-ROCK UNIT: UPPER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS R/M; NANNOFOSSILS C/M; RADIOLARIANS CP19b; DIATOMS C/P

PALEOMAGNETICS: N R N

PHYS. PROPERTIES: ϕ=48.0 ρ=2.01; ϕ=48.0 ρ=2.12; ϕ=36.0 ρ=2.24; ϕ=52.0 ρ=2.15; ϕ=62.0 ρ=1.92; ϕ=58.0 ρ=2.13

CHEMISTRY: %CaCO3=0.2; %CaCO3=0.5; %CaCO3=4.3; %CaCO3=3.4

SECTION: 1 2 3 4 5 6

METERS: 0.5 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: OC 1W

LITHOLOGIC DESCRIPTION

VITRIC SILTSTONE, CLAYSTONE, AND CRYSTAL-VITRIC SANDSTONE

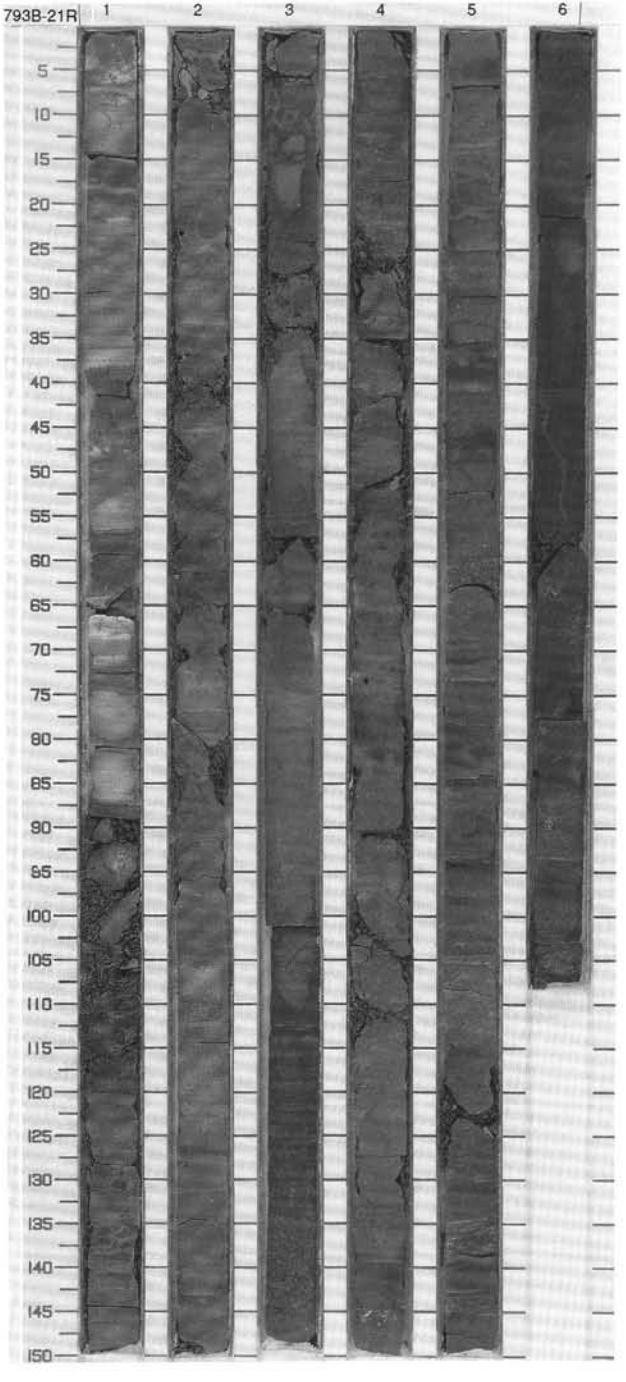
Major lithologies:
Olive black (5Y 2/1) VITRIC SILTSTONE (34% of the core), CLAYSTONE (32%), and grayish green (5G 5/2) CRYSTAL-VITRIC SANDSTONE (28%) occur as divisions of normally graded beds. The vitric component has been largely altered. The sandstone-siltstone basal portions of the graded beds are planar laminated and commonly have scoured bases. The claystone upper portions are slightly to heavily bioturbated. Trace fossils include Zoophycos. A healed fracture occurs in Section 2, 90 cm. A fine-grained sandstone dike, and a dewatering structure occur in Section 5, at 88-92 cm and 106-109 cm, respectively.

Minor lithologies:
Dark gray (5Y 4/1) SILTY CLAYSTONE and CLAYEY SILTSTONE comprise 5% and 1% of the core, respectively.

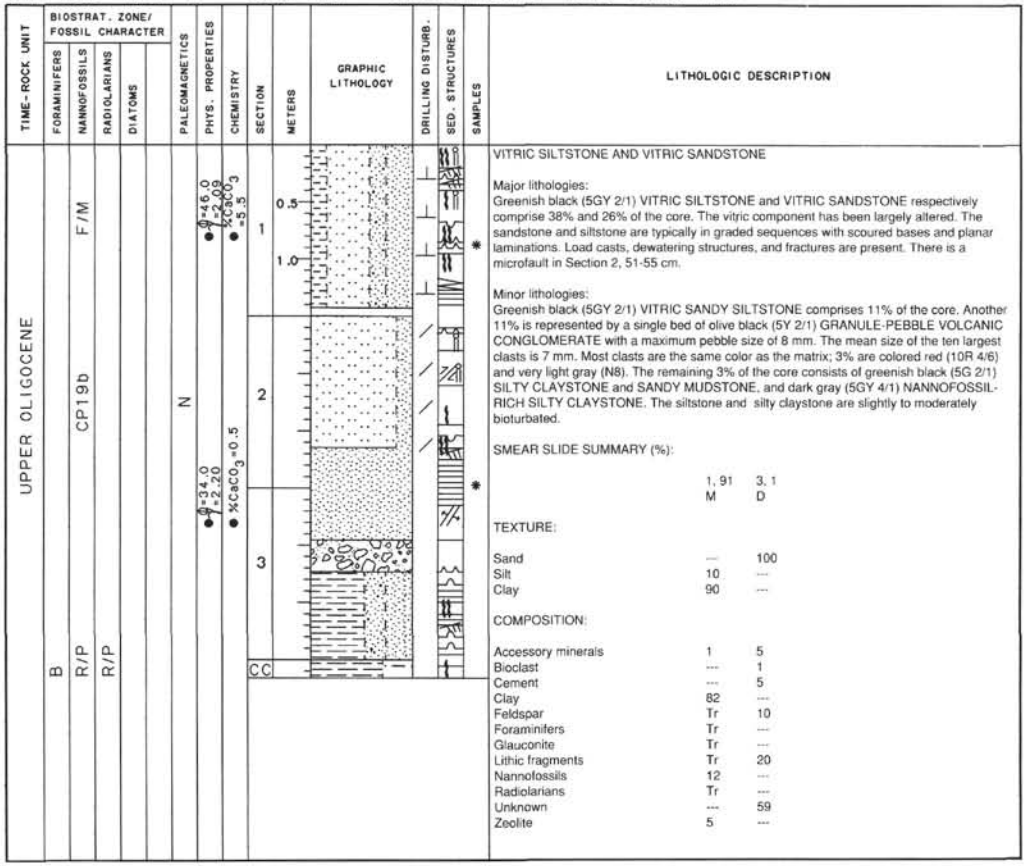
The core is moderately to slightly fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	1, 60 M	1, 80 M	1, 83 D	3, 103 D	5, 147 D
TEXTURE:					
Sand	---	100	95	100	---
Silt	5	---	5	---	15
Clay	95	---	---	---	85
COMPOSITION:					
Accessory minerals	Tr	5	5	5	Tr
Cement	---	---	5	15	---
Clay	96	---	---	---	80
Feldspar	1	10	10	5	1
Glass	3	82	80	75	---
Lithic fragments	---	3	---	---	Tr
Mica	Tr	---	---	---	Tr
Micrite	---	---	---	---	Tr
Nannofossils	---	---	---	---	4
Quartz	---	---	Tr	---	---
Radiolarians	---	---	---	---	1
Rock fragment	---	---	Tr	---	---
Zeolite	---	---	---	---	14



SITE 793 HOLE B CORE 22R CORED INTERVAL 787.3-797.0 mbsf



LITHOLOGIC DESCRIPTION

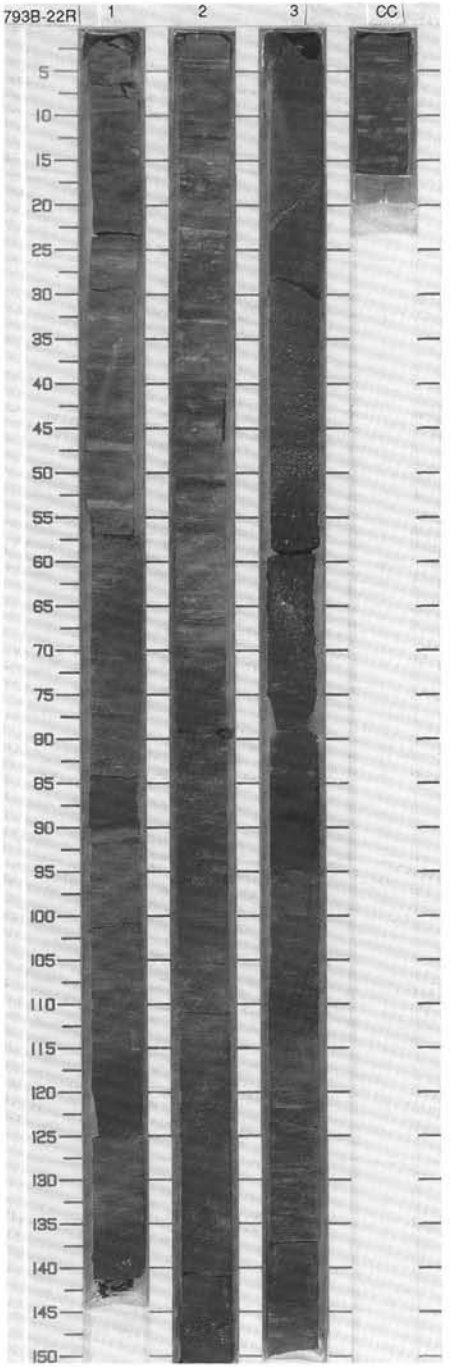
VITRIC SILTSTONE AND VITRIC SANDSTONE

Major lithologies:
Greenish black (5GY 2/1) VITRIC SILTSTONE and VITRIC SANDSTONE respectively comprise 38% and 26% of the core. The vitric component has been largely altered. The sandstone and siltstone are typically in graded sequences with scoured bases and planar laminations. Load casts, dewatering structures, and fractures are present. There is a microfault in Section 2, 51-55 cm.

Minor lithologies:
Greenish black (5GY 2/1) VITRIC SANDY SILTSTONE comprises 11% of the core. Another 11% is represented by a single bed of olive black (5Y 2/1) GRANULE-PEBBLE VOLCANIC CONGLOMERATE with a maximum pebble size of 8 mm. The mean size of the ten largest clasts is 7 mm. Most clasts are the same color as the matrix; 3% are colored red (10R 4/6) and very light gray (N8). The remaining 3% of the core consists of greenish black (5G 2/1) SILTY CLAYSTONE and SANDY MUDSTONE, and dark gray (5GY 4/1) NANNOFOSSIL-RICH SILTY CLAYSTONE. The siltstone and silty claystone are slightly to moderately bioturbated.

SMEAR SLIDE SUMMARY (%):

	1, 91 M	3, 1 D
TEXTURE:		
Sand	---	100
Silt	10	---
Clay	90	---
COMPOSITION:		
Accessory minerals	1	5
Bioclast	---	1
Cement	---	5
Clay	82	---
Feldspar	Tr	10
Foraminifers	Tr	---
Glauconite	Tr	---
Lithic fragments	Tr	20
Nannofossils	12	---
Radiolarians	Tr	---
Unknown	---	59
Zeolite	5	---



SITE 793 HOLE B CORE 23R CORED INTERVAL 797.0-806.7 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
UPPER OLIGOCENE	B / C/G / R/P	C/M / CP19b			N	ρ=37.0 γ=2.14 ρ=42.0 γ=2.08 ρ=44.0 γ=2.23	%$CaCO_3$=1.2 %$CaCO_3$=0.5 %$CaCO_3$=0.4	1 2 3 4 5 CC	0.5 1.0			**	

LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE AND VITRIC SILTY CLAYSTONE

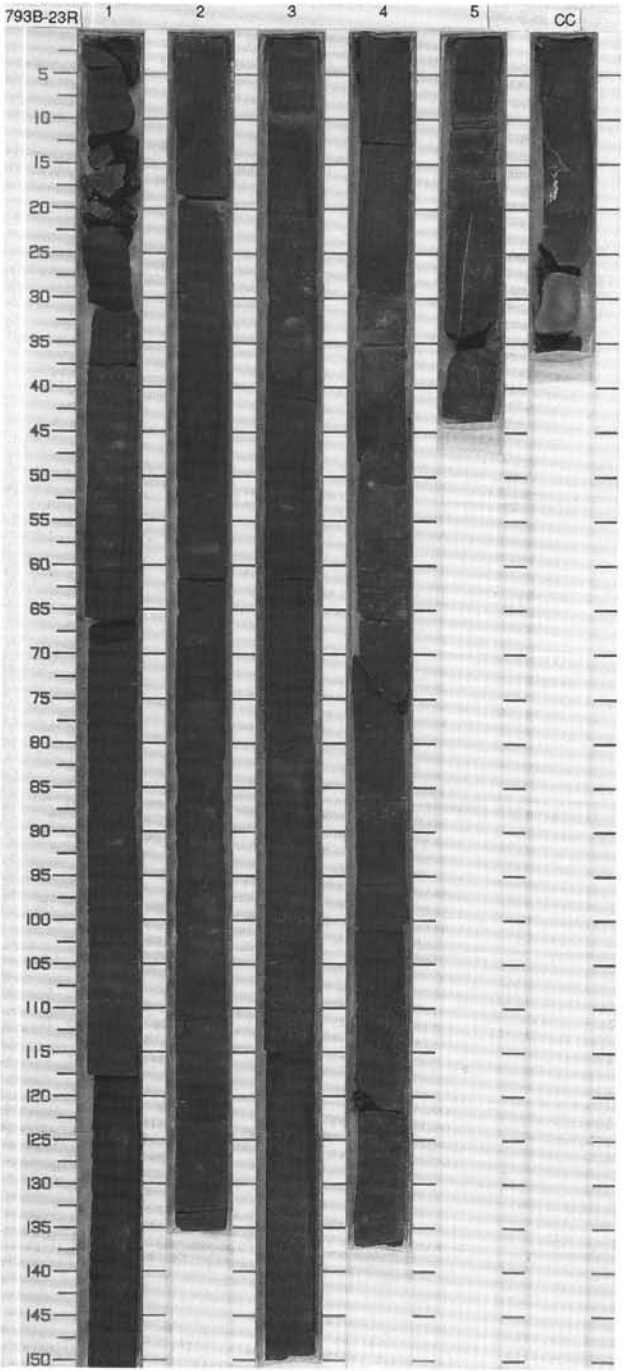
Major lithologies:
69% of the core consists of dark reddish brown (5YR 3/2) VITRIC SANDSTONE, mostly interbedded with reddish brown (5YR 3/2) VITRIC SILTY CLAYSTONEin 3-6 cm-thick, normally graded beds with scoured bases and slightly bioturbated tops. There are two thicker beds of sandstone, 97 cm thick in Sections 3 and 4, and 30 cm thick in Section 5. The vitric component has been largely altered. There are several sub-vertical fractures; two in Section 3, one in Section 4, and one in Section 5 are filled with gypsum.

Minor lithologies:
Dark reddish brown (5YR 3/2) CLAYSTONE and VITRIC SILTSTONE comprise 7% of the core. An isolated lump of greenish gray (5G 6/1) GYPSUM, 7 cm long, occurs in the core catcher.

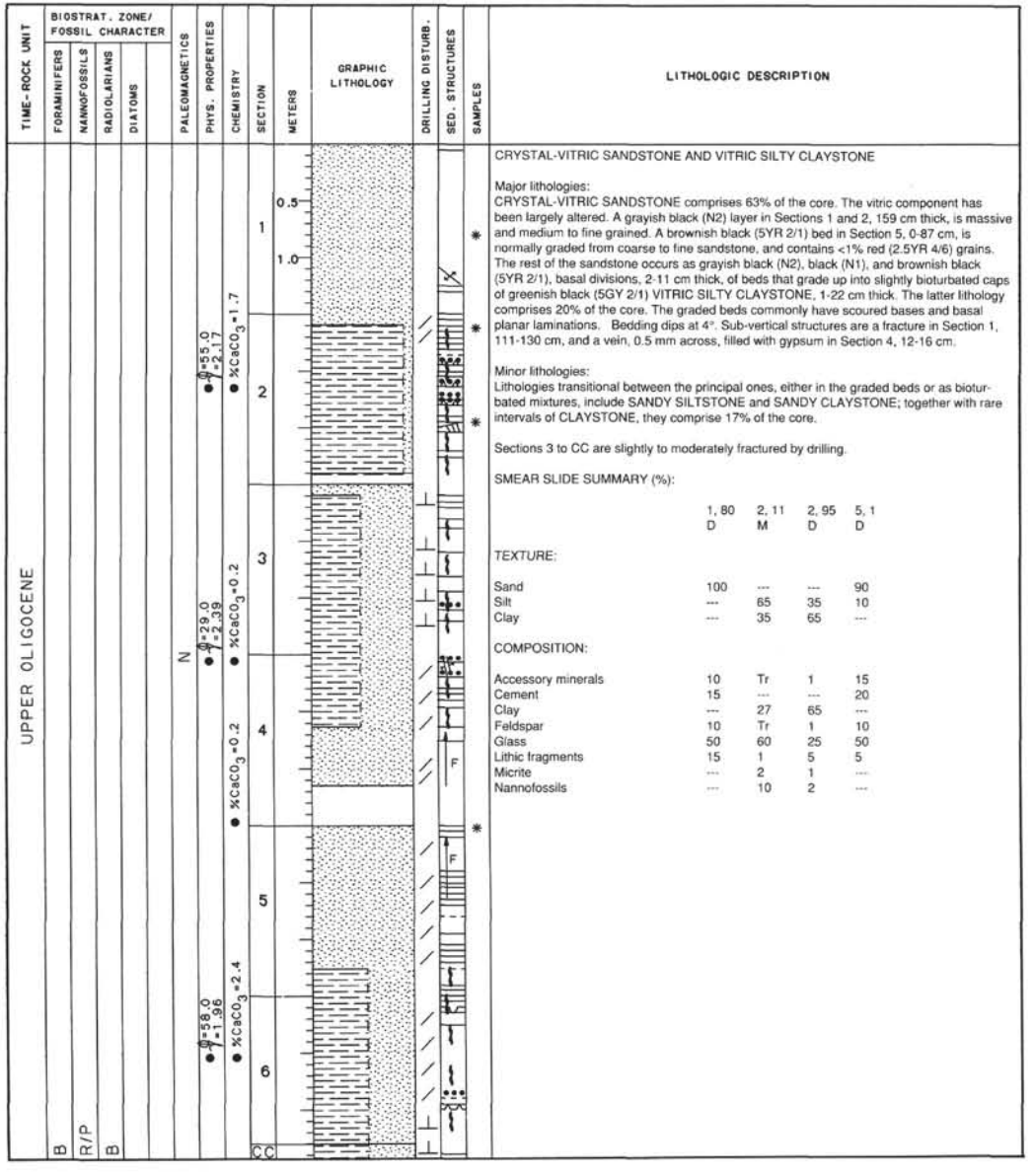
The core is undisturbed to slightly or moderately fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	2, 113 D	2, 121 D
TEXTURE:		
Sand	10	100
Silt	10	---
Clay	80	---
COMPOSITION:		
Accessory minerals	1	7
Bioclast	1	---
Cement	---	20
Clay	72	---
Fe oxide	Tr	---
Feldspar	2	7
Glass	5	56
Lithic fragments	Tr	10
Micrite	2	---
Nannofossils	2	---
Radiolarians	---	Tr
Zeolite	15	---



SITE 793 HOLE B CORE 24R CORED INTERVAL 806.7-816.4 mbsf



LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTY CLAYSTONE

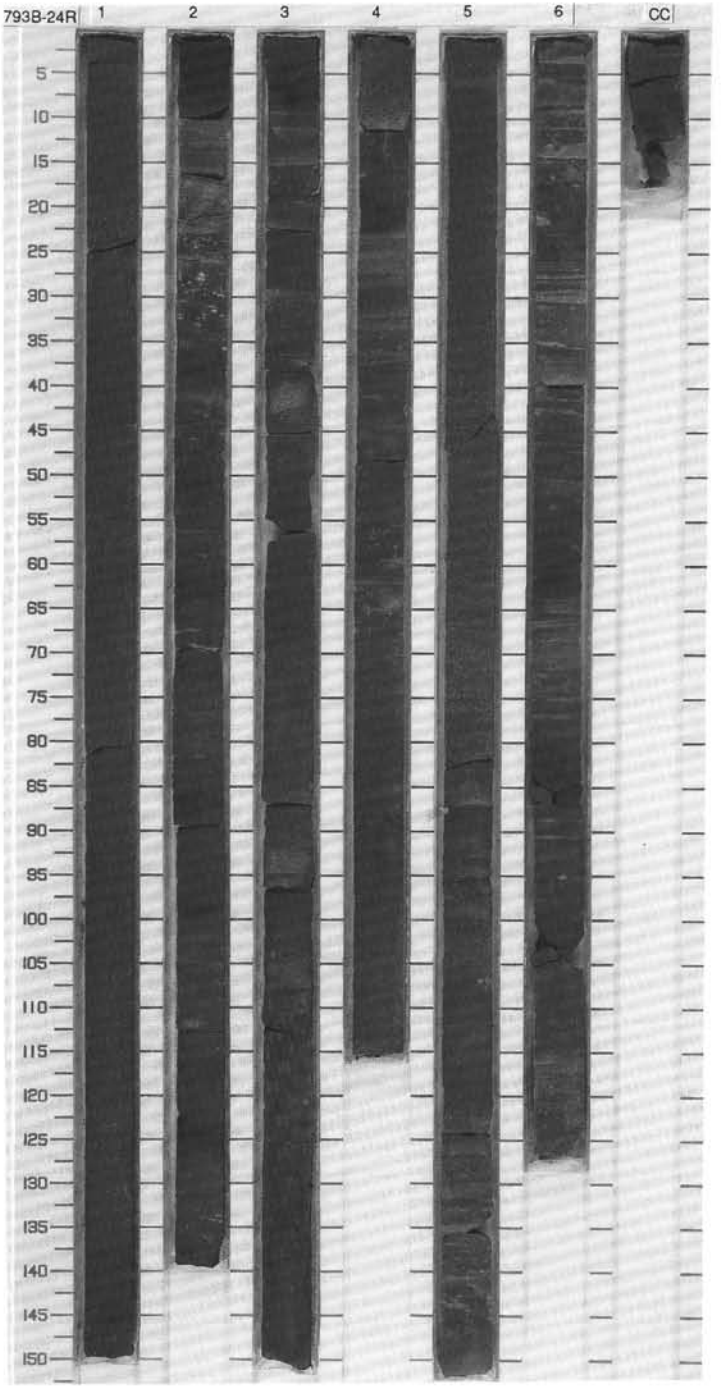
Major lithologies:
CRYSTAL-VITRIC SANDSTONE comprises 63% of the core. The vitric component has been largely altered. A grayish black (N2) layer in Sections 1 and 2, 159 cm thick, is massive and medium to fine grained. A brownish black (5YR 2/1) bed in Section 5, 0-87 cm, is normally graded from coarse to fine sandstone, and contains <1% red (2.5YR 4/6) grains. The rest of the sandstone occurs as grayish black (N2), black (N1), and brownish black (5YR 2/1), basal divisions, 2-11 cm thick, of beds that grade up into slightly bioturbated caps of greenish black (5GY 2/1) VITRIC SILTY CLAYSTONE, 1-22 cm thick. The latter lithology comprises 20% of the core. The graded beds commonly have scoured bases and basal planar laminations. Bedding dips at 4°. Sub-vertical structures are a fracture in Section 1, 111-130 cm, and a vein, 0.5 mm across, filled with gypsum in Section 4, 12-16 cm.

Minor lithologies:
Lithologies transitional between the principal ones, either in the graded beds or as bioturbated mixtures, include SANDY SILTSTONE and SANDY CLAYSTONE; together with rare intervals of CLAYSTONE, they comprise 17% of the core.

Sections 3 to CC are slightly to moderately fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 80 D	2, 11 M	2, 95 D	5, 1 D
TEXTURE:				
Sand	100	---	---	90
Silt	---	65	35	10
Clay	---	35	65	---
COMPOSITION:				
Accessory minerals	10	Tr	1	15
Cement	15	---	---	20
Clay	---	27	65	---
Feldspar	10	Tr	1	10
Glass	50	60	25	50
Lithic fragments	15	1	5	5
Micrite	---	2	1	---
Nannofossils	---	10	2	---



SITE 793 HOLE B CORE 25R CORED INTERVAL 816.4-825.7 mbsf

TIME-ROCK UNIT: UPPER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS: B; NANNOFOSSILS: F/M; RADIOLARIANS: CP19b; DIATOMS: B

PALEOMAGNETICS: N; I

PHYS. PROPERTIES: ϕ=43.0, ρ=2.00; ϕ=47.0, ρ=2.15; ϕ=47.0, ρ=2.06; ϕ=54.0, ρ=2.22

CHEMISTRY: %CaCO3=2.0; %CaCO3=0.6; %CaCO3=3.0; %CaCO3=8.3

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE, VITRIC CLAYEY SILTSTONE AND VITRIC SILTY CLAYSTONE

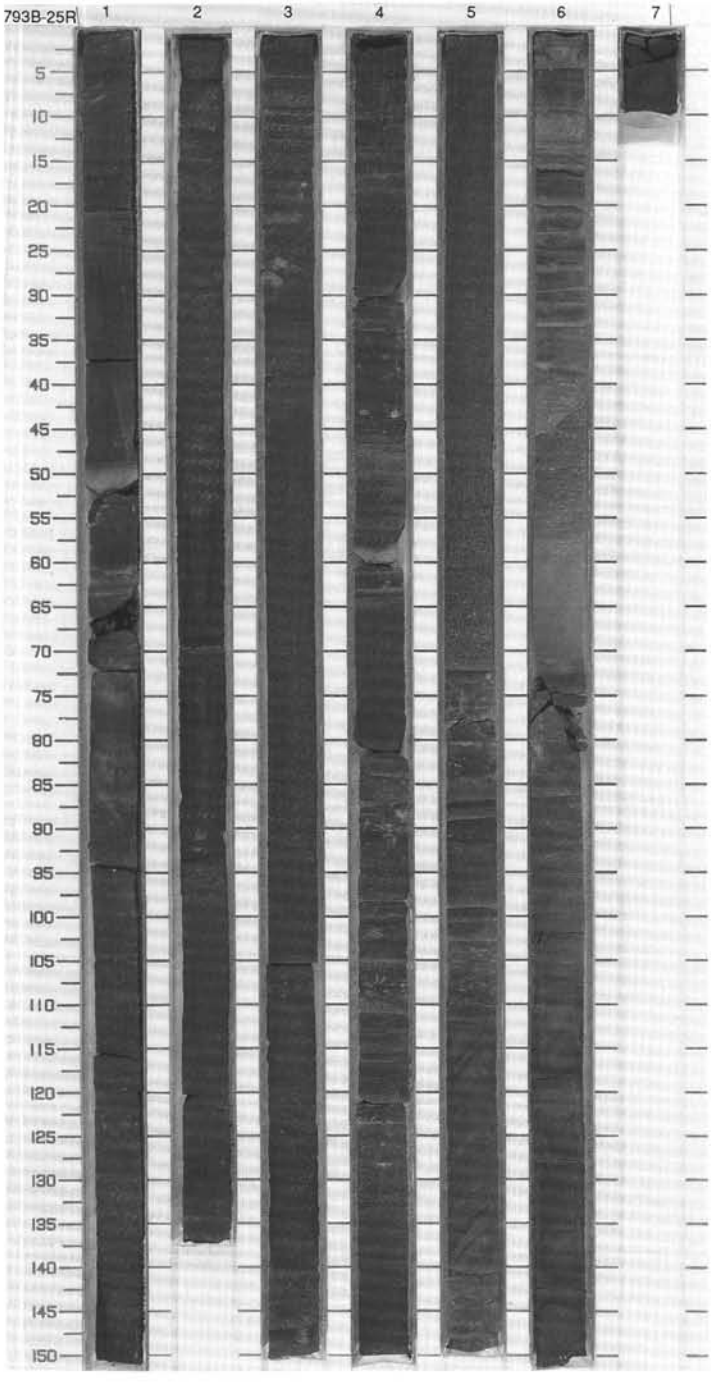
Major lithologies:
Grayish black (N2), black (N1), and brownish black (5YR 2/1) CRYSTAL-VITRIC SANDSTONE comprises 49% of the core. The vitric component has been largely altered. The sandstone occurs in six beds, 20-79 cm thick, and as basal divisions, 2-18 cm thick, of thin graded beds that pass upward into VITRIC CLAYEY SILTSTONE and slightly bioturbated caps of dark greenish gray (5G 4/1) VITRIC SILTY CLAYSTONE. Together, these last two lithologies constitute 37% of the core. The graded beds commonly have scoured bases and planar laminations. One sandstone bed in Section 3, 31-106 cm, has basal inverse grading and upper parallel laminations. A sub-vertical fracture occurs in Section 1, and another in Section 6, where there is also a microfault at 100 cm.

Minor lithologies:
The rest of the core is greenish black (5G 2/1)SILTSTONE (6%), CLAYSTONE (4%), SANDY SILTSTONE (3%), and NANNOFOSSIL-RICH SILTY CLAYSTONE (1%).

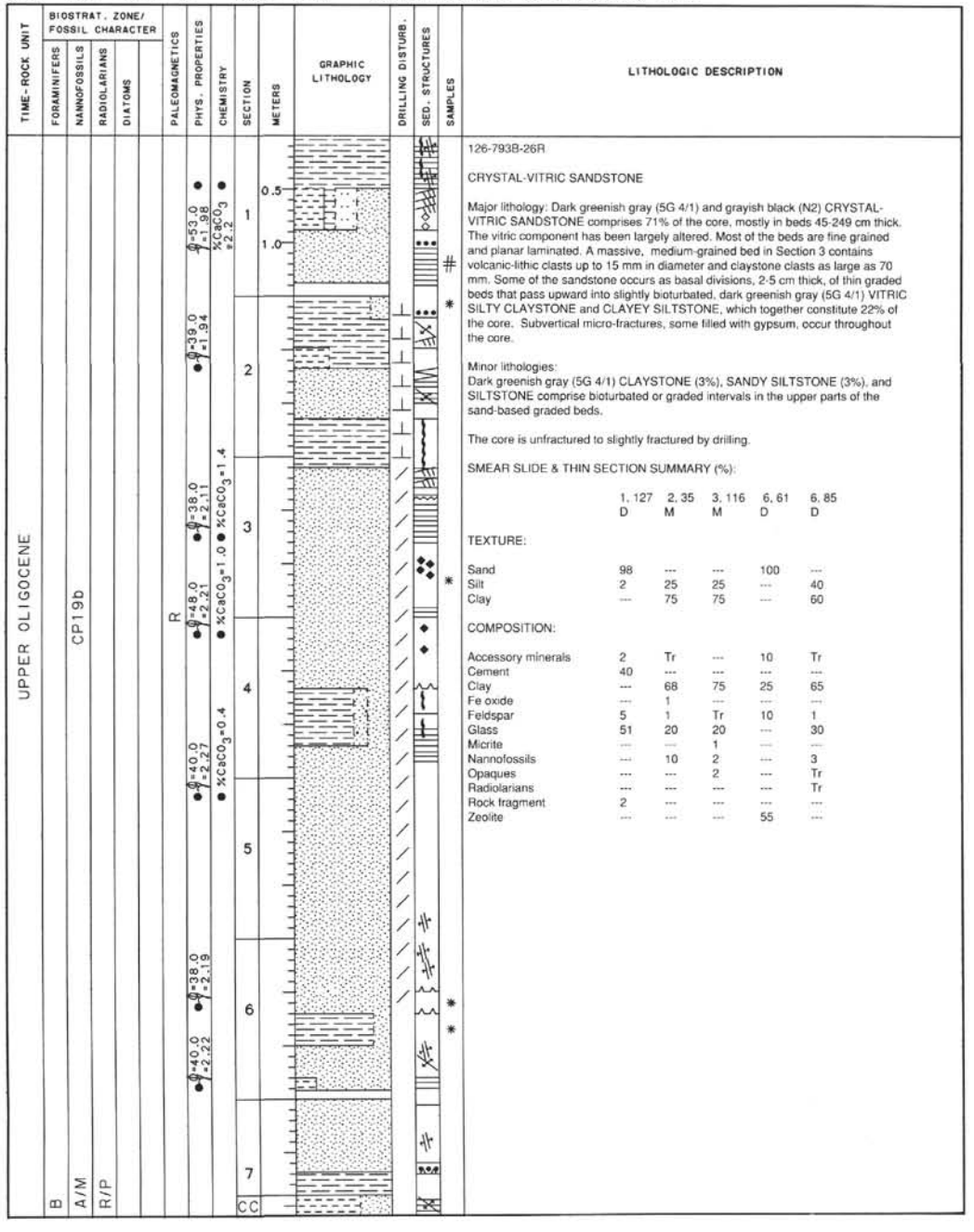
The core is undamaged to slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 85 D	4, 30 D	6, 66 M
TEXTURE:			
Sand	75	80	Tr
Silt	25	20	40
Clay	---	---	60
COMPOSITION:			
Accessory minerals	2	10	1
Cement	2	10	---
Clay	---	---	49
Feldspar	10	15	2
Foraminifers	---	---	Tr
Glass	45	20	---
Lithic fragments	10	10	2
Nannofossils	---	Tr	15
Opaques	---	---	1
Radiolarians	1	---	---
Zeolite	30	35	30



SITE 793 HOLE B CORE 26R CORED INTERVAL 825.7-835.4 mbsf



LITHOLOGIC DESCRIPTION

126-793B-26R

CRYSTAL-VITRIC SANDSTONE

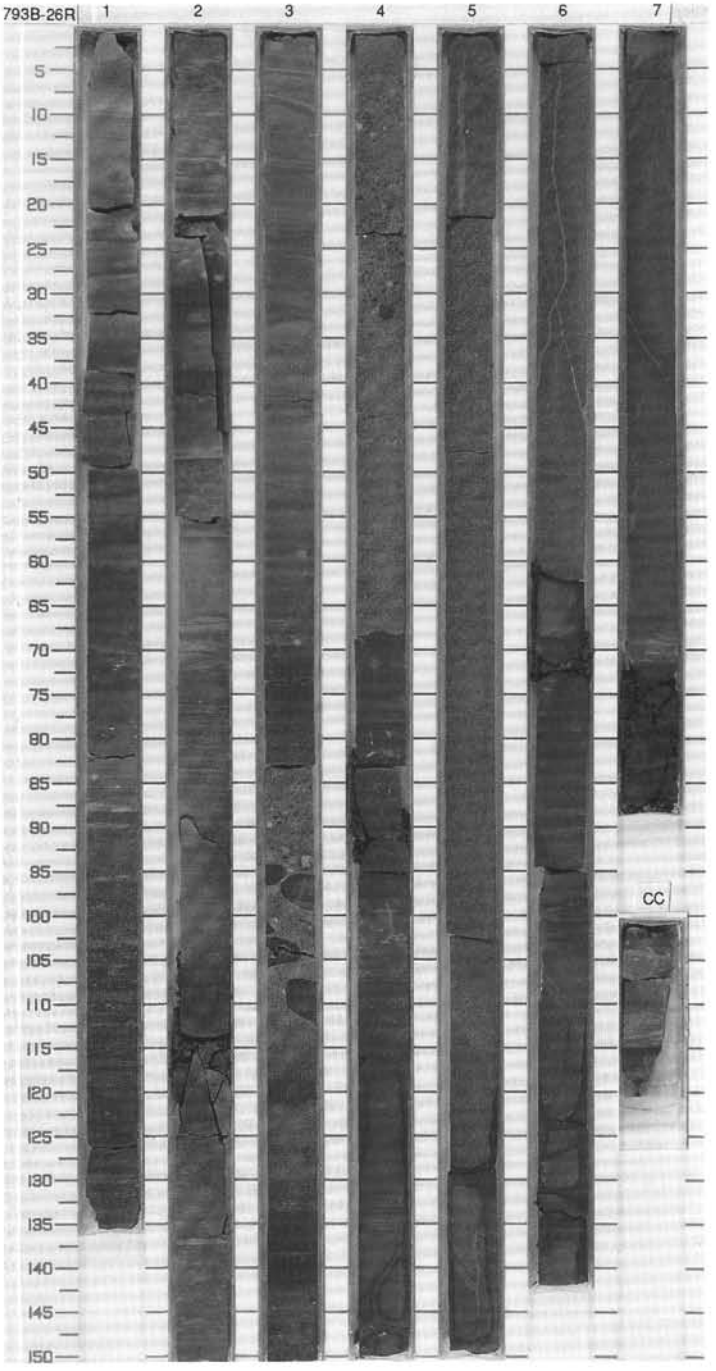
Major lithology: Dark greenish gray (5G 4/1) and grayish black (N2) CRYSTAL-VITRIC SANDSTONE comprises 71% of the core, mostly in beds 45-249 cm thick. The vitric component has been largely altered. Most of the beds are fine grained and planar laminated. A massive, medium-grained bed in Section 3 contains volcanic-lithic clasts up to 15 mm in diameter and claystone clasts as large as 70 mm. Some of the sandstone occurs as basal divisions, 2-5 cm thick, of thin graded beds that pass upward into slightly bioturbated, dark greenish gray (5G 4/1) VITRIC SILTY CLAYSTONE and CLAYEY SILTSTONE, which together constitute 22% of the core. Subvertical micro-fractures, some filled with gypsum, occur throughout the core.

Minor lithologies:
Dark greenish gray (5G 4/1) CLAYSTONE (3%), SANDY SILTSTONE (3%), and SILTSTONE comprise bioturbated or graded intervals in the upper parts of the sand-based graded beds.

The core is unfractured to slightly fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

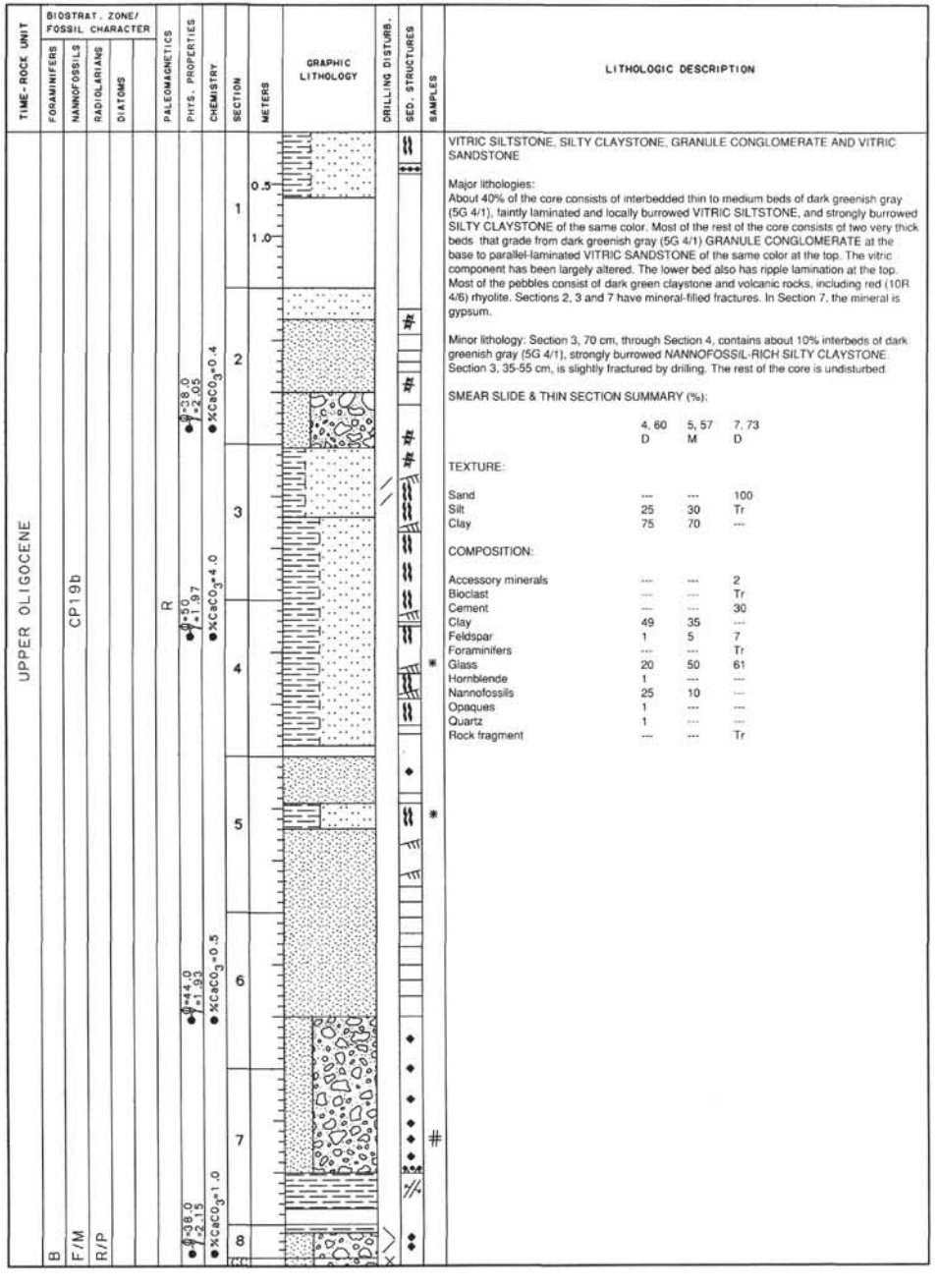
	1, 127 D	2, 35 M	3, 116 M	6, 61 D	6, 85 D
TEXTURE:					
Sand	98	---	---	100	---
Silt	2	25	25	---	40
Clay	---	75	75	---	60
COMPOSITION:					
Accessory minerals	2	Tr	---	10	Tr
Cement	40	---	---	---	---
Clay	---	68	75	25	65
Fe oxide	---	1	---	---	---
Feldspar	5	1	Tr	10	1
Glass	51	20	20	---	30
Micrite	---	---	1	---	---
Nannofossils	---	10	2	---	3
Opaques	---	---	2	---	Tr
Radiolarians	---	---	---	---	Tr
Rock fragment	2	---	---	---	---
Zeolite	---	---	---	55	---



SITE 793 HOLE B CORE 27R CORED INTERVAL 835.4-845.1 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
UPPER OLIGOCENE	B	CP19b	F/G	R/P	R?	●ρ=36.0 ●ϕ=2.20 ●ρ=45.0 ●ϕ=2.04 ●ρ=59.0 ●ϕ=2.40	●%CaCO$_3$=0.6 ●%CaCO$_3$=1.9 ●%CaCO$_3$=4.1 ●%CaCO$_3$=1.7	1 2 3 4 5 6 7 CC	0.5 1.0					VITRIC SANDSTONE, PEBBLY SANDSTONE, CLAYEY SILTSTONE AND SILTY CLAYSTONE Major lithologies: About 75% of the core consists of greenish black (5GY 2/1) and dark gray (5GY 4/1), very thin to very thick beds of fine-to coarse-grained VITRIC SANDSTONE and PEBBLY SANDSTONE. The vitric component has been largely altered. The thinner beds are characterized by parallel lamination and ripple lamination and are interbedded with thin to medium beds of dark gray (5GY 4/1), burrowed SILTY CLAYSTONE and CLAYEY SILTSTONE. A graded pebbly to fine-grained sandstone bed from Section 4, 105 cm, through Section 6, 14 cm, contains fluid-escape pillars, has disorganized fabric, and contains large deformed clasts of clayey siltstone as large as 70 cm across. Section 3, 70-100 cm, contains gypsum veins. Other mineral-filled veins occur in Section 6. Parts of the core show slight fracturing due to drilling.

SITE 793 HOLE B CORE 28R CORED INTERVAL 845.1-854.7 mbsf



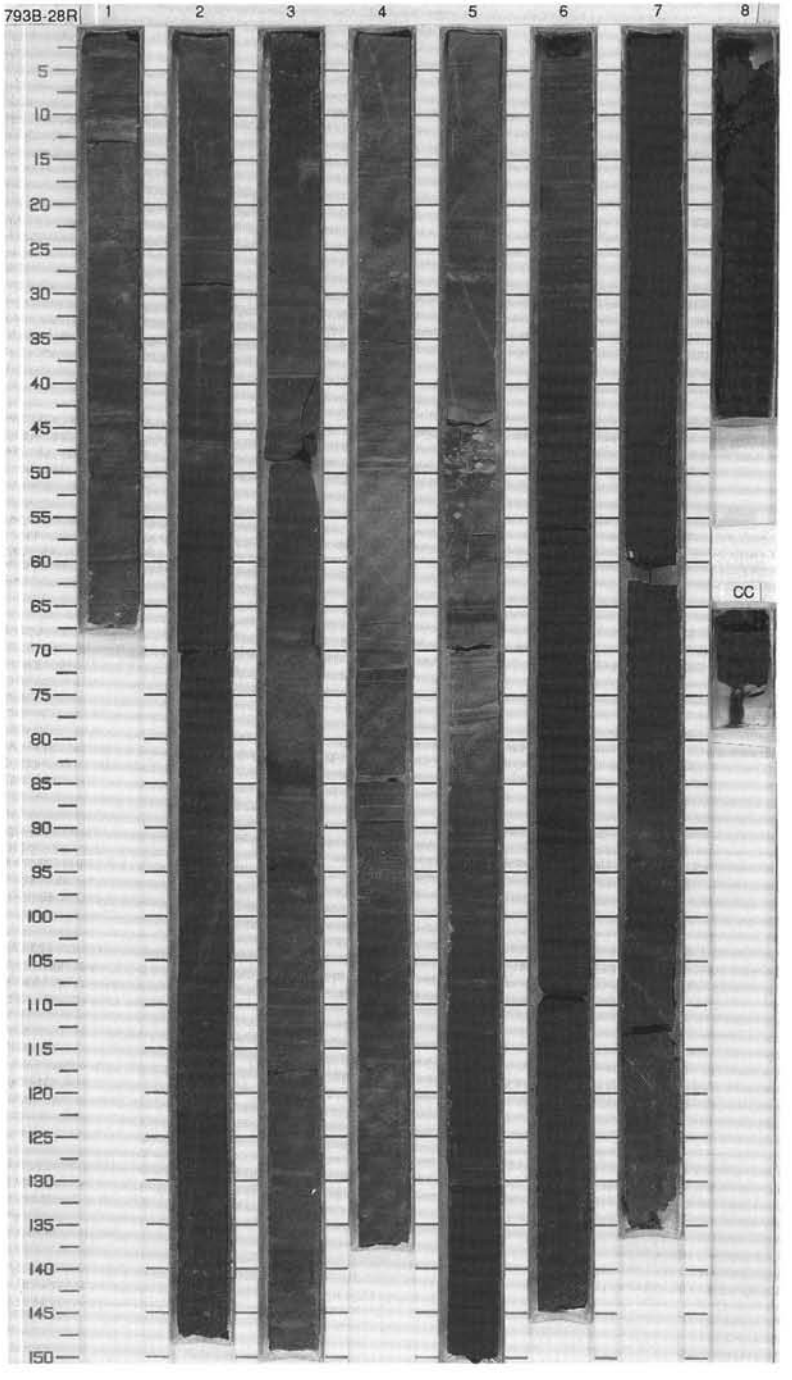
VITRIC SILTSTONE, SILTY CLAYSTONE, GRANULE CONGLOMERATE AND VITRIC SANDSTONE

Major lithologies:
About 40% of the core consists of interbedded thin to medium beds of dark greenish gray (5G 4/1), faintly laminated and locally burrowed VITRIC SILTSTONE, and strongly burrowed SILTY CLAYSTONE of the same color. Most of the rest of the core consists of two very thick beds that grade from dark greenish gray (5G 4/1) GRANULE CONGLOMERATE at the base to parallel-laminated VITRIC SANDSTONE of the same color at the top. The vitric component has been largely altered. The lower bed also has ripple lamination at the top. Most of the pebbles consist of dark green claystone and volcanic rocks, including red (10R 4/6) rhyolite. Sections 2, 3 and 7 have mineral-filled fractures. In Section 7, the mineral is gypsum.

Minor lithology: Section 3, 70 cm, through Section 4, contains about 10% interbeds of dark greenish gray (5G 4/1), strongly burrowed NANNOFOSSIL-RICH SILTY CLAYSTONE. Section 3, 35-55 cm, is slightly fractured by drilling. The rest of the core is undisturbed.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	4, 60 D	5, 57 M	7, 73 D
TEXTURE:			
Sand	---	---	100
Silt	25	30	Tr
Clay	75	70	---
COMPOSITION:			
Accessory minerals	---	---	2
Bioclast	---	---	Tr
Cement	---	---	30
Clay	49	35	---
Feldspar	1	5	7
Foraminifers	---	---	Tr
Glass	20	50	61
Hornblende	1	---	---
Nannofossils	25	10	---
Opaques	1	---	---
Quartz	1	---	---
Rock fragment	---	---	Tr



SITE 793 HOLE B CORE 29R CORED INTERVAL 854.7-864.4 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
UPPER OLIGOCENE	B	F/M CP19b	R/P		R? R	ρ=34.0 ρ=2.22 ρ=33.0 ρ=2.21 ρ=50.0 ρ=1.94	%CaCO3 %CaCO3=0.7 %CaCO3=0.5 %CaCO3=1.0	1 2 3 4 5 6	0.5 1.0				*

LITHOLOGIC DESCRIPTION

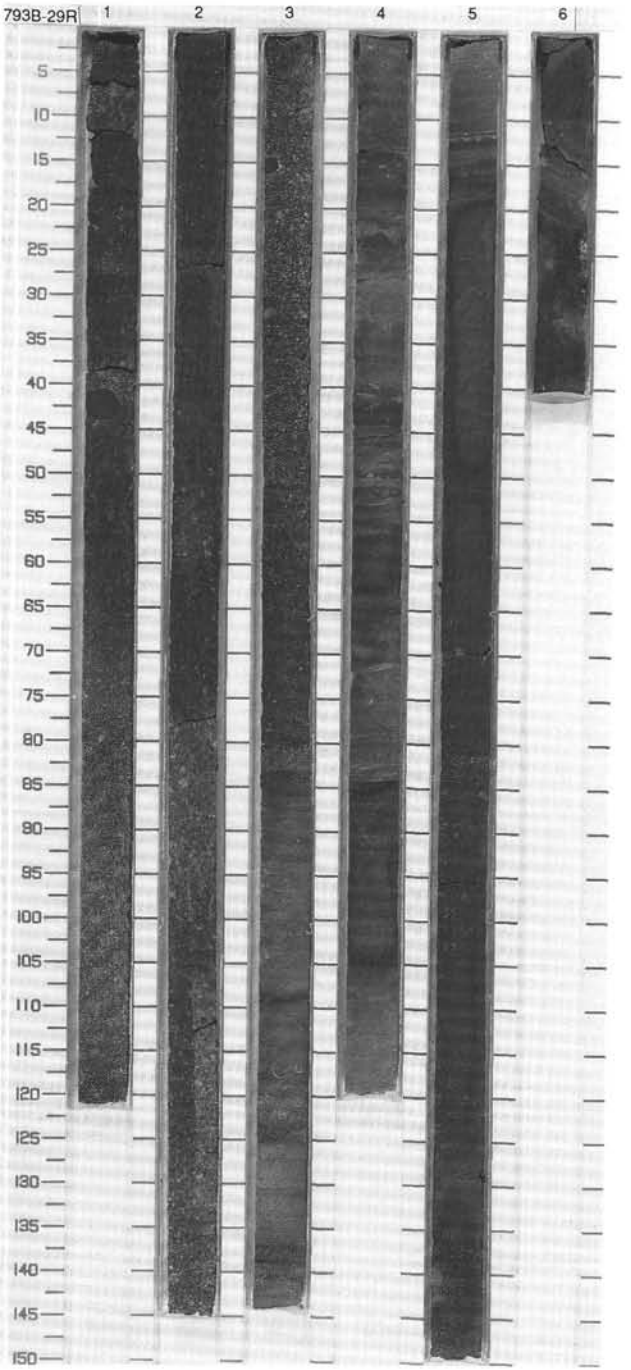
PEBBLE-GRANULE CONGLOMERATE, PEBBLY GRANULE SANDSTONE, VITRIC SANDSTONE AND CLAYEY SILTSTONE

Major lithologies: Section 1, 0 cm, through Section 3, 82 cm, consists of greenish black (5GY 2/1), structureless PEBBLE-GRANULE CONGLOMERATE with 10% pebbles and 40% granules. Pebbles consist of dark green silty claystone, olivine basalt, andesite, rhyolite/dacite, scoria and pumice. Section 5, 65 cm, to the end of the core consists of greenish black (5G 2/1) PEBBLY GRANULE SANDSTONE with about 40% granules of dark green claystone. The vitric component has been largely altered. There are cobbles of burrowed clayey siltstone larger than 6 cm long. The rest of medium beds of greenish black (5G 2/1), parallel-laminated to slightly burrowed CLAYEY SILTSTONE and parallel-to ripple-laminated beds of fine-to very fine-grained VITRIC SANDSTONE.

There is no drilling deformation.

SMEAR SLIDE SUMMARY (%):

	4, 60 D
TEXTURE:	
Sand	75
Silt	25
COMPOSITION:	
Clay	10
Feldspar	2
Glass	85
Opaques	1
Quartz	1



SITE 793 HOLE B CORE 30R CORED INTERVAL 864.4-874.0 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
UPPER OLIGOCENE	B	CP19b	B		R? R	ϕ=35.0 ρ=2.24 ϕ=36.0 ρ=2.16 ϕ=57.0 ρ=1.94	%CaCO3=1.1 %CaCO3=4.4 %CaCO3=2.5	1 2 3 4 5 6 CC	0.5 1.0				OG IW

LITHOLOGIC DESCRIPTION

PEBBLY SANDSTONE, VITRIC SANDSTONE, VITRIC SILTSTONE, CLAYEY SILTSTONE AND SILTY CLAYSTONE

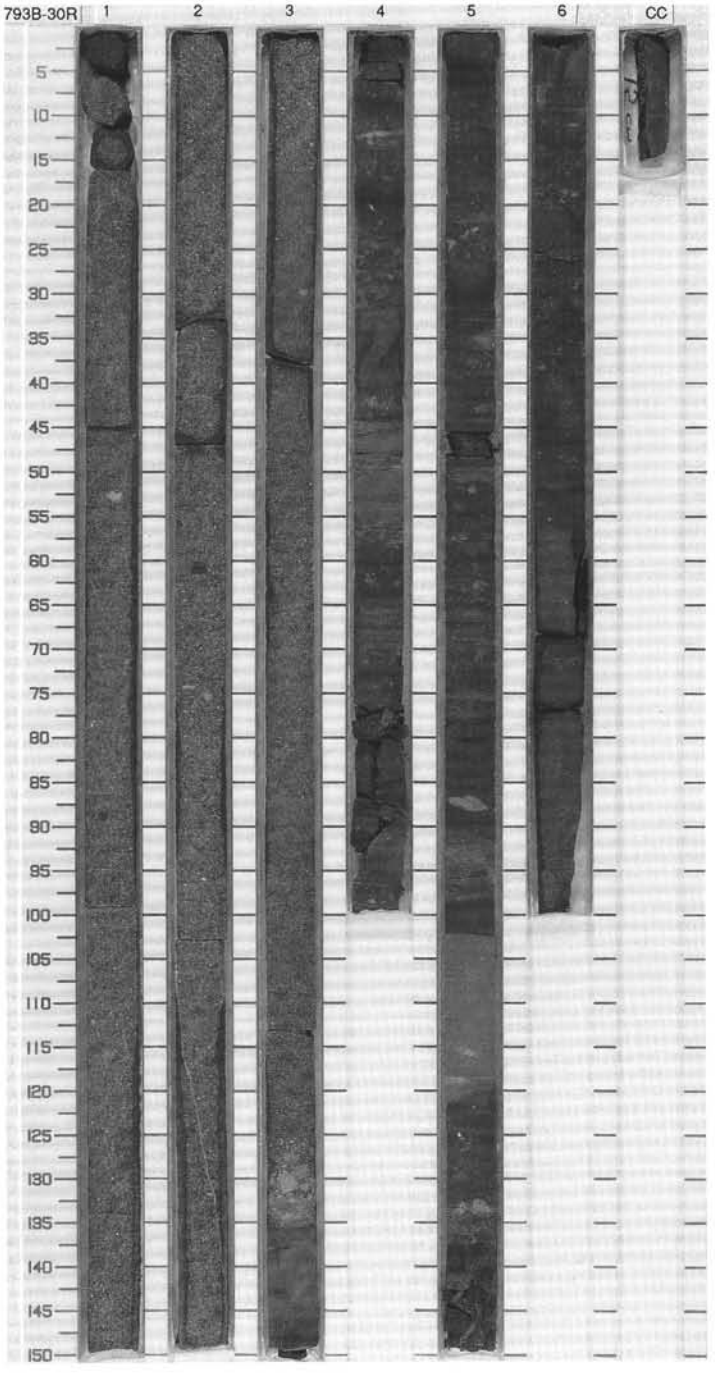
Major lithologies:
Sections 1 through 3 consist of three beds of greenish black (5GY 2/1), structureless PEBBLY SANDSTONE and VITRIC SANDSTONE. Sand content is 60-70%. The vitric component has been largely altered. The rest of the core consists of interbedded thin to medium beds of dark gray, (5GY 4/1), parallel-laminated to slightly burrowed CLAYEY SILTSTONE or SILTY CLAYSTONE, and parallel- to ripple-laminated beds of fine- to very fine-grained VITRIC SILTSTONE or VITRIC SANDSTONE. Bedding dips at 8°. Section 2, 100-150 cm, and Section 6, 60-70 cm, have mineral-filled fractures. Section 4, 90-100 cm, and Section 5, 140-150 cm, have clastic dikes of silty claystone.

Minor lithology: Section 5, 90-97 cm and 102-120 cm, consists of greenish gray (5G 6/1) NANNOFOSSIL-RICH SILTY CLAYSTONE.

There is no drilling deformation.

SMEAR SLIDE SUMMARY (%):

	3, 137 D	5, 45 M	5, 104 D
TEXTURE:			
Silt	10	10	20
Clay	90	90	80
COMPOSITION:			
Accessory minerals	1	---	---
Clay	90	---	41
Feldspar	2	---	1
Glass	---	86	30
Inorganic calcite	Tr	5	1
Micrite	---	---	1
Nannofossils	2	5	20
Opaques	---	---	1



SITE 793 HOLE B CORE 31R CORED INTERVAL 874.0-883.7 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
UPPER OLIGOCENE	P17 / P21	CP19a			R / N	ϕ=42.0, ρ=2.13, %CaCO3=13.5; ϕ=48.0, ρ=1.92; ϕ=50.0, ρ=1.86; ϕ=51.0, ρ=1.97; ϕ=38.0, ρ=2.09; ϕ=62.0, ρ=2.21; %CaCO3=19.7; %CaCO3=6.9; %CaCO3=0.5		1 2 3 4 5 6 7 CC	0.5 1.0				

LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE, VITRIC SILTSTONE, CLAYEY SILTSTONE AND NANNOFOSSIL-RICH CLAYEY SILTSTONE

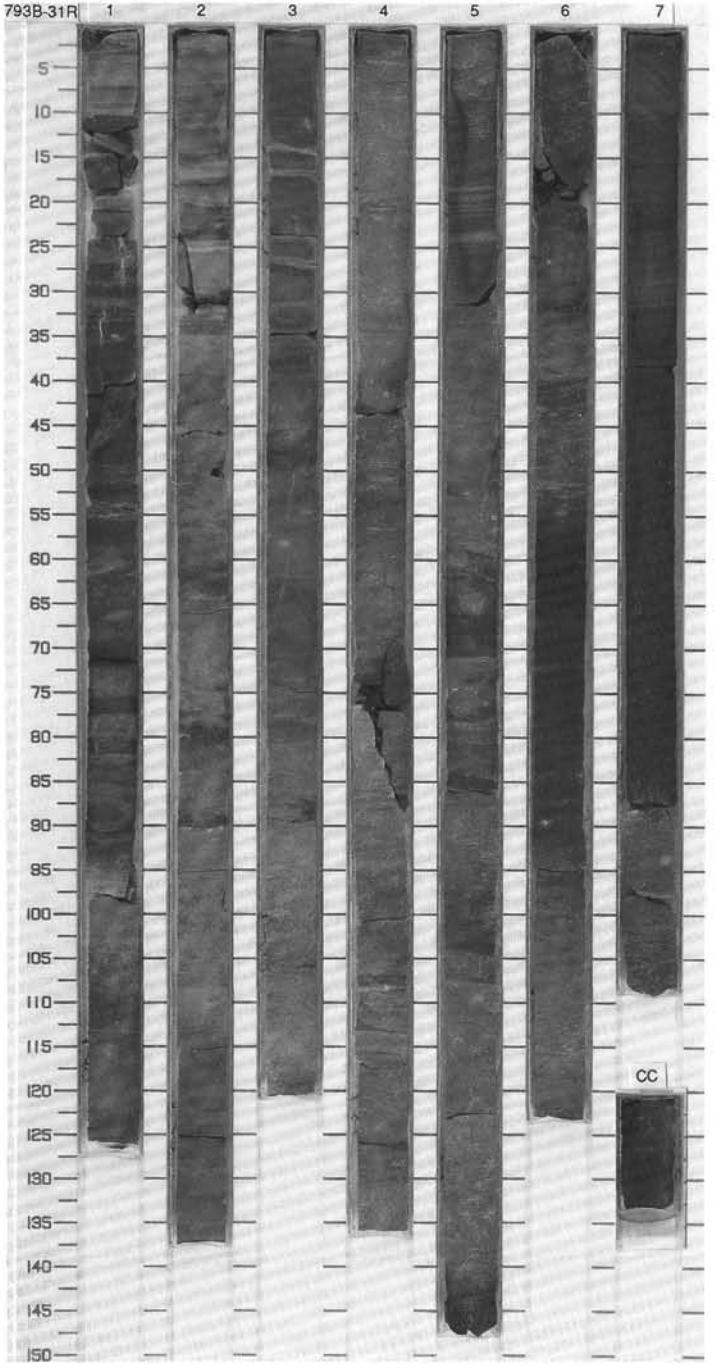
Major lithologies:
There is a fine-scale interbedding of very thin to medium beds of dark gray (5GY 4/1) to greenish black (5GY 2/1), parallel-to ripple-laminated, fine-grained VITRIC SANDSTONE or VITRIC SILTSTONE, parallel-laminated to burrowed CLAYEY SILTSTONE of the same color, and gray (5Y 6/1), burrowed NANNOFOSSIL-RICH CLAYEY SILTSTONE. Sandstone plus siltstone form about 50% of the core. The vitric component has been largely altered. There are relatively steep normal faults that dip at >45° in Section 1, 35-50 cm, and Section 3, 80-90 cm.

Minor lithologies:
Section 4, 114-117 cm, consists of light bluish gray (5B 7/1), medium-grained PUMICEOUS SANDSTONE (ash). Section 7, 50-87 cm, consists of olive black (5Y 2/1), coarse-grained, GRANULE-RICH SANDSTONE that grades upward into fine-grained sandstone.

Sections 1, 2 and 4, and Section 6, 0-50 cm, are slightly to moderately fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	3, 94 D	7, 38 D
TEXTURE:		
Sand	---	100
Silt	20	Tr
Clay	80	---
COMPOSITION:		
Accessory minerals	---	3
Cement	---	25
Clay	56	---
Fe oxide	1	---
Feldspar	1	20
Glass	20	52
Hornblende	1	---
Micrite	1	---
Nannofossils	15	---
Opaques	1	---
Quartz	1	---
Rock fragment	---	Tr



SITE 793 HOLE B CORE 32R CORED INTERVAL 883.7-893.3 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
UPPER OLIGOCENE	B	R/M	CP19a	B	N?	ϕ=32.0 ρ=2.25	%CaCO3=0.5	1	0.5 1.0				*
						ϕ=27.0 ρ=2.29	%CaCO3=0.3	2					
						ϕ=23.0 ρ=2.43	%CaCO3=0.4	3					
								4					*
								5					
								CC			X X		

LITHOLOGIC DESCRIPTION

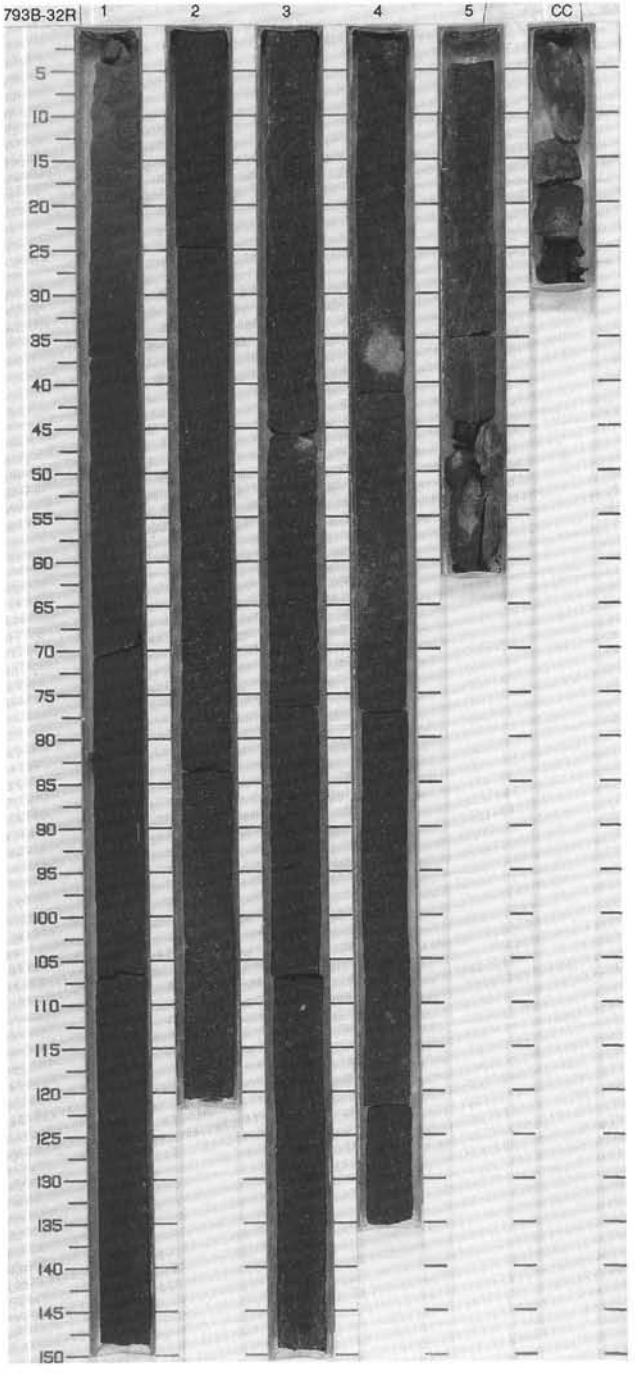
SANDSTONE, PEBBLY SANDSTONE AND SANDY CONGLOMERATE

Major lithologies:
Sections 1 and 2 consist of greenish black (5G 2/1), structureless, very coarse-grained SANDSTONE to PEBBLY SANDSTONE as a single graded bed. The vitric component has been largely altered. Sections 3 through CC consist of greenish black (5G 2/1), structureless SANDY CONGLOMERATE, with about 40% sand matrix, 30% granules, and 30% pebbles. Section 5 contains three claystone clasts as large as 15 cm long. Volcanic pebbles in the conglomerate include: brick red rhyolite with quartz phenocrysts, orthopyroxene and magnetite; olivine-orthopyroxene-plagioclase basalt; two-pyroxene andesite; white and red pumice; and basaltic scoria.

The core catcher is drilling breccia. Otherwise, the core is undisturbed by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 3 M	4, 38 M
TEXTURE:		
Silt	10	---
Clay	90	---
COMPOSITION:		
Clay	60	---
Feldspar	---	5
Glass	40	85
Nannofossils	Tr	---
Oxide	---	10



SITE 793 HOLE B CORE 33R CORED INTERVAL 893.3-903.0 mbsf

TIME-ROCK UNIT: UPPER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: B; FORAMINIFERS: R/P; NANNOFOSSILS: C/M CP19a; RADIOLARIANS: C/P (indeterminate); DIATOMS

PALEOMAGNETICS: N

PHYS. PROPERTIES: ϕ=39.0 / ρ=2.01; ϕ=34.0 / ρ=2.23; ϕ=43.0 / ρ=2.05; ϕ=25.0 / ρ=2.21

CHEMISTRY: %CaCO3=0.7; %CaCO3=0.6; %CaCO3=0.4; %CaCO3=8.5; %CaCO3=0.3

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: IW

LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTY CLAYSTONE

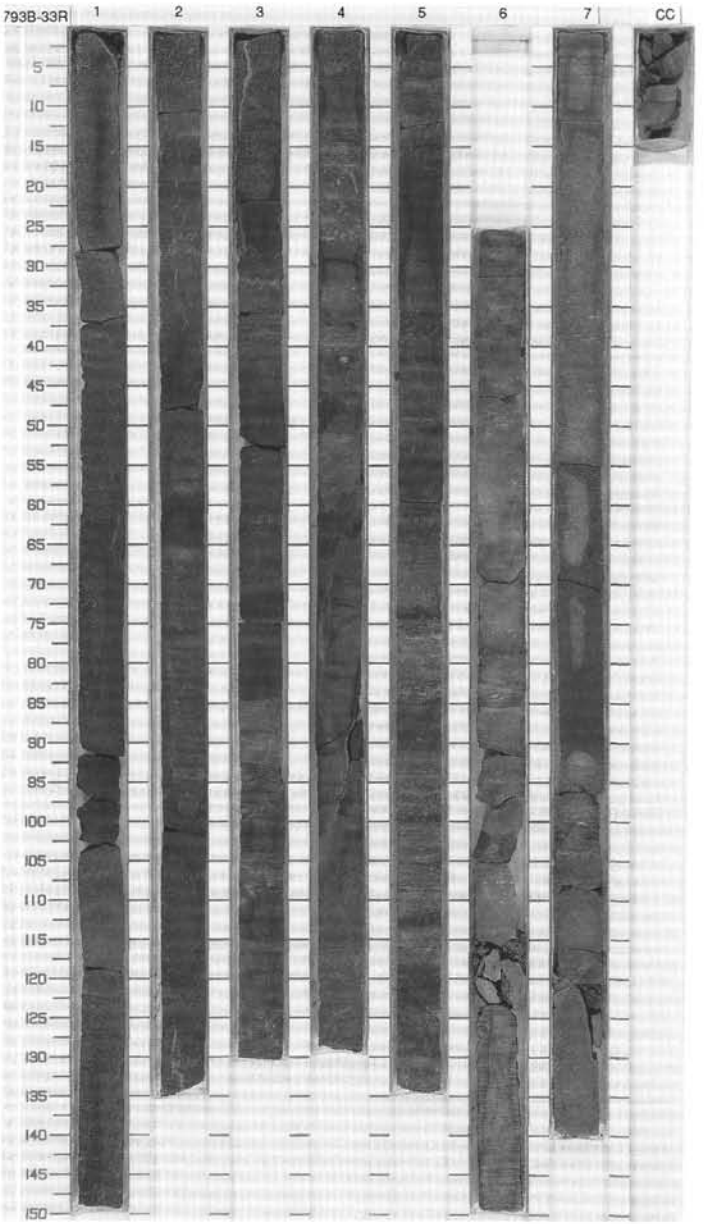
Major lithologies:
Grayish black (N2) CRYSTAL-VITRIC SANDSTONE and VITRIC SILTY CLAYSTONE comprise 46% and 35% of the core, respectively. The vitric component has been largely altered. Much of the sandstone occurs in six fine- or medium-grained, graded beds with laminated tops, 24-35 cm thick. The rest of the sandstone forms the basal divisions, 1-7 cm thick, of thin, graded beds with slightly (locally intensely) bioturbated caps of greenish black (5GY 2/1), olive black (5Y 2/1), or grayish black (N2) VITRIC SILTY CLAYSTONE. Clastic dikes occur in Sections 1, 5 and 6; gypsum-filled fractures, 0.5 mm thick, occur in Sections 2 and 4, and healed fractures in Sections 2 and 6.

Minor lithologies:
The remainder of the core consists of textural variants of the major lithologies: CLAYEY SILTSTONE (8%), NANNOFOSSIL-RICH CLAYEY SILTSTONE (5%), VITRIC SANDY SILTSTONE (3%), and VITRIC SILTSTONE (3%).

Most of the core is undisturbed to slightly fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	3, 25 D	3, 86 M	6, 138 D
TEXTURE:			
Sand	80	10	100
Silt	20	20	---
Clay	---	70	---
COMPOSITION:			
Accessory minerals	10	1	7
Cement	20	---	20
Clay	---	56	---
Feldspar	10	2	25
Glass	50	---	48
Lithic fragments	10	1	---
Micrite	---	1	---
Nannofossils	---	12	---
Opaques	---	1	---
Radiolarians	---	1	---
Zeolite	---	25	---



SITE 793 HOLE B CORE 34R CORED INTERVAL 903.0-912.6 mbsf

TIME-ROCK UNIT: UPPER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS: B; NANNOFOSSILS: A/M; CP19a; C/P; RADIOLARIANS; DIATOMS

PALEOMAGNETICS: N

PHYS. PROPERTIES: ρ=42.0, 1=2.28; ρ=33.0, 1=2.28; ρ=21.0, 1=2.44; ρ=37.0, 1=2.27

CHEMISTRY: %$CaCO_3$=11.2; %$CaCO_3$=4.7; %$CaCO_3$=0.2; %$CaCO_3$=0.4

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES: IW

LITHOLOGIC DESCRIPTION

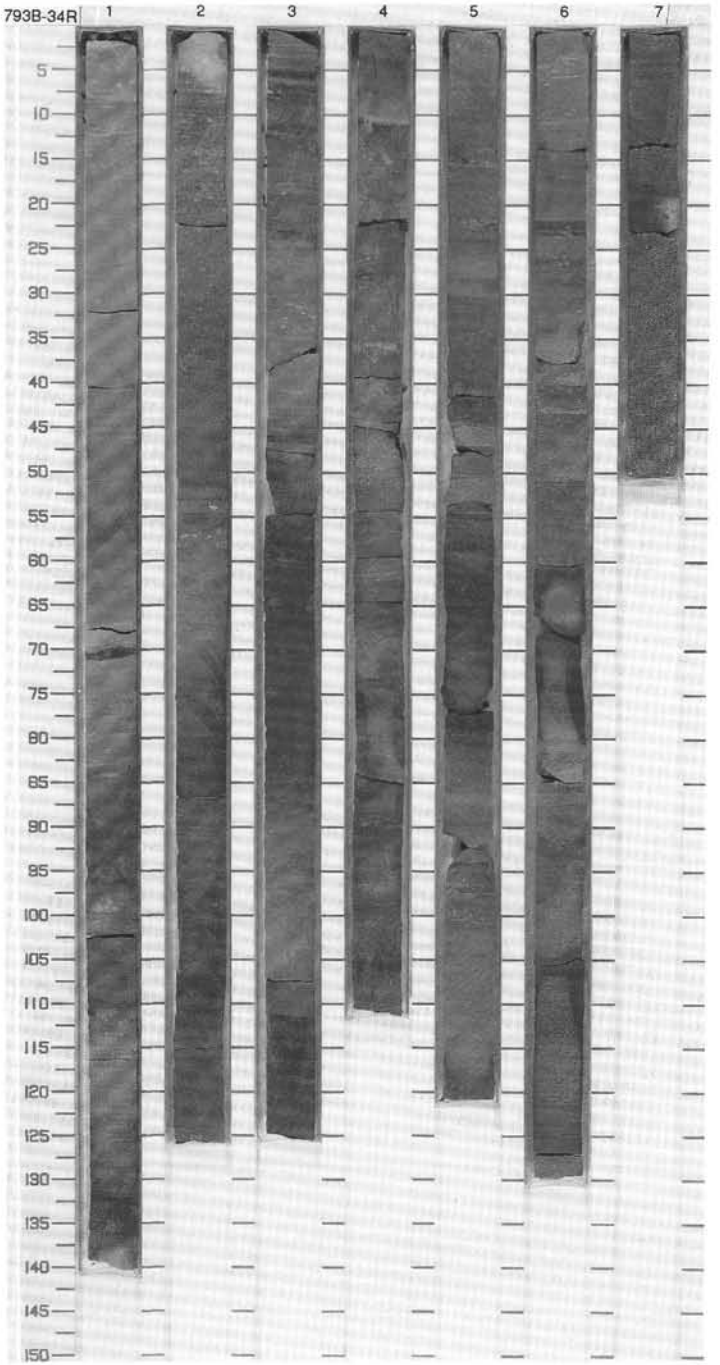
CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTY CLAYSTONE

Major lithologies:
Greenish black (5G 2/1), olive black (5Y 2/1), and brownish black (5YR 2/1) CRYSTAL-VITRIC SANDSTONE comprises 45% of the core. The vitric component has been largely altered. The sandstone occurs in six beds, 23-51 cm thick, all but one of which are fine grained, parallel laminated, and grade upward into siltstone. One bed, in Section 2, is inverse graded from fine to medium sand and contains pumice granules. The rest of the sandstone occurs as the basal divisions of thin graded beds that are capped by slightly to heavily bioturbated, dark gray (5GY 4/1, 5Y 4/1) VITRIC SILTY CLAYSTONE. Two microfaults occur in Section 1. Two sub-vertical sandstone dikes are located in Section 4. A gypsum-filled fracture occurs in Section 3. An ash layer in Section 1, 70-72 cm, shows convolution due to wet-sediment deformation.

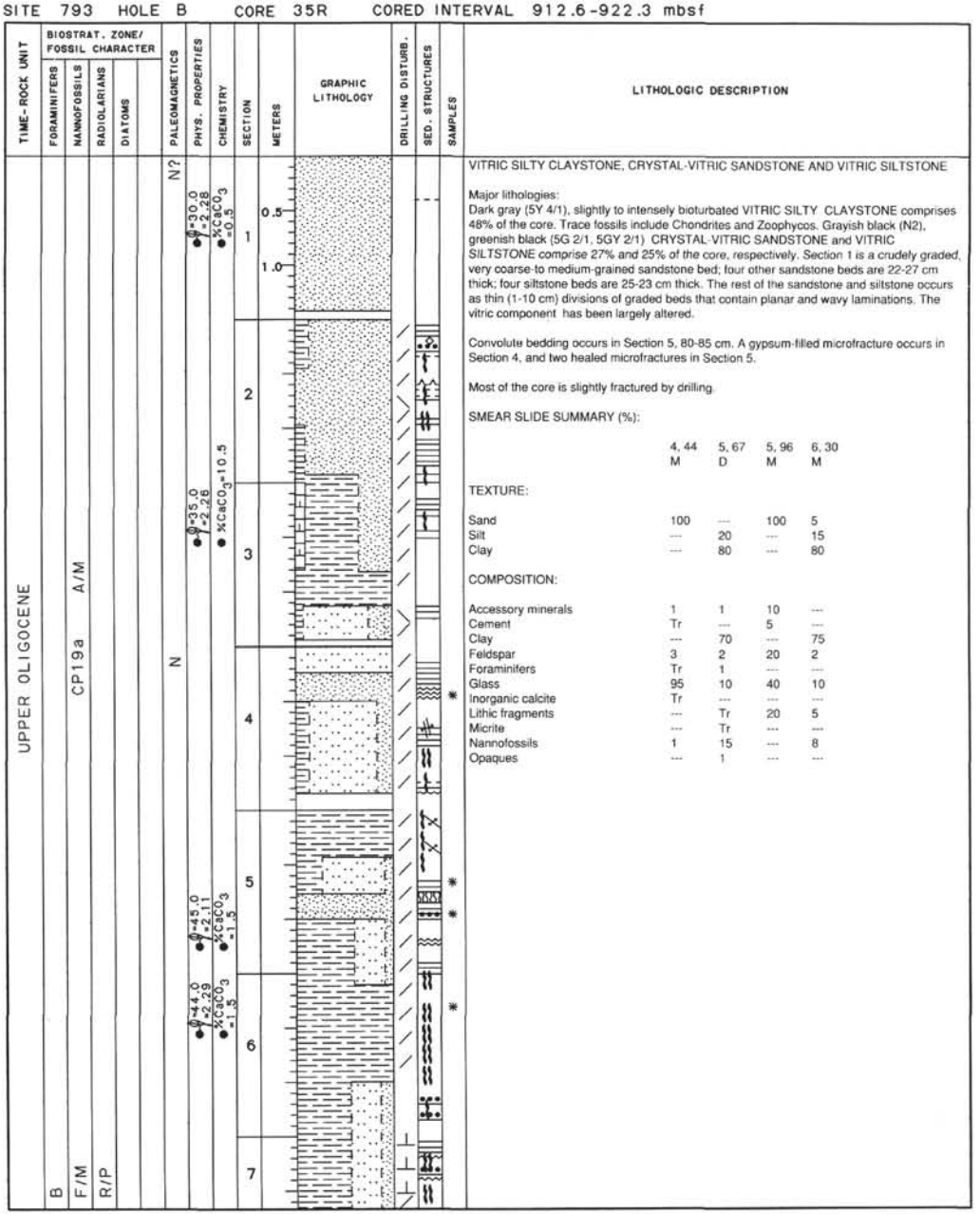
Minor lithologies:
The remainder of the core consists of textural variants of the major lithologies: SILTSTONE (10%), SANDY MUDSTONE (9%), and CLAYEY SILTSTONE (3%), together with two intervals of NANNOFOSSIL-RICH CLAYEY SILTSTONE (2%). The core is undisturbed to slightly or moderately fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 28 D	1, 69 M	1, 119 D	2, 50 D
TEXTURE:				
Sand	Tr	5	100	80
Silt	25	25	---	20
Clay	75	70	---	---
COMPOSITION:				
Accessory minerals	2	1	2	15
Cement	---	---	Tr	Tr
Clay	71	61	---	---
Feldspar	5	1	5	15
Glass	15	20	90	55
Lithic fragments	2	1	Tr	15
Micrite	---	---	1	---
Nannofossils	5	15	2	---
Opaques	---	1	---	---
Radiolarians	---	Tr	---	---



SITE 793 HOLE B CORE 35R CORED INTERVAL 912.6-922.3 mbsf



VITRIC SILTY CLAYSTONE, CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTSTONE

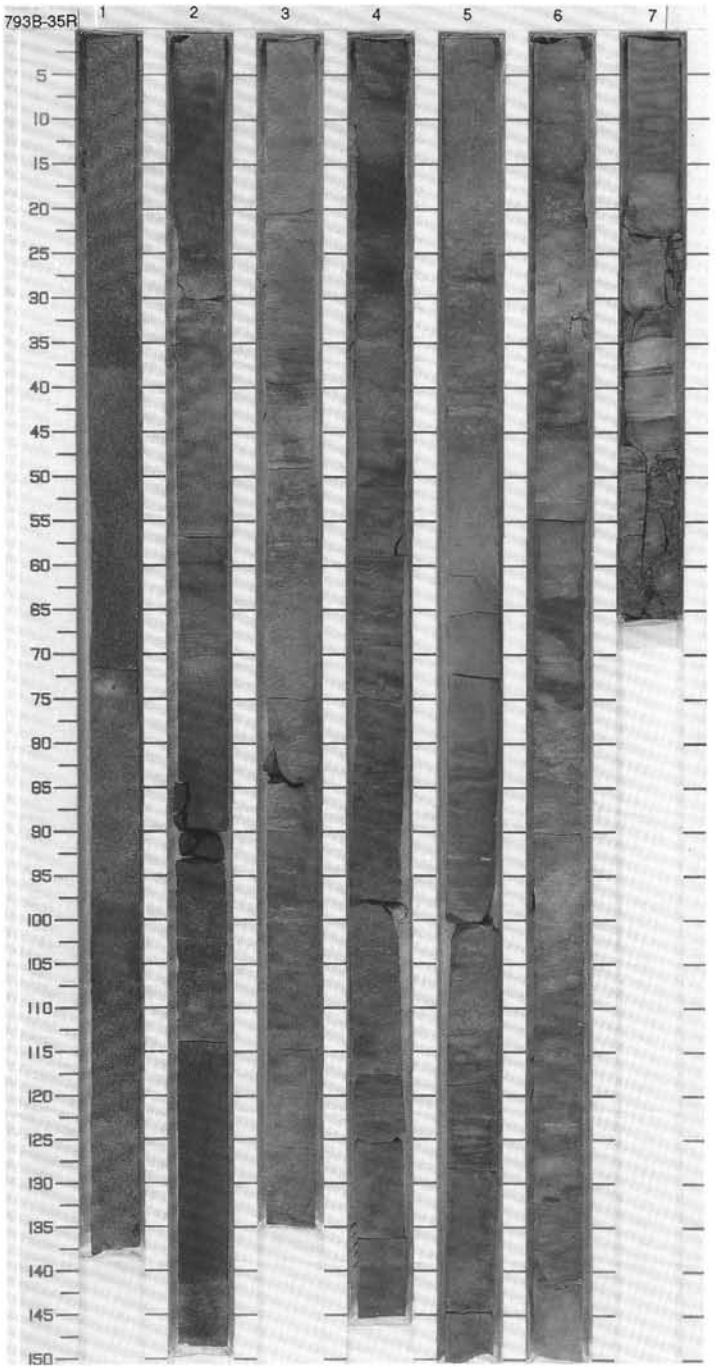
Major lithologies:
Dark gray (5Y 4/1), slightly to intensely bioturbated VITRIC SILTY CLAYSTONE comprises 48% of the core. Trace fossils include Chondrites and Zoophycos. Grayish black (N2), greenish black (5G 2/1, 5GY 2/1) CRYSTAL-VITRIC SANDSTONE and VITRIC SILTSTONE comprise 27% and 25% of the core, respectively. Section 1 is a crudely graded, very coarse-to medium-grained sandstone bed; four other sandstone beds are 22-27 cm thick; four siltstone beds are 25-23 cm thick. The rest of the sandstone and siltstone occurs as thin (1-10 cm) divisions of graded beds that contain planar and wavy laminations. The vitric component has been largely altered.

Convolute bedding occurs in Section 5, 80-85 cm. A gypsum-filled microfracture occurs in Section 4, and two healed microfractures in Section 5.

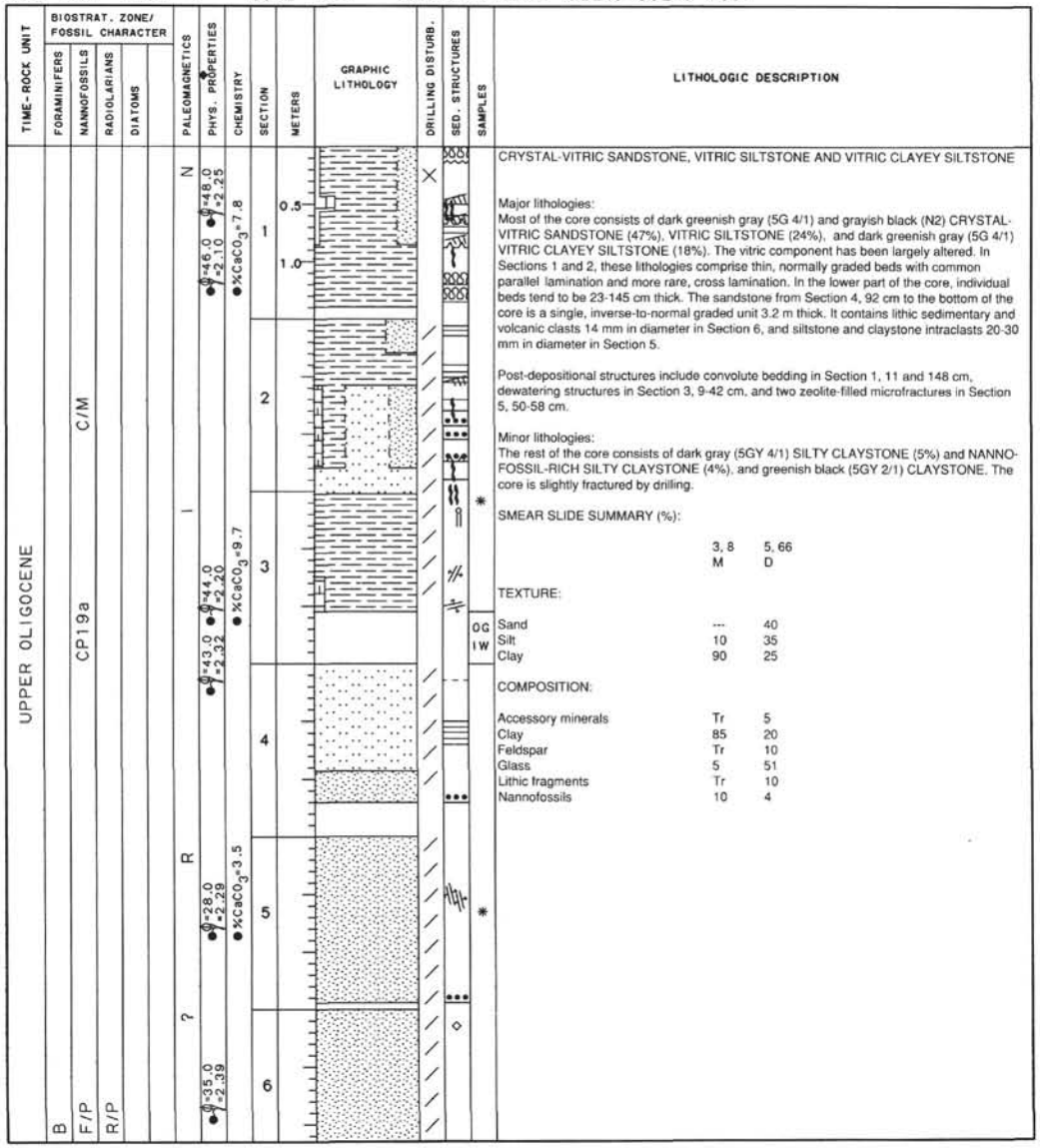
Most of the core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	4, 44 M	5, 67 D	5, 96 M	6, 30 M
TEXTURE:				
Sand	100	---	100	5
Silt	---	20	---	15
Clay	---	80	---	80
COMPOSITION:				
Accessory minerals	1	1	10	---
Cement	Tr	---	5	---
Clay	---	70	---	75
Feldspar	3	2	20	2
Foraminifers	Tr	1	---	---
Glass	95	10	40	10
Inorganic calcite	Tr	---	---	---
Lithic fragments	---	Tr	20	5
Micrite	---	Tr	---	---
Nannofossils	1	15	---	8
Opaques	---	1	---	---



SITE 793 HOLE B CORE 36R CORED INTERVAL 922.3-932.0 mbsf



LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE, VITRIC SILTSTONE AND VITRIC CLAYEY SILTSTONE

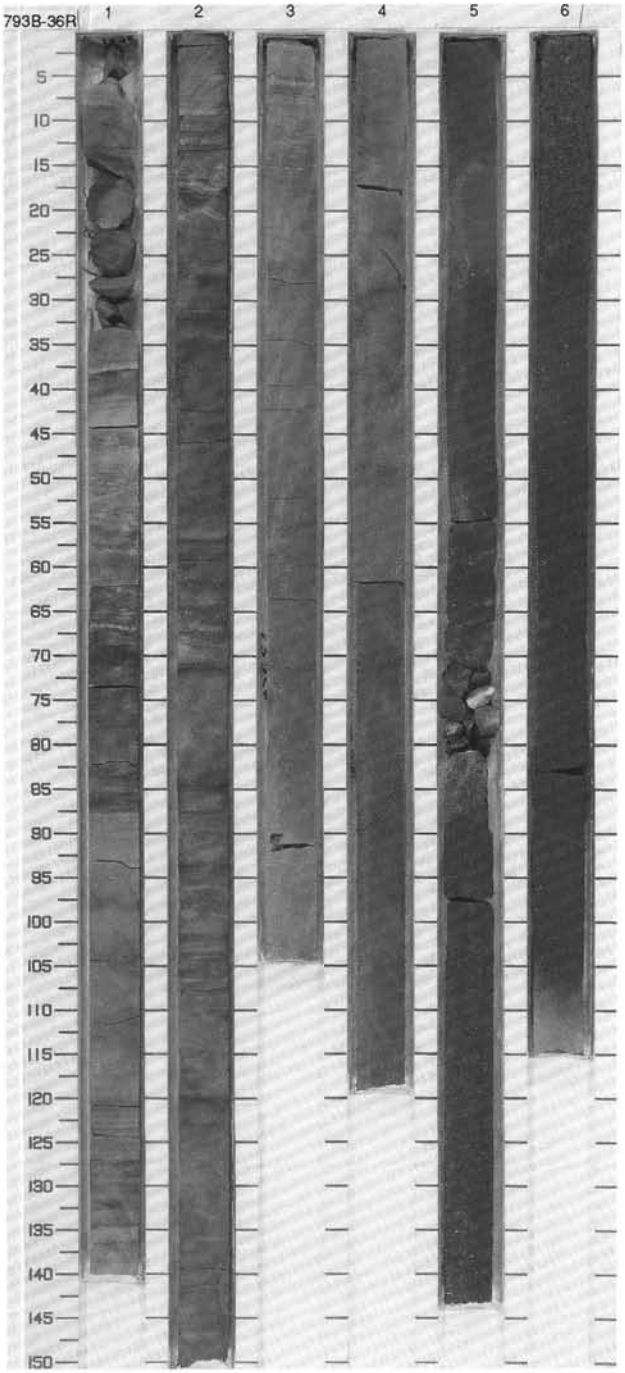
Major lithologies:
Most of the core consists of dark greenish gray (5G 4/1) and grayish black (N2) CRYSTAL-VITRIC SANDSTONE (47%), VITRIC SILTSTONE (24%), and dark greenish gray (5G 4/1) VITRIC CLAYEY SILTSTONE (18%). The vitric component has been largely altered. In Sections 1 and 2, these lithologies comprise thin, normally graded beds with common parallel lamination and more rare, cross lamination. In the lower part of the core, individual beds tend to be 23-145 cm thick. The sandstone from Section 4, 92 cm to the bottom of the core is a single, inverse-to-normal graded unit 3.2 m thick. It contains lithic sedimentary and volcanic clasts 14 mm in diameter in Section 6, and siltstone and claystone intraclasts 20-30 mm in diameter in Section 5.

Post-depositional structures include convolute bedding in Section 1, 11 and 148 cm, dewatering structures in Section 3, 9-42 cm, and two zeolite-filled microfractures in Section 5, 50-58 cm.

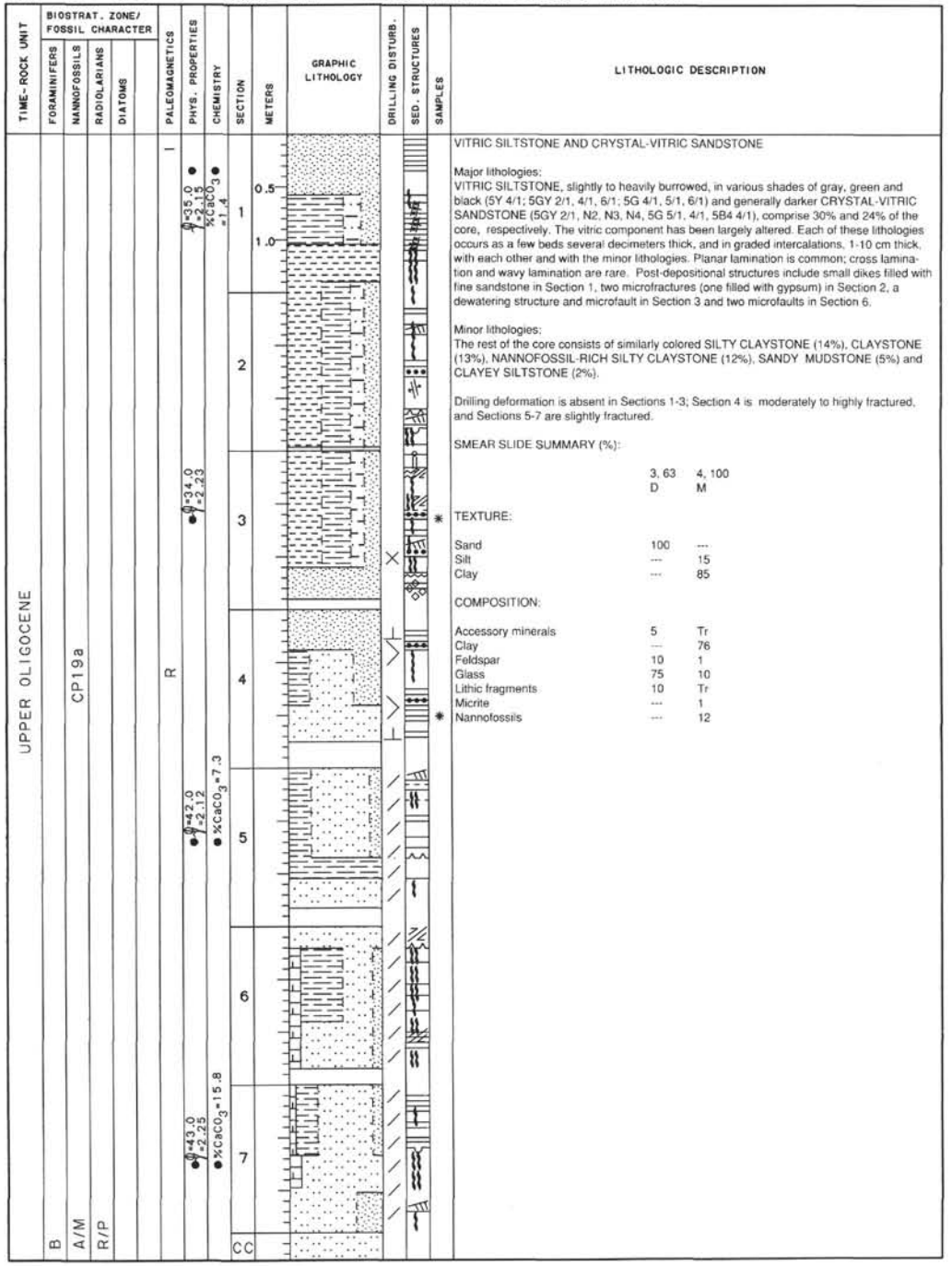
Minor lithologies:
The rest of the core consists of dark gray (5GY 4/1) SILTY CLAYSTONE (5%) and NANNOFOSSIL-RICH SILTY CLAYSTONE (4%), and greenish black (5GY 2/1) CLAYSTONE. The core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	3, 8 M	5, 66 D
TEXTURE:		
Sand	---	40
Silt	10	35
Clay	90	25
COMPOSITION:		
Accessory minerals	Tr	5
Clay	85	20
Feldspar	Tr	10
Glass	5	51
Lithic fragments	Tr	10
Nannofossils	10	4



SITE 793 HOLE B CORE 37R CORED INTERVAL 932.0-941.6 mbsf



LITHOLOGIC DESCRIPTION

VITRIC SILTSTONE AND CRYSTAL-VITRIC SANDSTONE

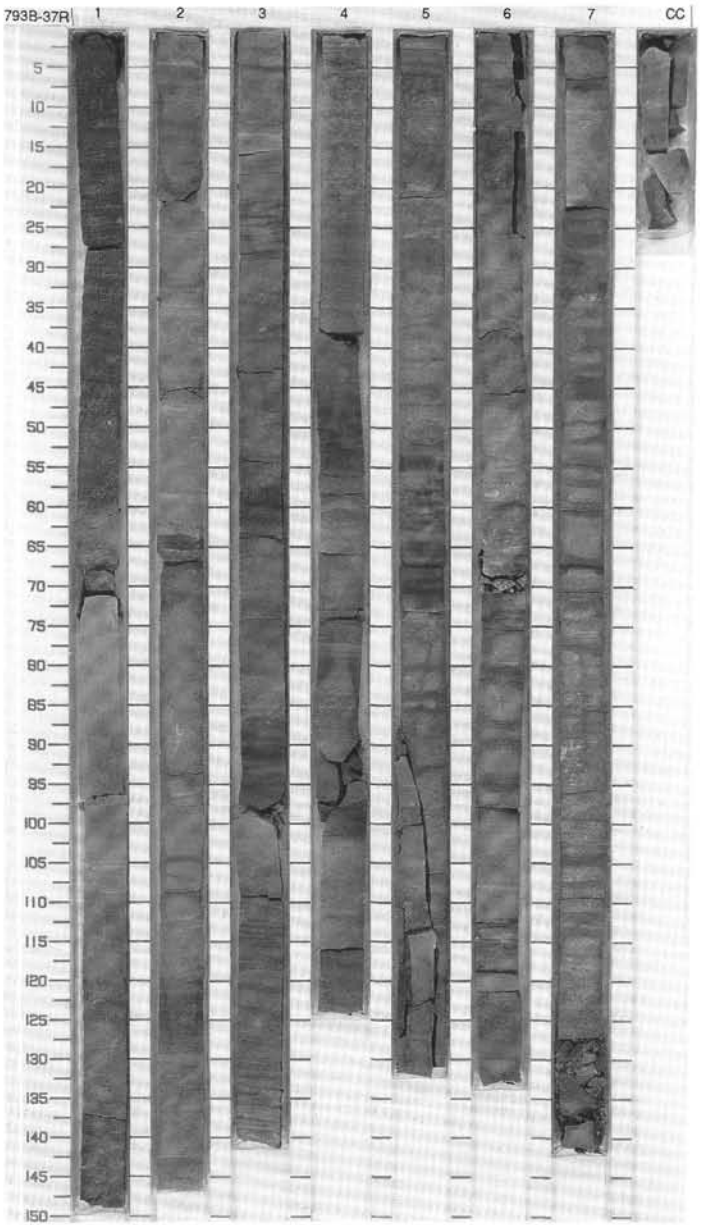
Major lithologies:
VITRIC SILTSTONE, slightly to heavily burrowed, in various shades of gray, green and black (5Y 4/1; 5GY 2/1, 4/1, 6/1; 5G 4/1, 5/1, 6/1) and generally darker CRYSTAL-VITRIC SANDSTONE (5GY 2/1, N2, N3, N4, 5G 5/1, 4/1, 5B4 4/1), comprise 30% and 24% of the core, respectively. The vitric component has been largely altered. Each of these lithologies occurs as a few beds several decimeters thick, and in graded intercalations, 1-10 cm thick, with each other and with the minor lithologies. Planar lamination is common; cross lamination and wavy lamination are rare. Post-depositional structures include small dikes filled with fine sandstone in Section 1, two microfractures (one filled with gypsum) in Section 2, a dewatering structure and microfault in Section 3 and two microfaults in Section 6.

Minor lithologies:
The rest of the core consists of similarly colored SILTY CLAYSTONE (14%), CLAYSTONE (13%), NANNOFOSSIL-RICH SILTY CLAYSTONE (12%), SANDY MUDSTONE (5%) and CLAYEY SILTSTONE (2%).

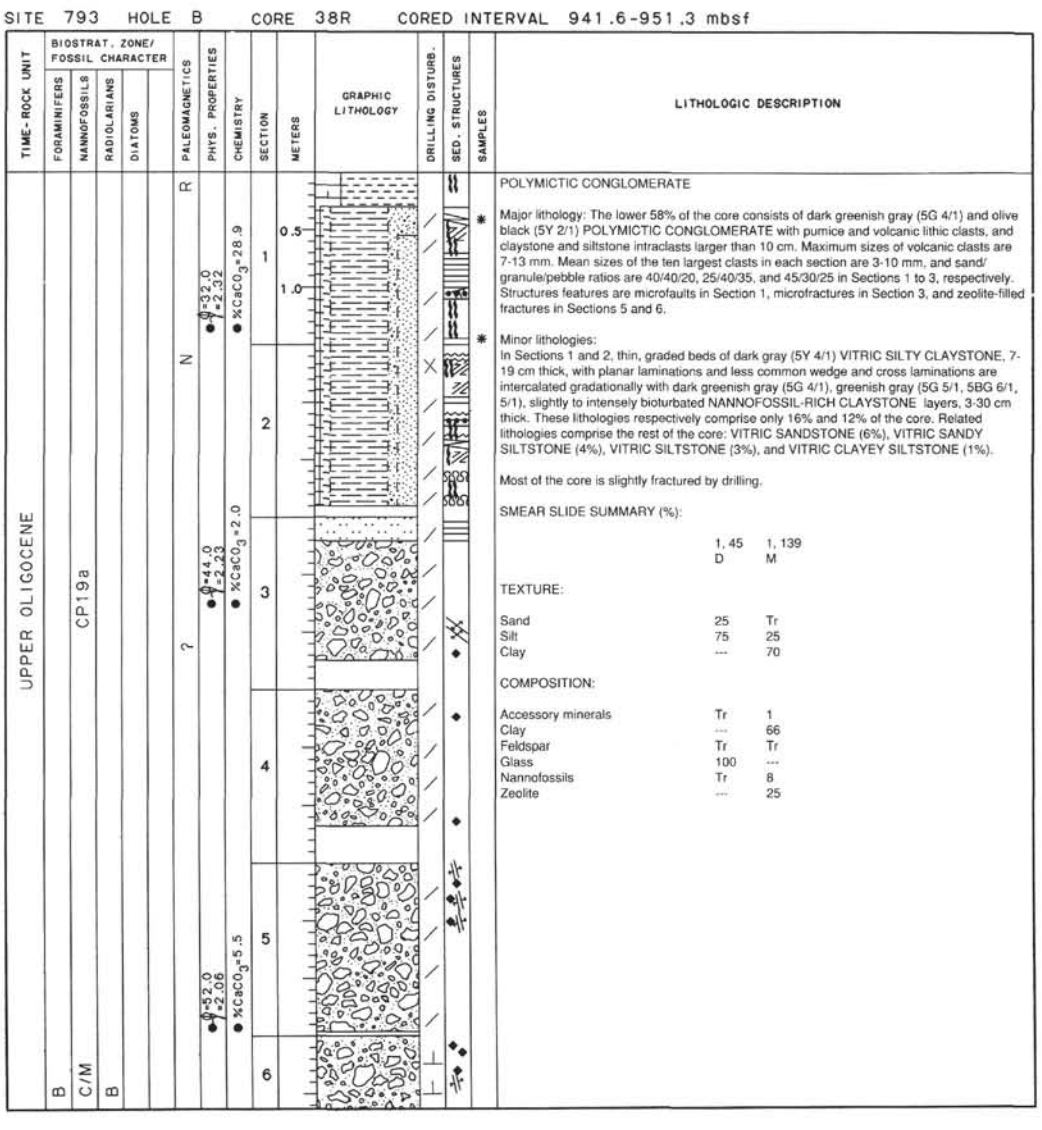
Drilling deformation is absent in Sections 1-3; Section 4 is moderately to highly fractured, and Sections 5-7 are slightly fractured.

SMEAR SLIDE SUMMARY (%):

	3, 63 D	4, 100 M
TEXTURE:		
Sand	100	---
Silt	---	15
Clay	---	85
COMPOSITION:		
Accessory minerals	5	Tr
Clay	---	76
Feldspar	10	1
Glass	75	10
Lithic fragments	10	Tr
Micrite	---	1
Nannofossils	---	12



SITE 793 HOLE B CORE 38R CORED INTERVAL 941.6-951.3 mbsf



LITHOLOGIC DESCRIPTION

POLYMICTIC CONGLOMERATE

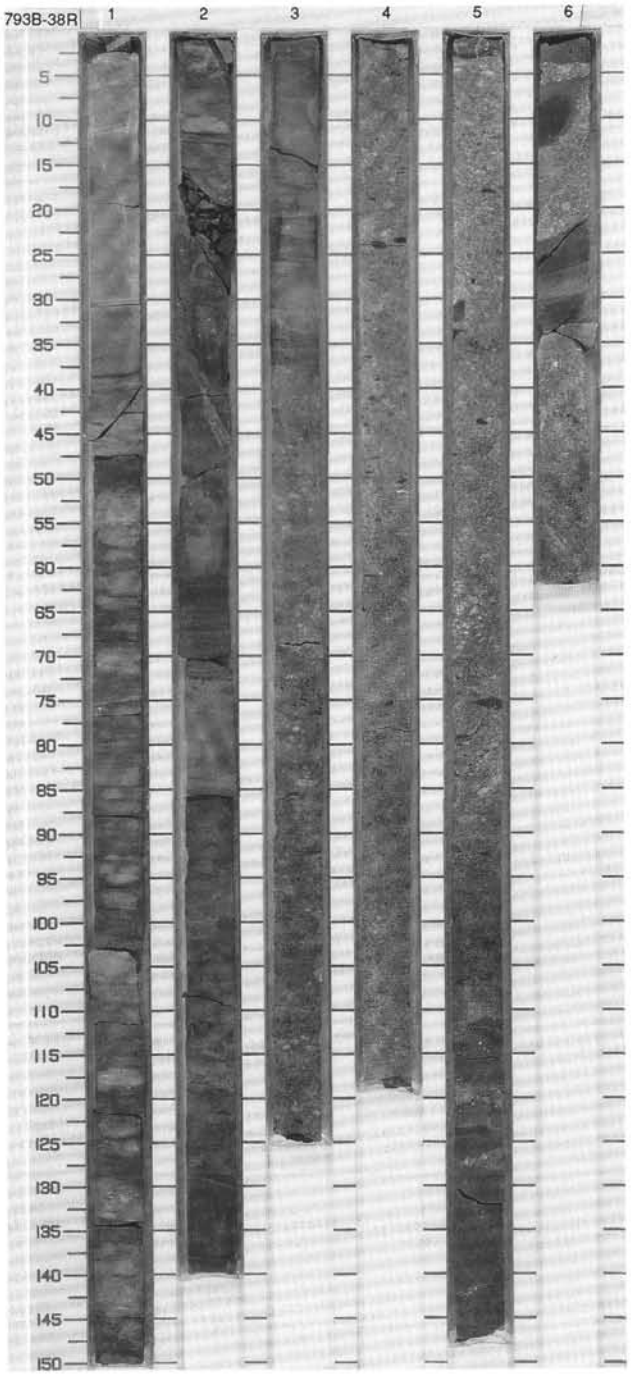
Major lithology: The lower 58% of the core consists of dark greenish gray (5G 4/1) and olive black (5Y 2/1) POLYMICTIC CONGLOMERATE with pumice and volcanic lithic clasts, and claystone and siltstone intraclasts larger than 10 cm. Maximum sizes of volcanic clasts are 7-13 mm. Mean sizes of the ten largest clasts in each section are 3-10 mm, and sand/granule/pebble ratios are 40/40/20, 25/40/35, and 45/30/25 in Sections 1 to 3, respectively. Structures features are microfaults in Section 1, microfractures in Section 3, and zeolite-filled fractures in Sections 5 and 6.

Minor lithologies:
In Sections 1 and 2, thin, graded beds of dark gray (5Y 4/1) VITRIC SILTY CLAYSTONE, 7-19 cm thick, with planar laminations and less common wedge and cross laminations are intercalated gradationally with dark greenish gray (5G 4/1), greenish gray (5G 5/1, 5BG 6/1, 5/1), slightly to intensely bioturbated NANNOFOSSIL-RICH CLAYSTONE layers, 3-30 cm thick. These lithologies respectively comprise only 16% and 12% of the core. Related lithologies comprise the rest of the core: VITRIC SANDSTONE (6%), VITRIC SANDY SILTSTONE (4%), VITRIC SILTSTONE (3%), and VITRIC CLAYEY SILTSTONE (1%).

Most of the core is slightly fractured by drilling.

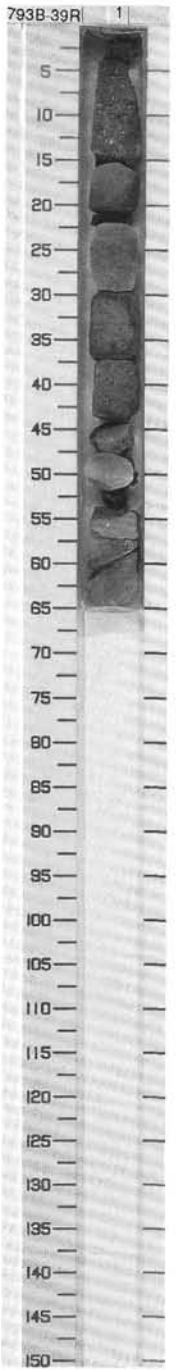
SMEAR SLIDE SUMMARY (%):

	1, 45 D	1, 139 M
TEXTURE:		
Sand	25	Tr
Silt	75	25
Clay	---	70
COMPOSITION:		
Accessory minerals	Tr	1
Clay	---	66
Feldspar	Tr	Tr
Glass	100	---
Nannofossils	Tr	8
Zeolite	---	25

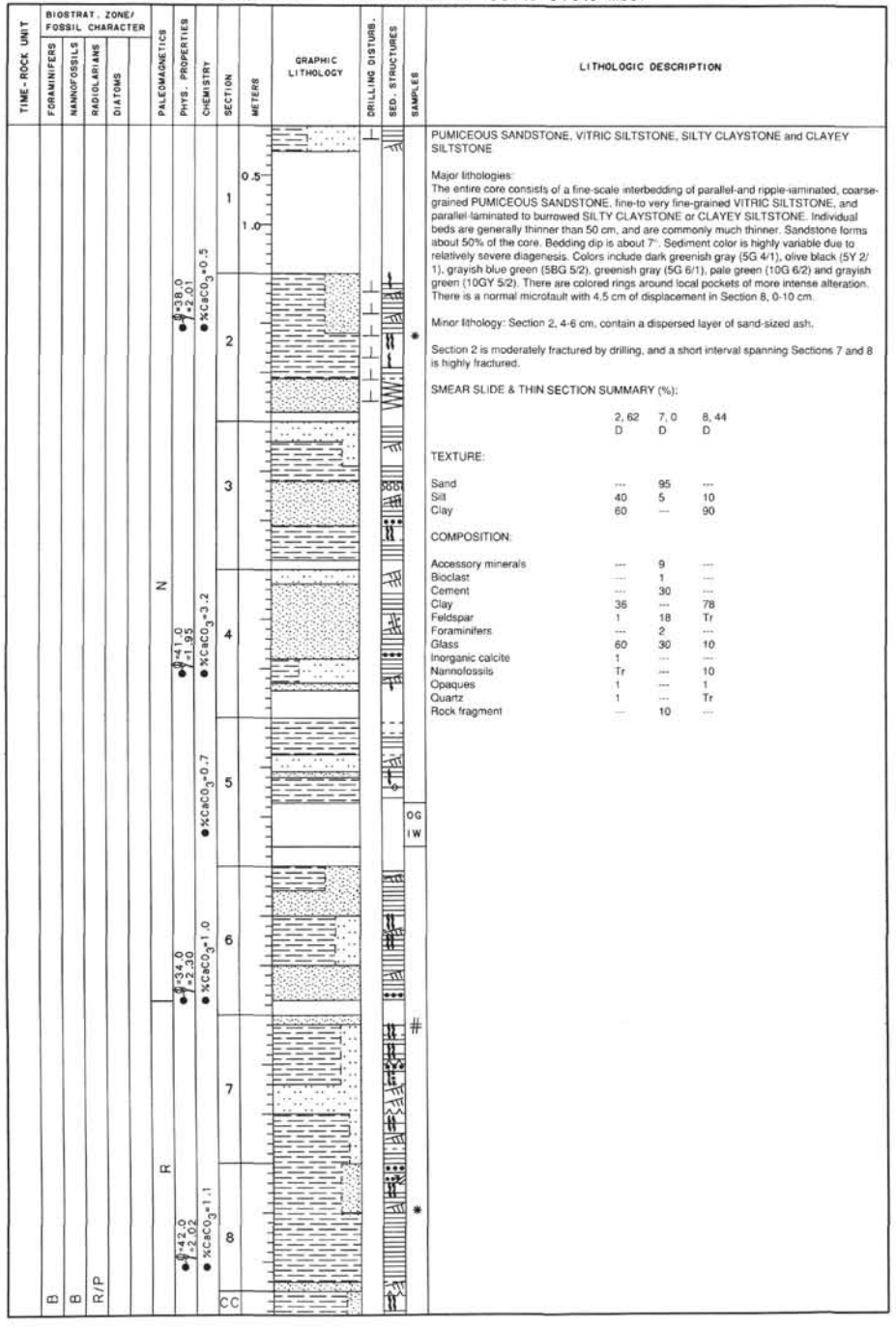


SITE 793 HOLE B CORE 39R CORED INTERVAL 951.3-961.0 mbsf

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
UPPER OLIGOCENE	B	CP19a F/M	B		?	ρ=1.37 γ=2.18			1 0.5		X X X			PEBBLY PUMICEOUS SANDSTONE, SANDSTONE AND SILTY CLAYSTONE Major lithologies: 65% of the core is greenish black (5GY 2/1), crudely laminated PEBBLY PUMICEOUS SANDSTONE and medium-grained SANDSTONE with shale intraclasts flattened parallel to bedding. The rest of the core is greenish black (5GY 2/1) SILTY CLAYSTONE. The silty claystone is cut by a fault that dips at 45°. This short core consists of drilling breccia.



SITE 793 HOLE B CORE 40R CORED INTERVAL 961.0-970.6 mbsf



LITHOLOGIC DESCRIPTION

PUMICEOUS SANDSTONE, VITRIC SILTSTONE, SILTY CLAYSTONE and CLAYEY SILTSTONE

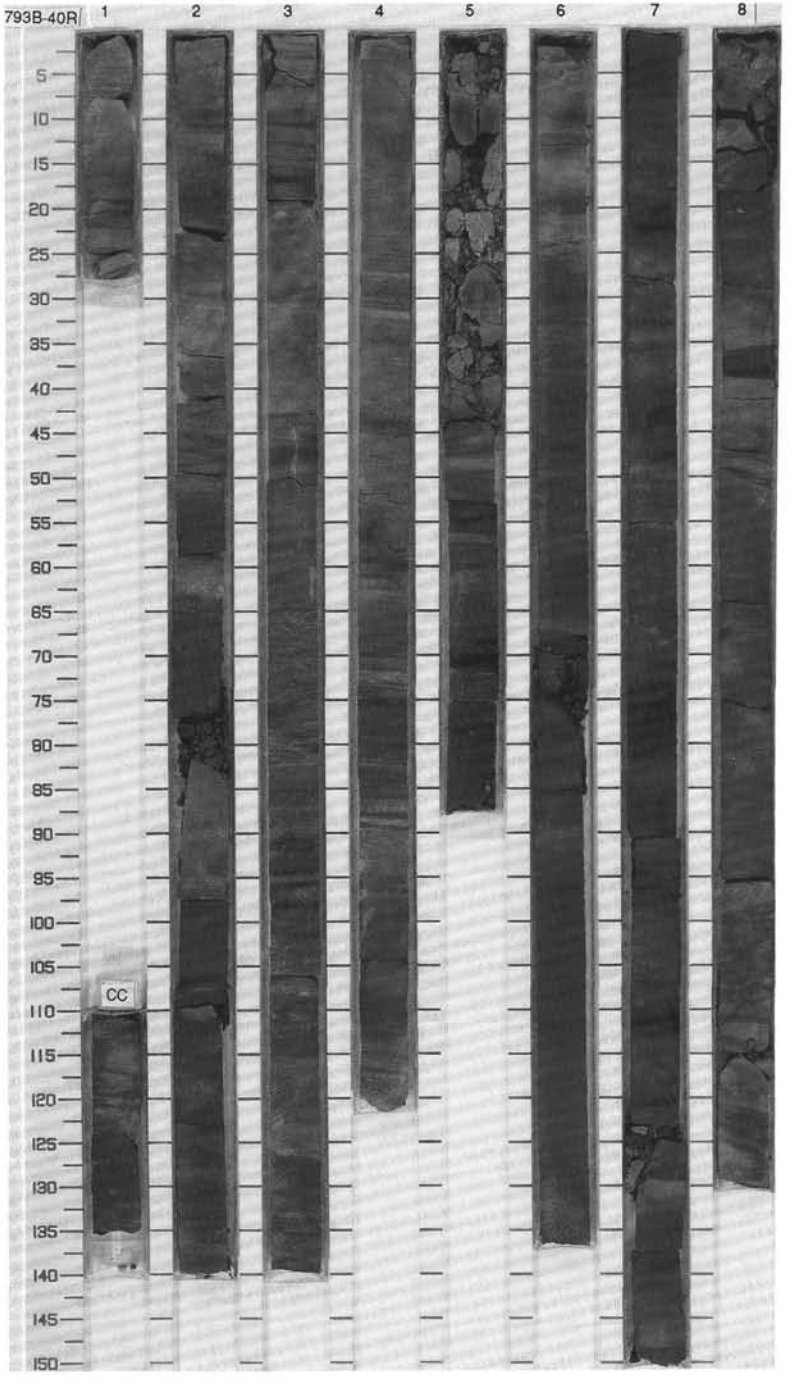
Major lithologies:
The entire core consists of a fine-scale interbedding of parallel-and ripple-laminated, coarse-grained PUMICEOUS SANDSTONE, fine-to very fine-grained VITRIC SILTSTONE, and parallel-laminated to burrowed SILTY CLAYSTONE or CLAYEY SILTSTONE. Individual beds are generally thinner than 50 cm, and are commonly much thinner. Sandstone forms about 50% of the core. Bedding dip is about 7°. Sediment color is highly variable due to relatively severe diagenesis. Colors include dark greenish gray (5G 4/1), olive black (5Y 2/1), grayish blue green (5BG 5/2), greenish gray (5G 6/1), pale green (10G 6/2) and grayish green (10GY 5/2). There are colored rings around local pockets of more intense alteration. There is a normal microfault with 4.5 cm of displacement in Section 8, 0-10 cm.

Minor lithology: Section 2, 4-6 cm, contain a dispersed layer of sand-sized ash.

Section 2 is moderately fractured by drilling, and a short interval spanning Sections 7 and 8 is highly fractured.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	2, 62 D	7, 0 D	8, 44 D
TEXTURE:			
Sand	---	95	---
Silt	40	5	10
Clay	60	---	90
COMPOSITION:			
Accessory minerals	---	9	---
Bioclast	---	1	---
Cement	---	30	---
Clay	36	---	78
Feldspar	1	18	Tr
Foraminifers	---	2	---
Glass	60	30	10
Inorganic calcite	1	---	---
Nannofossils	Tr	---	10
Opaques	1	---	1
Quartz	1	---	Tr
Rock fragment	---	10	---



SITE 793 HOLE B CORE 41R CORED INTERVAL 970.6-980.3 mbsf

TIME-ROCK UNIT: UPPER OLIGOCENE

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

PALEOMAGNETICS

PHYS. PROPERTIES: ϕ=45.0, ρ=2.00; ϕ=40.0, ρ=2.07; ϕ=43.0, ρ=1.97

CHEMISTRY: %$CaCO_3$=1.5; %$CaCO_3$=0.4; %$CaCO_3$=3.5

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

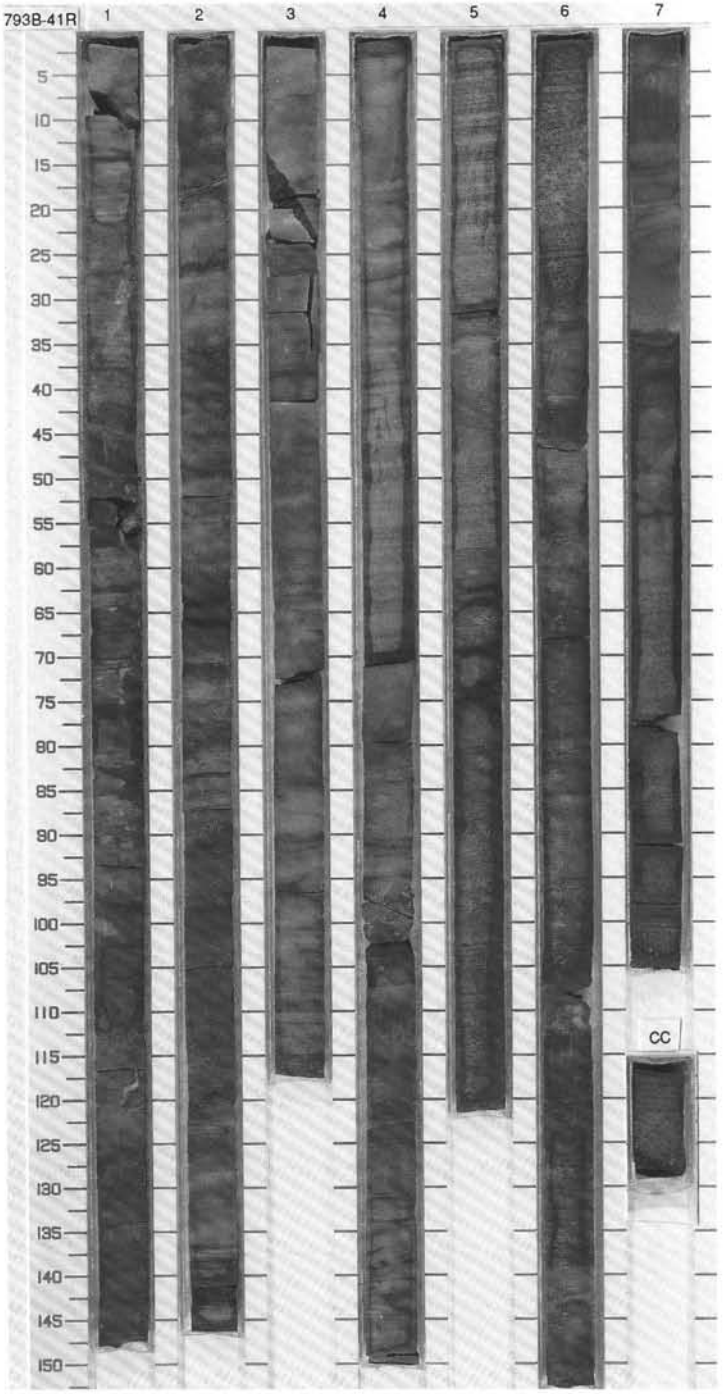
SAMPLES

LITHOLOGIC DESCRIPTION

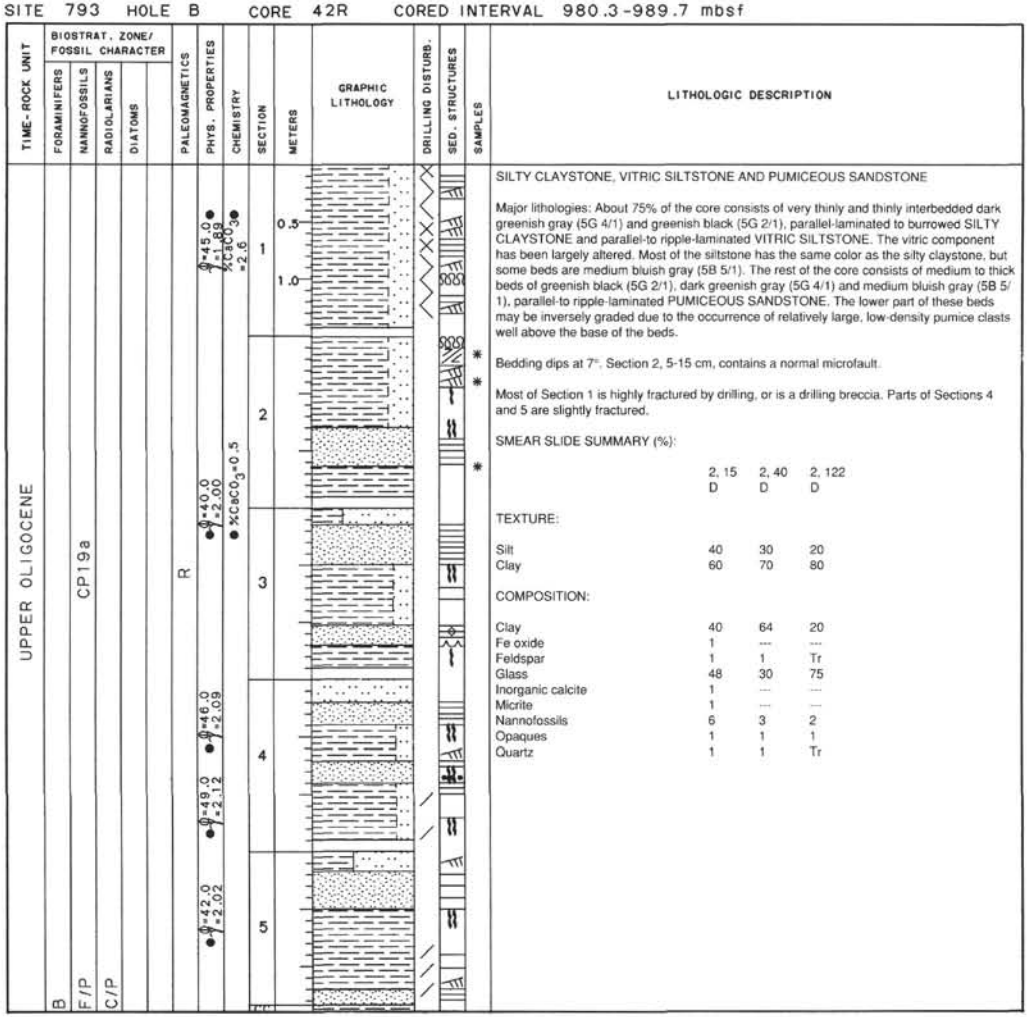
CLAYEY SILTSTONE, SILTY CLAYSTONE, VITRIC SILTSTONE AND PUMICEOUS SANDSTONE

Major lithologies:
About 2/3 of the core consists of parallel-laminated, less commonly burrowed, very thin to medium beds of CLAYEY SILTSTONE and SILTY CLAYSTONE. These lithologies are interbedded with very thin to thick graded beds of parallel- to ripple-laminated VITRIC SILTSTONE, or medium- to very fine-grained PUMICEOUS SANDSTONE. The colors of all sediment are variable due to strong diagenetic alteration, and the vitric component has been largely altered. Colors include dark gray (5GY 4/1), dark greenish gray (5G 4/1), light olive gray (5Y 5/2), greenish black (5GY 2/1) and dusky green (5G 3/2). Bedding dips at 6°. Normal faults that dip at about 60° and that separate different lithologies occur in Section 1, 25-40 cm, and Section 3, 10-25 cm and 65-75 cm. In Section 1, a sub-vertical, anastomosing fracture, 65 cm long, offsets strata about 1 cm.

Minor lithology: Section 1, 13 cm and 20 cm, and Section 2, 54-56 cm, consist of thin horizons of sharp-topped or burrowed VITRIC SANDSTONE (ash). About half of the core is slightly fractured by drilling. The rest is undisturbed.



SITE 793 HOLE B CORE 42R CORED INTERVAL 980.3-989.7 mbsf



LITHOLOGIC DESCRIPTION

SILTY CLAYSTONE, VITRIC SILTSTONE AND PUMICEOUS SANDSTONE

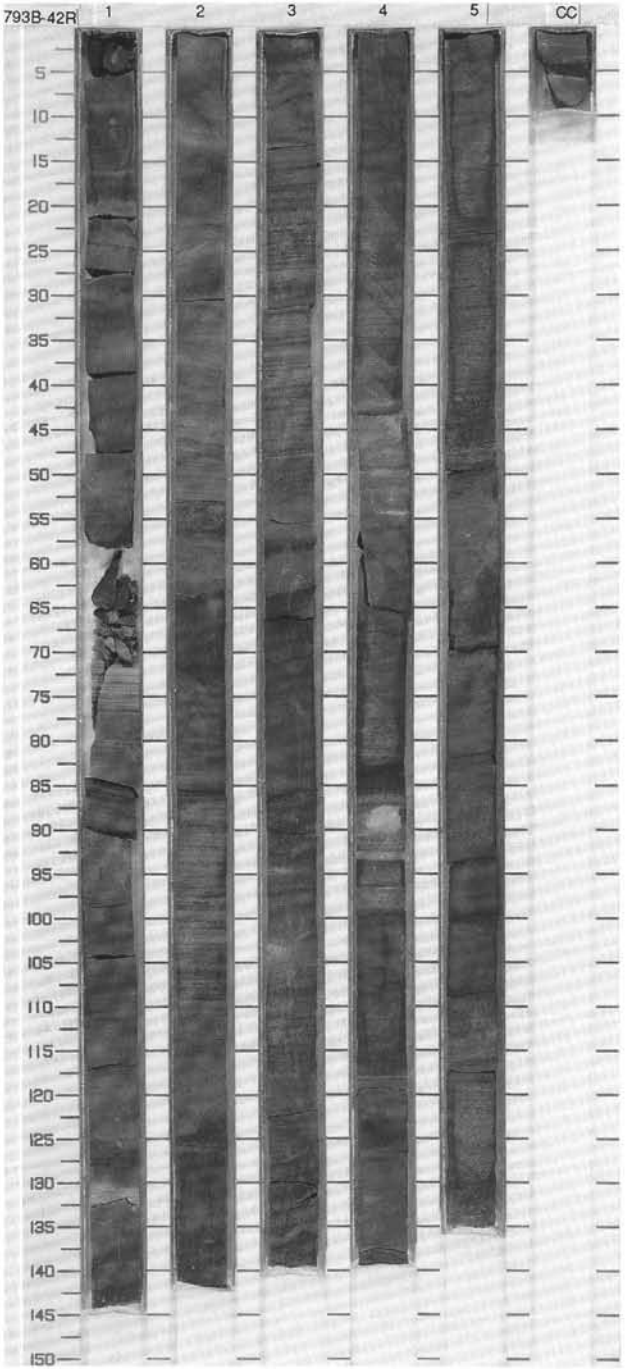
Major lithologies: About 75% of the core consists of very thinly and thinly interbedded dark greenish gray (5G 4/1) and greenish black (5G 2/1), parallel-laminated to burrowed SILTY CLAYSTONE and parallel-to ripple-laminated VITRIC SILTSTONE. The vitric component has been largely altered. Most of the siltstone has the same color as the silty claystone, but some beds are medium bluish gray (5B 5/1). The rest of the core consists of medium to thick beds of greenish black (5G 2/1), dark greenish gray (5G 4/1) and medium bluish gray (5B 5/1), parallel-to ripple-laminated PUMICEOUS SANDSTONE. The lower part of these beds may be inversely graded due to the occurrence of relatively large, low-density pumice clasts well above the base of the beds.

Bedding dips at 7°. Section 2, 5-15 cm, contains a normal microfault.

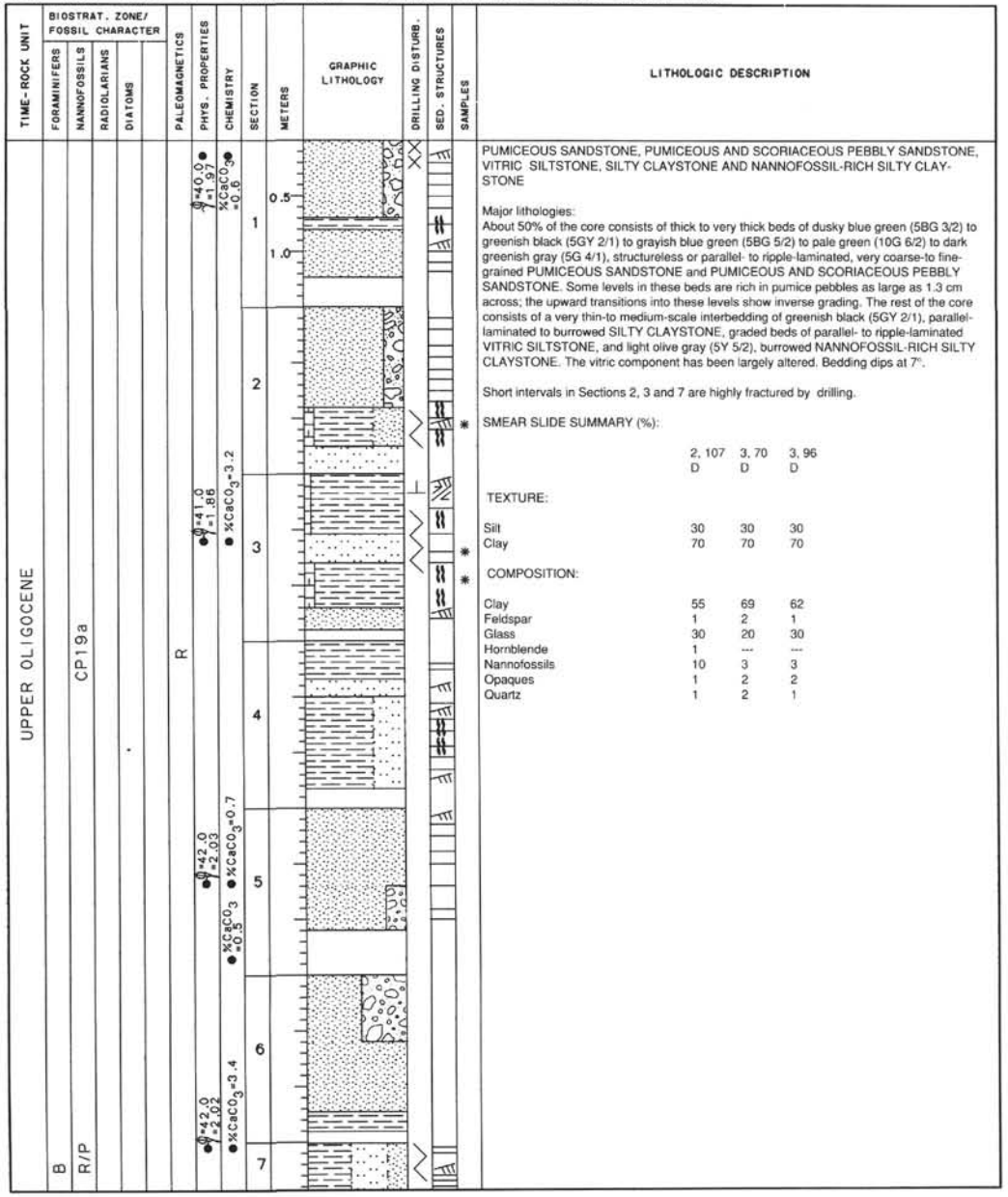
Most of Section 1 is highly fractured by drilling, or is a drilling breccia. Parts of Sections 4 and 5 are slightly fractured.

SMEAR SLIDE SUMMARY (%):

	2, 15 D	2, 40 D	2, 122 D
TEXTURE:			
Silt	40	30	20
Clay	60	70	80
COMPOSITION:			
Clay	40	64	20
Fe oxide	1	---	---
Feldspar	1	1	Tr
Glass	48	30	75
Inorganic calcite	1	---	---
Micrite	1	---	---
Nannofossils	6	3	2
Opaques	1	1	1
Quartz	1	1	Tr



SITE 793 HOLE B CORE 43R CORED INTERVAL 989.7-999.4 mbsf



LITHOLOGIC DESCRIPTION

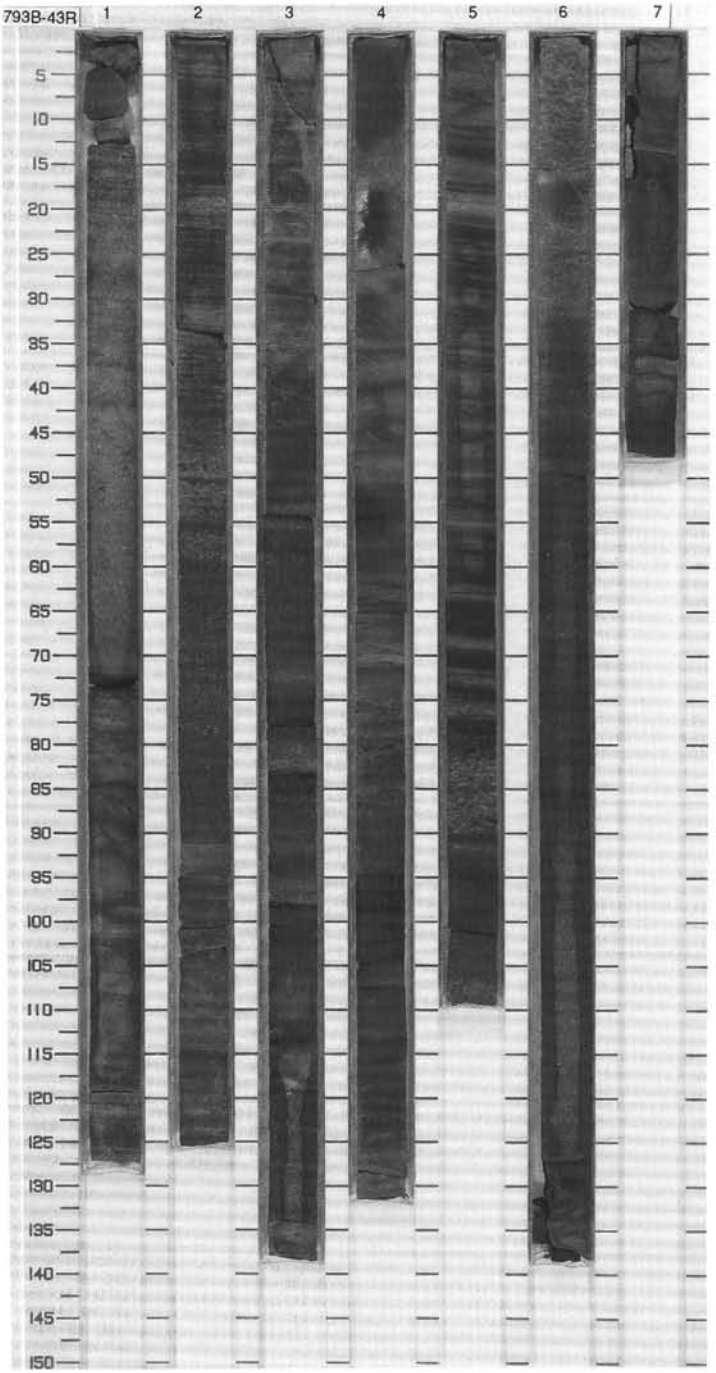
PUMICEOUS SANDSTONE, PUMICEOUS AND SCORIACEOUS PEBBLY SANDSTONE, VITRIC SILTSTONE, SILTY CLAYSTONE AND NANNOFOSSIL-RICH SILTY CLAYSTONE

Major lithologies:
About 50% of the core consists of thick to very thick beds of dusky blue green (5BG 3/2) to greenish black (5GY 2/1) to grayish blue green (5BG 5/2) to pale green (10G 6/2) to dark greenish gray (5G 4/1), structureless or parallel- to ripple-laminated, very coarse-to fine-grained PUMICEOUS SANDSTONE and PUMICEOUS AND SCORIACEOUS PEBBLY SANDSTONE. Some levels in these beds are rich in pumice pebbles as large as 1.3 cm across; the upward transitions into these levels show inverse grading. The rest of the core consists of a very thin-to medium-scale interbedding of greenish black (5GY 2/1), parallel-laminated to burrowed SILTY CLAYSTONE, graded beds of parallel- to ripple-laminated VITRIC SILTSTONE, and light olive gray (5Y 5/2), burrowed NANNOFOSSIL-RICH SILTY CLAYSTONE. The vitric component has been largely altered. Bedding dips at 7°.

Short intervals in Sections 2, 3 and 7 are highly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	2, 107 D	3, 70 D	3, 96 D
TEXTURE:			
Silt	30	30	30
Clay	70	70	70
COMPOSITION:			
Clay	55	69	62
Feldspar	1	2	1
Glass	30	20	30
Hornblende	1	---	---
Nannofossils	10	3	3
Opaques	1	2	2
Quartz	1	2	1



SITE 793 HOLE B CORE 44R CORED INTERVAL 999.4-1009.1 mbsf

TIME-ROCK UNIT: UPPER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS: B; NANNOFOSSILS: C/M; RADIOLARIANS: CP19a; DIATOMS: B

PALEOMAGNETICS: R

PHYS. PROPERTIES: ϕ=48.0, ρ=1.89; ϕ=44.0, ρ=2.02; ϕ=40.0, ρ=2.06; ϕ=41.0, ρ=1.98

CHEMISTRY: %$CaCO_3$=3.5; %$CaCO_3$=1.2; %$CaCO_3$=0.8; %$CaCO_3$=0.7

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

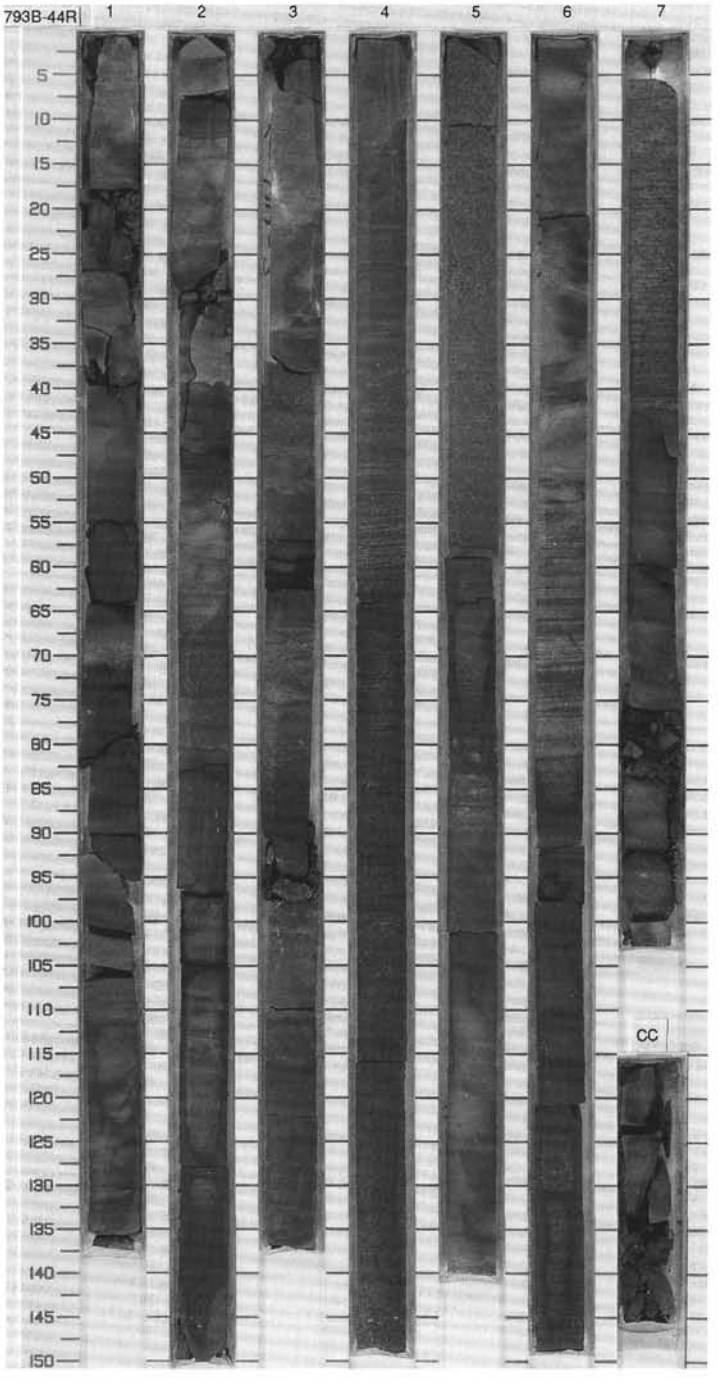
SAMPLES

LITHOLOGIC DESCRIPTION

SILTY CLAYSTONE, VITRIC SILTSTONE, VITRIC SANDSTONE, PUMICEOUS SANDSTONE AND PUMICEOUS GRANULE CONGLOMERATE

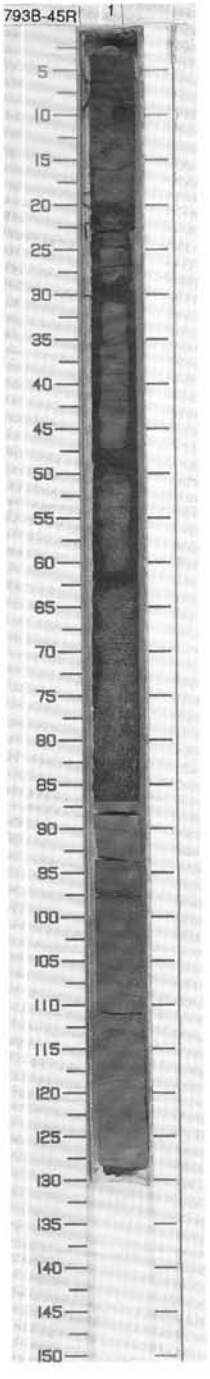
Major lithologies:
About 60% of the core consists of greenish black (5GY 2/1), parallel-laminated to rarely burrowed SILTY CLAYSTONE. This lithology contains thin interbeds of greenish black (5GY 2/1) to medium gray (N5), parallel-to ripple-laminated VITRIC SILTSTONE and VITRIC SANDSTONE. The rest of the core consists of medium to very thick graded beds of coarse- to fine-grained greenish black (5GY 2/1) and grayish blue green (5BG 5/2) PUMICEOUS SANDSTONE, in one case with a basal division of PUMICEOUS GRANULE CONGLOMERATE. The conglomeratic bed is inversely graded, with the greatest concentration of pumice clasts well above the base of the bed. This inverse grading is due to the low density of pumice clasts, and does not indicate significant grain interaction during transport. Clasts in the conglomerate consist of black scoria, and white and red pumice.

Most of Section 1 is moderately to highly fractured by drilling. Short intervals in Sections 2 and 3 show similar fracturing.

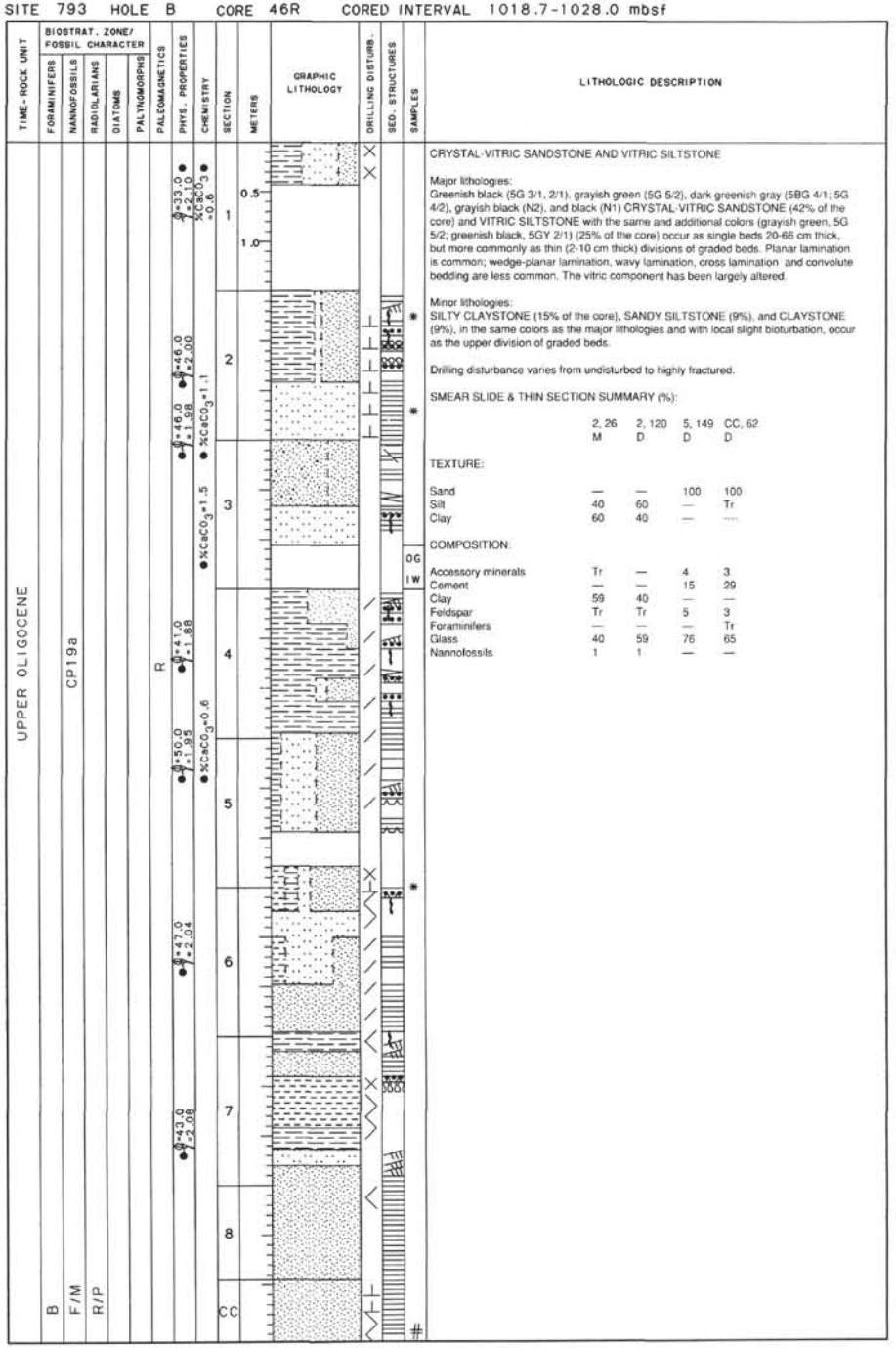


SITE 793 HOLE B CORE 45R CORED INTERVAL 1009.1-1018.7 mbsf

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
UPPER OLIGOCENE	B	B CP19a F/M	B		?	ϕ=42.0 ● ϕ=37.0 ● ϕ=1.90 ● ϕ=2.10 %CaCO3 ● %CaCO3 ● =3.0 =1.0		1	0.5 1.0					SILTY CLAYSTONE AND SANDSTONE Major lithologies: Section 1, 0-25 cm and 89-131 cm, consists of two different colors (greenish black, 5GY 2/1; medium bluish gray, 5B 5/1) of SILTY CLAYSTONE. The upper interval is structureless, whereas the lower one is locally laminated and contains very thin interbeds of more silty, rippled sediment. This lower interval is rich in volcanic glass, which has been largely altered. The rest of the core consists of a graded bed of greenish black (5GY 2/1), coarse- to very fine-grained SANDSTONE, with local horizons of dark green shale granules. The entire core is slightly fractured by drilling. SMEAR SLIDE SUMMARY (%): 1, 96 D TEXTURE: Silt 30 Clay 70 COMPOSITION: Clay 60 Feldspar Tr Glass 30 Lithic fragments Tr Nannofossils 5 Opaques 1



SITE 793 HOLE B CORE 46R CORED INTERVAL 1018.7-1028.0 mbsf



CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTSTONE

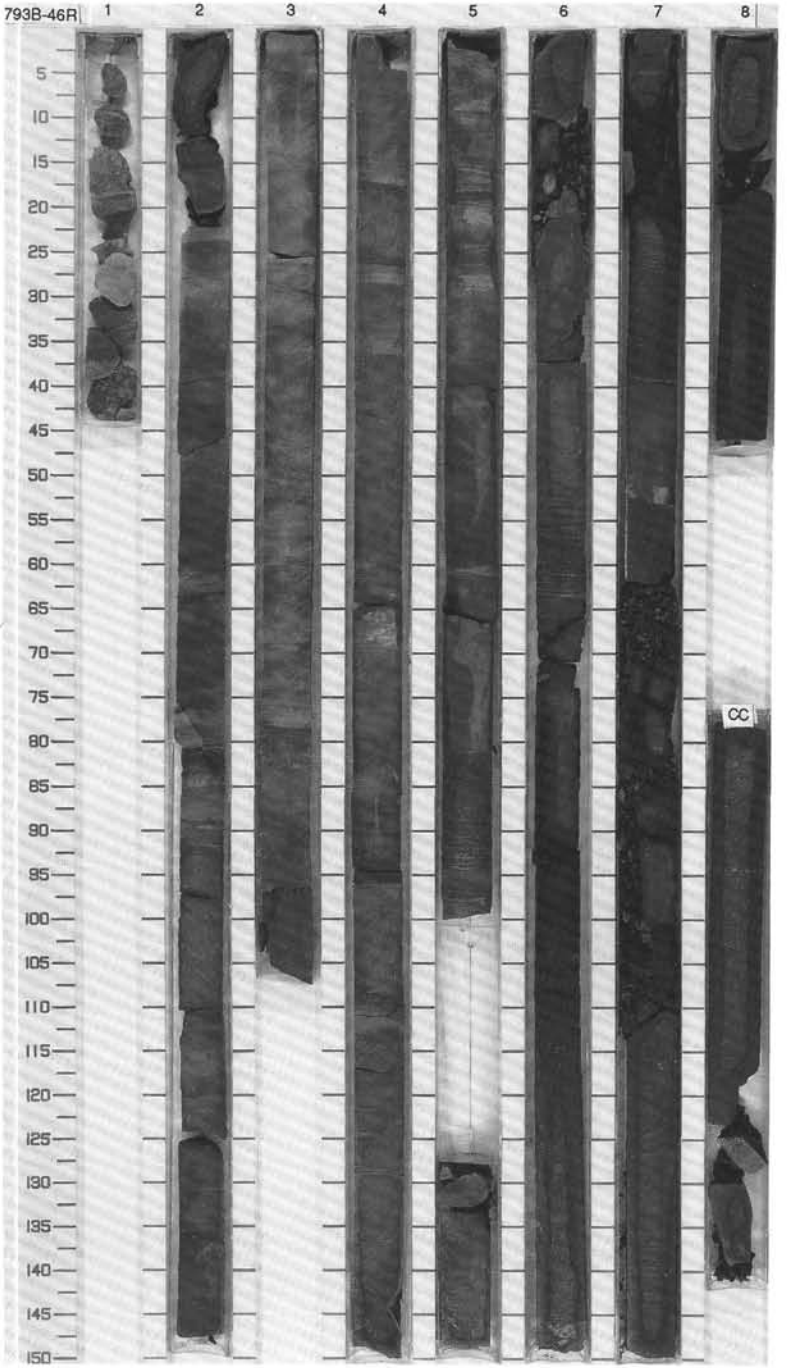
Major lithologies:
Greenish black (5G 3/1, 2/1), grayish green (5G 5/2), dark greenish gray (5BG 4/1; 5G 4/2), grayish black (N2), and black (N1) CRYSTAL-VITRIC SANDSTONE (42% of the core) and VITRIC SILTSTONE with the same and additional colors (grayish green, 5G 5/2; greenish black, 5GY 2/1) (25% of the core) occur as single beds 20-66 cm thick, but more commonly as thin (2-10 cm thick) divisions of graded beds. Planar lamination is common; wedge-planar lamination, wavy lamination, cross lamination and convolute bedding are less common. The vitric component has been largely altered.

Minor lithologies:
SILTY CLAYSTONE (15% of the core), SANDY SILTSTONE (9%), and CLAYSTONE (9%), in the same colors as the major lithologies and with local slight bioturbation, occur as the upper division of graded beds.

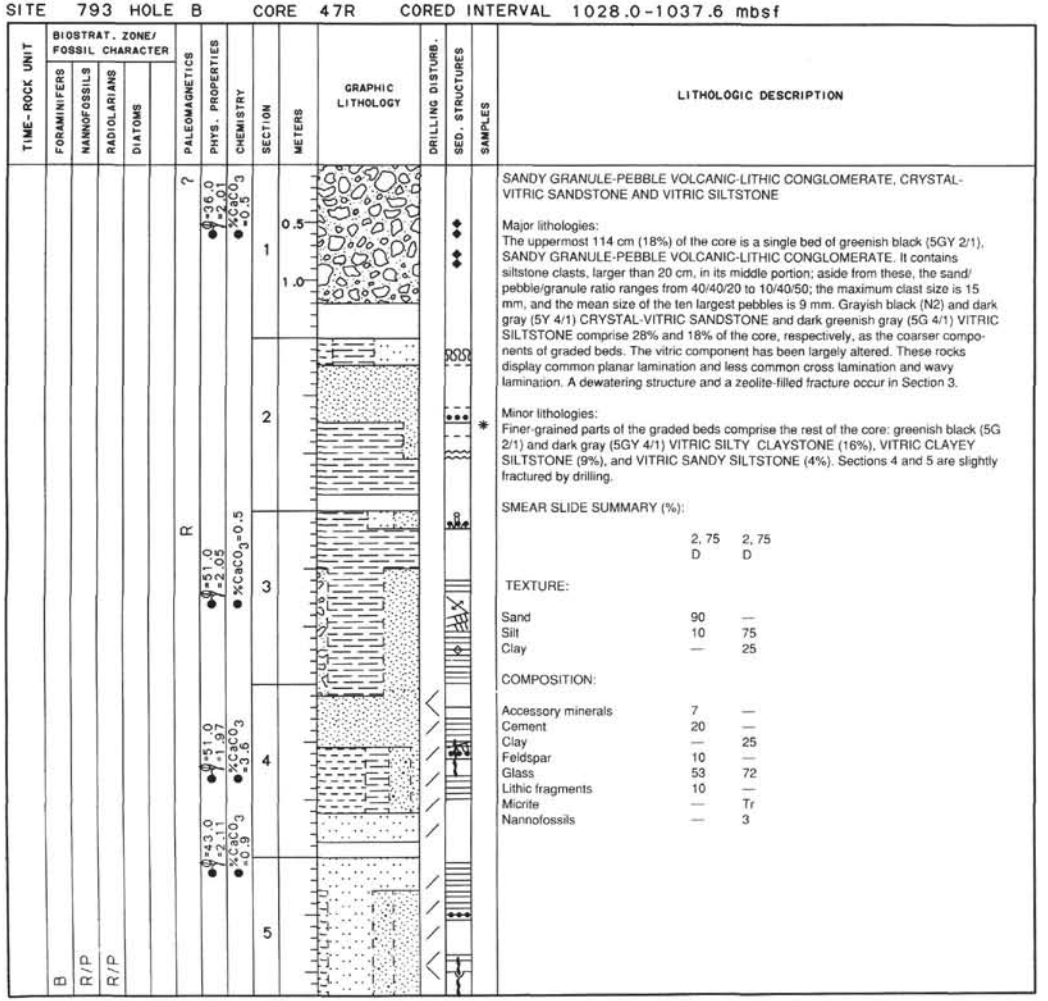
Drilling disturbance varies from undisturbed to highly fractured.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	2, 26 M	2, 120 D	5, 149 D	CC, 62 D
TEXTURE:				
Sand	—	—	100	100
Silt	40	60	—	Tr
Clay	60	40	—	—
COMPOSITION:				
Accessory minerals	Tr	—	4	3
Cement	—	—	15	29
Clay	59	40	—	—
Feldspar	Tr	Tr	5	3
Foraminifers	—	—	—	Tr
Glass	40	59	76	65
Nannofossils	1	1	—	—



SITE 793 HOLE B CORE 47R CORED INTERVAL 1028.0-1037.6 mbsf



LITHOLOGIC DESCRIPTION

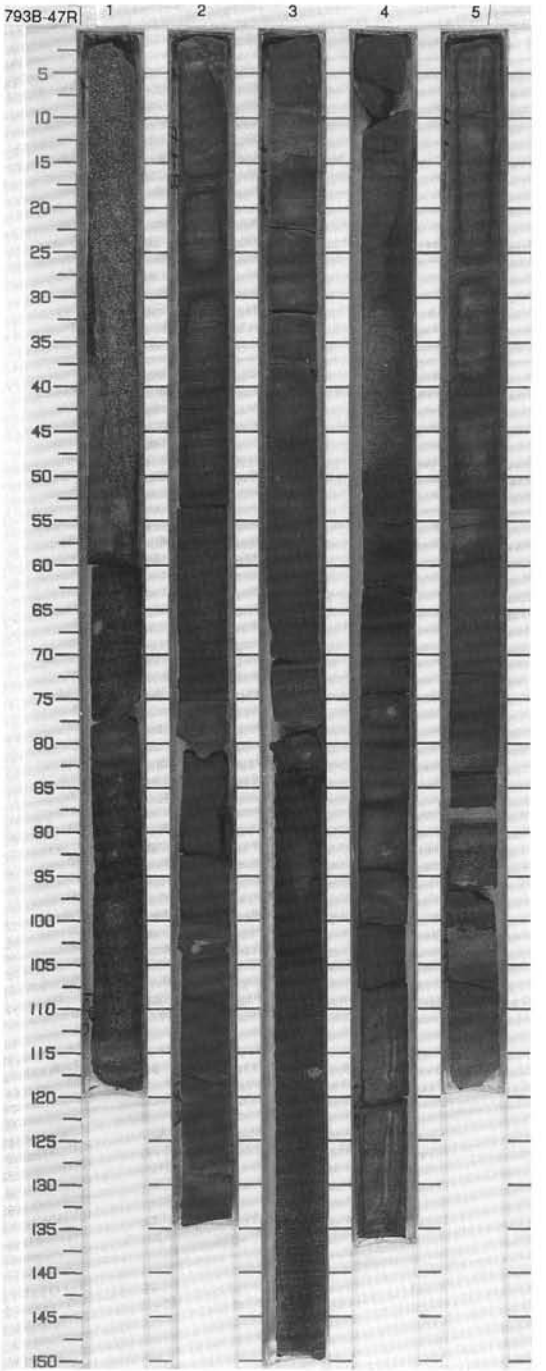
SANDY GRANULE-PEBBLE VOLCANIC-LITHIC CONGLOMERATE, CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTSTONE

Major lithologies:
The uppermost 114 cm (18%) of the core is a single bed of greenish black (5GY 2/1), SANDY GRANULE-PEBBLE VOLCANIC-LITHIC CONGLOMERATE. It contains siltstone clasts, larger than 20 cm, in its middle portion; aside from these, the sand/pebble/granule ratio ranges from 40/40/20 to 10/40/50; the maximum clast size is 15 mm, and the mean size of the ten largest pebbles is 9 mm. Grayish black (N2) and dark gray (5Y 4/1) CRYSTAL-VITRIC SANDSTONE and dark greenish gray (5G 4/1) VITRIC SILTSTONE comprise 28% and 18% of the core, respectively, as the coarser components of graded beds. The vitric component has been largely altered. These rocks display common planar lamination and less common cross lamination and wavy lamination. A dewatering structure and a zeolite-filled fracture occur in Section 3.

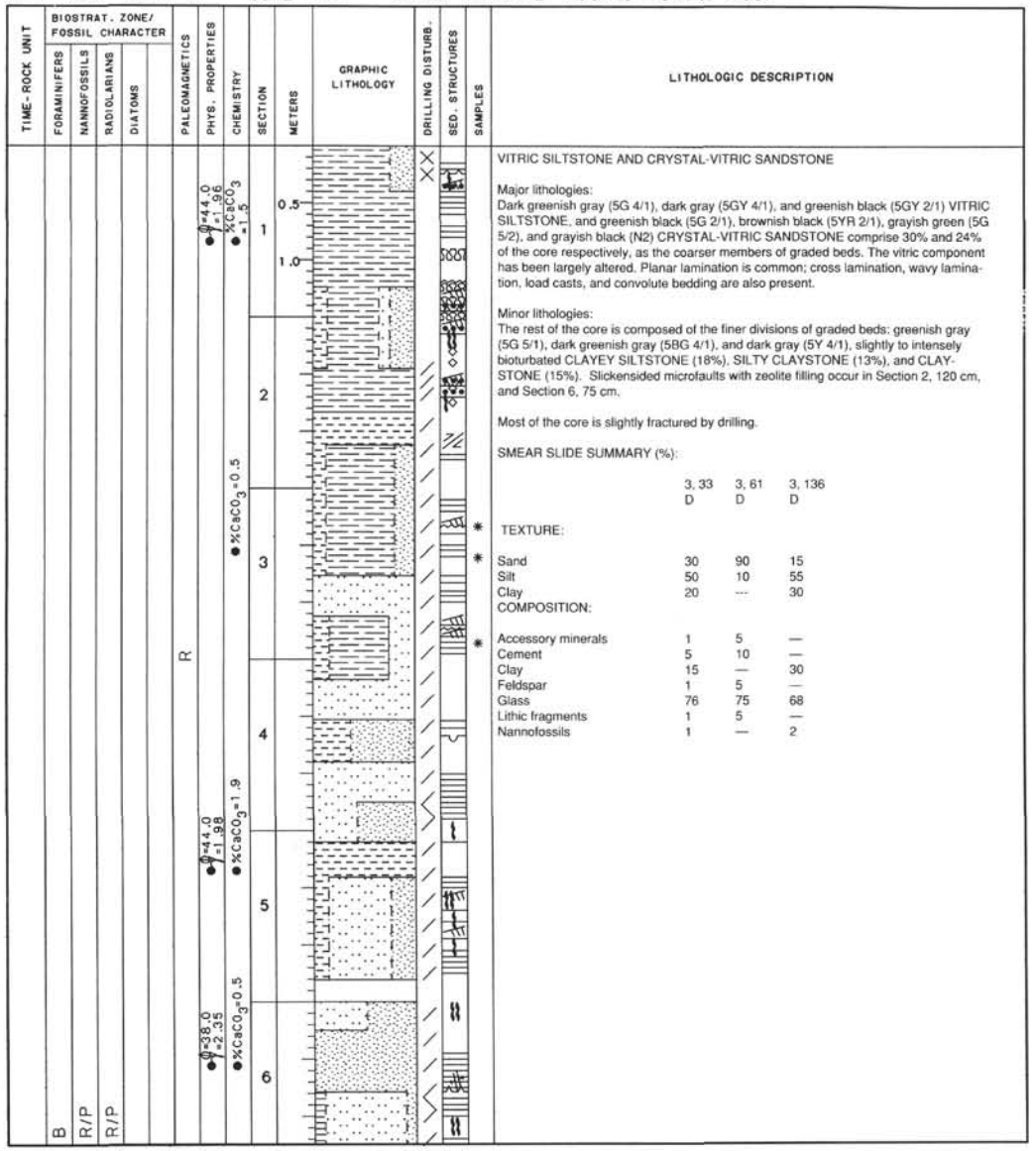
Minor lithologies:
Finer-grained parts of the graded beds comprise the rest of the core: greenish black (5G 2/1) and dark gray (5GY 4/1) VITRIC SILTY CLAYSTONE (16%), VITRIC CLAYEY SILTSTONE (9%), and VITRIC SANDY SILTSTONE (4%). Sections 4 and 5 are slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	2, 75 D	2, 75 D
TEXTURE:		
Sand	90	—
Silt	10	75
Clay	—	25
COMPOSITION:		
Accessory minerals	7	—
Cement	20	—
Clay	—	25
Feldspar	10	—
Glass	53	72
Lithic fragments	10	—
Micrite	—	Tr
Nannofossils	—	3



SITE 793 HOLE B CORE 48R CORED INTERVAL 1037.6-1047.3 mbsf



LITHOLOGIC DESCRIPTION

VITRIC SILTSTONE AND CRYSTAL-VITRIC SANDSTONE

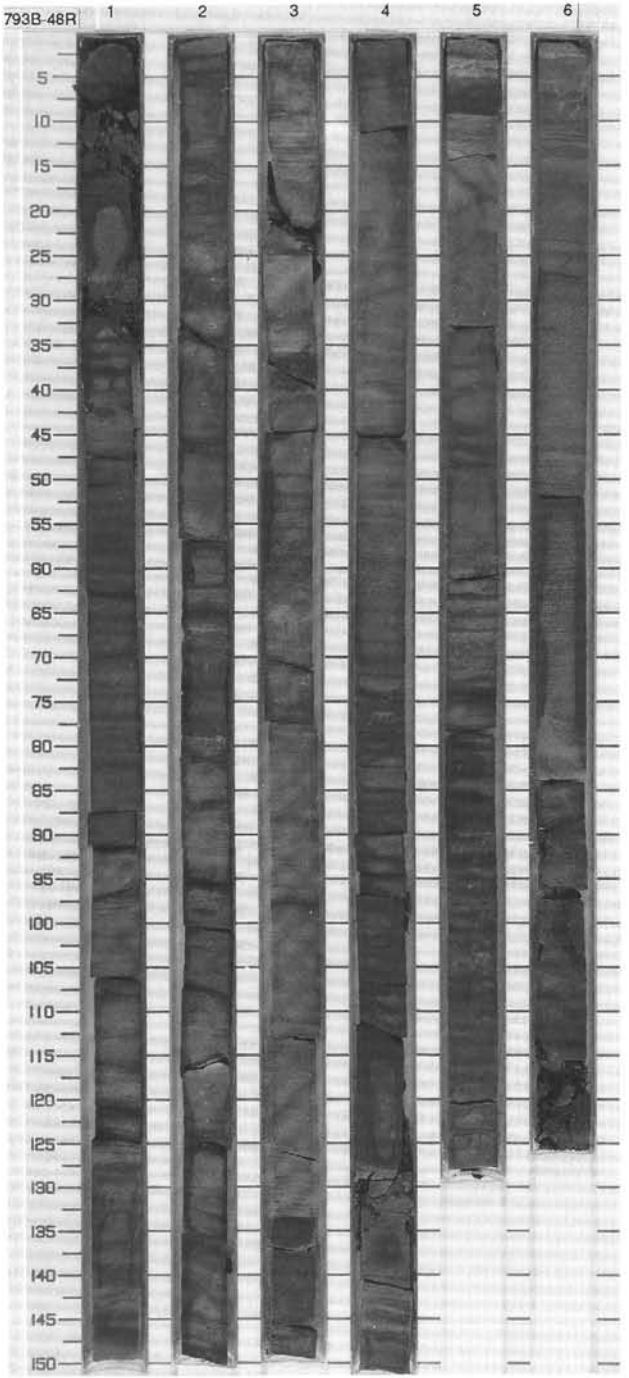
Major lithologies:
Dark greenish gray (5G 4/1), dark gray (5GY 4/1), and greenish black (5GY 2/1) VITRIC SILTSTONE, and greenish black (5G 2/1), brownish black (5YR 2/1), grayish green (5G 5/2), and grayish black (N2) CRYSTAL-VITRIC SANDSTONE comprise 30% and 24% of the core respectively, as the coarser members of graded beds. The vitric component has been largely altered. Planar lamination is common; cross lamination, wavy lamination, load casts, and convolute bedding are also present.

Minor lithologies:
The rest of the core is composed of the finer divisions of graded beds: greenish gray (5G 5/1), dark greenish gray (5BG 4/1), and dark gray (5Y 4/1), slightly to intensely bioturbated CLAYEY SILTSTONE (18%), SILTY CLAYSTONE (13%), and CLAYSTONE (15%). Slickensided microfaults with zeolite filling occur in Section 2, 120 cm, and Section 6, 75 cm.

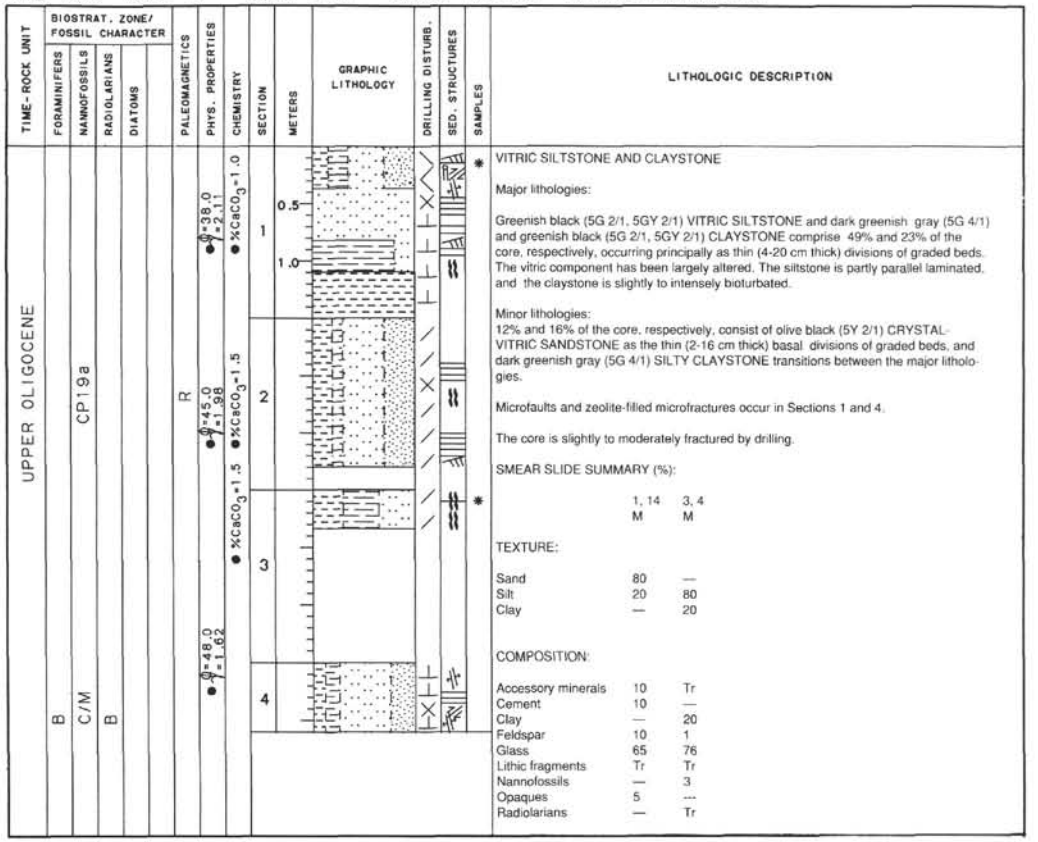
Most of the core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	3, 33 D	3, 61 D	3, 136 D
TEXTURE:			
Sand	30	90	15
Silt	50	10	55
Clay	20	---	30
COMPOSITION:			
Accessory minerals	1	5	—
Cement	5	10	—
Clay	15	—	30
Feldspar	1	5	—
Glass	76	75	68
Lithic fragments	1	5	—
Nannofossils	1	—	2



SITE 793 HOLE B CORE 49R CORED INTERVAL 1047.3-1057.0 mbsf



LITHOLOGIC DESCRIPTION

VITRIC SILTSTONE AND CLAYSTONE

Major lithologies:

Greenish black (5G 2/1, 5GY 2/1) VITRIC SILTSTONE and dark greenish gray (5G 4/1) and greenish black (5G 2/1, 5GY 2/1) CLAYSTONE comprise 49% and 23% of the core, respectively, occurring principally as thin (4-20 cm thick) divisions of graded beds. The vitric component has been largely altered. The siltstone is partly parallel laminated, and the claystone is slightly to intensely bioturbated.

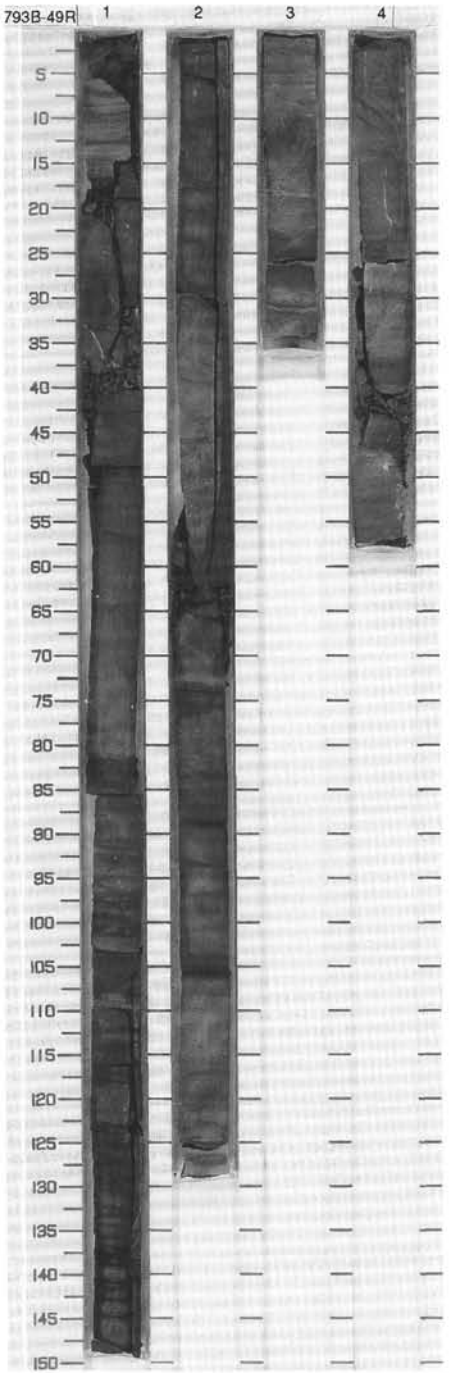
Minor lithologies:
12% and 16% of the core, respectively, consist of olive black (5Y 2/1) CRYSTAL-VITRIC SANDSTONE as the thin (2-16 cm thick) basal divisions of graded beds, and dark greenish gray (5G 4/1) SILTY CLAYSTONE transitions between the major lithologies.

Microfaults and zeolite-filled microfractures occur in Sections 1 and 4.

The core is slightly to moderately fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 14 M	3, 4 M
TEXTURE:		
Sand	80	—
Silt	20	80
Clay	—	20
COMPOSITION:		
Accessory minerals	10	Tr
Cement	10	—
Clay	—	20
Feldspar	10	1
Glass	65	76
Lithic fragments	Tr	Tr
Nannofossils	—	3
Opaques	5	---
Radiolarians	—	Tr



SITE 793 HOLE B CORE 50R CORED INTERVAL 1057.0-1066.7 mbsf

TIME-ROCK UNIT: UPPER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS: B; NANNOFOSSILS: C/M CP19a; RADIOLARIANS: B; DIATOMS:

PALEOMAGNETICS: N? R

PHYS. PROPERTIES: ϕ=38.0, ρ=2.27; ϕ=51.0, ρ=2.09; ϕ=40.0, ρ=2.35; ϕ=28.0, ρ=2.38

CHEMISTRY: %$CaCO_3$=0.5; %$CaCO_3$=4.7; %$CaCO_3$=1.5; %$CaCO_3$=0.4

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES: F

SAMPLES: *, *

LITHOLOGIC DESCRIPTION

VITRIC SILTSTONE AND CRYSTAL-VITRIC SANDSTONE

Major lithologies:
Dark greenish gray (5G 4/1), dark gray (5YR 4/1), grayish black (N2), olive black (5Y 2/1), and greenish black (5GY 2/1) VITRIC SILTSTONE and CRYSTAL VITRIC SANDSTONE respectively comprise 43% and 39% of the core, in the form of alternating divisions of graded beds, most of which have scoured bases. Most of the core consists of graded intercalations of these lithologies, 1-8 cm thick. Only four siltstone and six sandstone beds are thickerthan 15 cm. These thicker beds are typically planar laminated, with less common cross laminations in siltstone divisions. The vitric component has been largely altered.

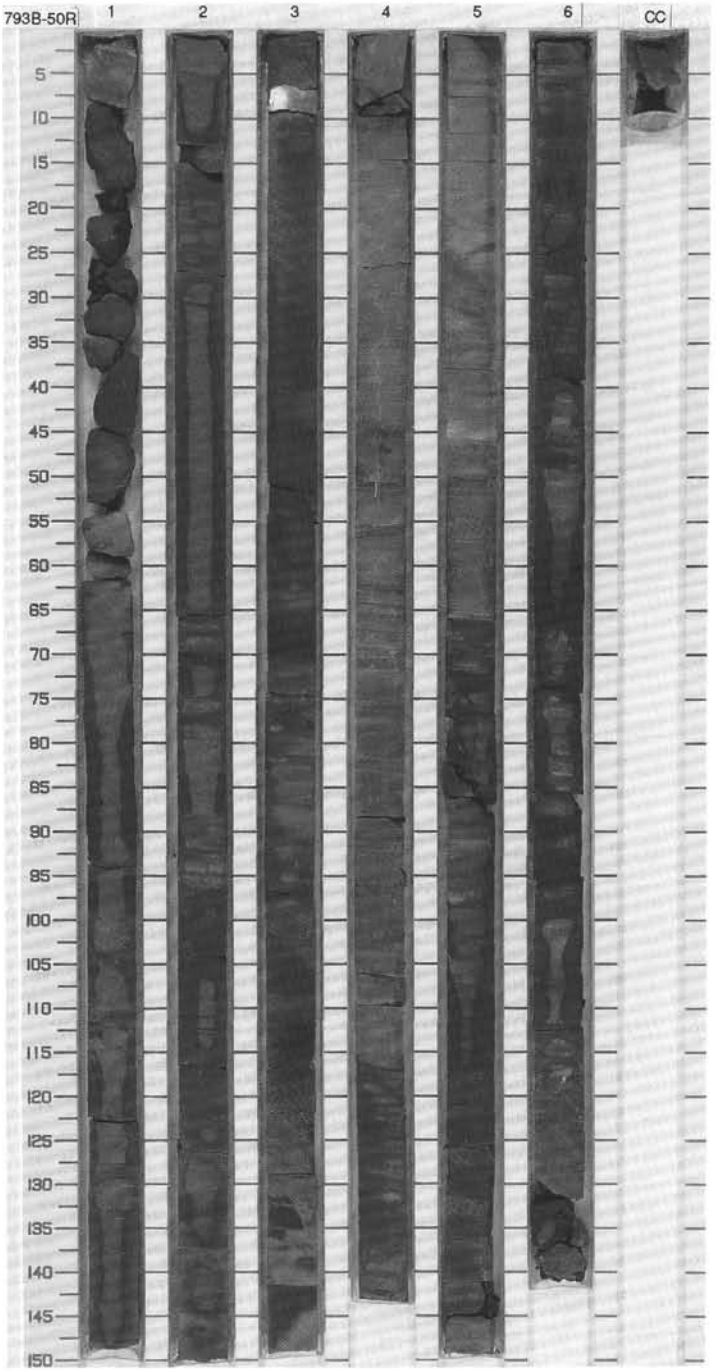
Minor lithologies:
The remainder of the core is composed of CLAYEY SILTSTONE (9%), SILTY CLAYSTONE (8%), and CLAYSTONE (1%).

Each section has one or two zeolite-filled fractures.

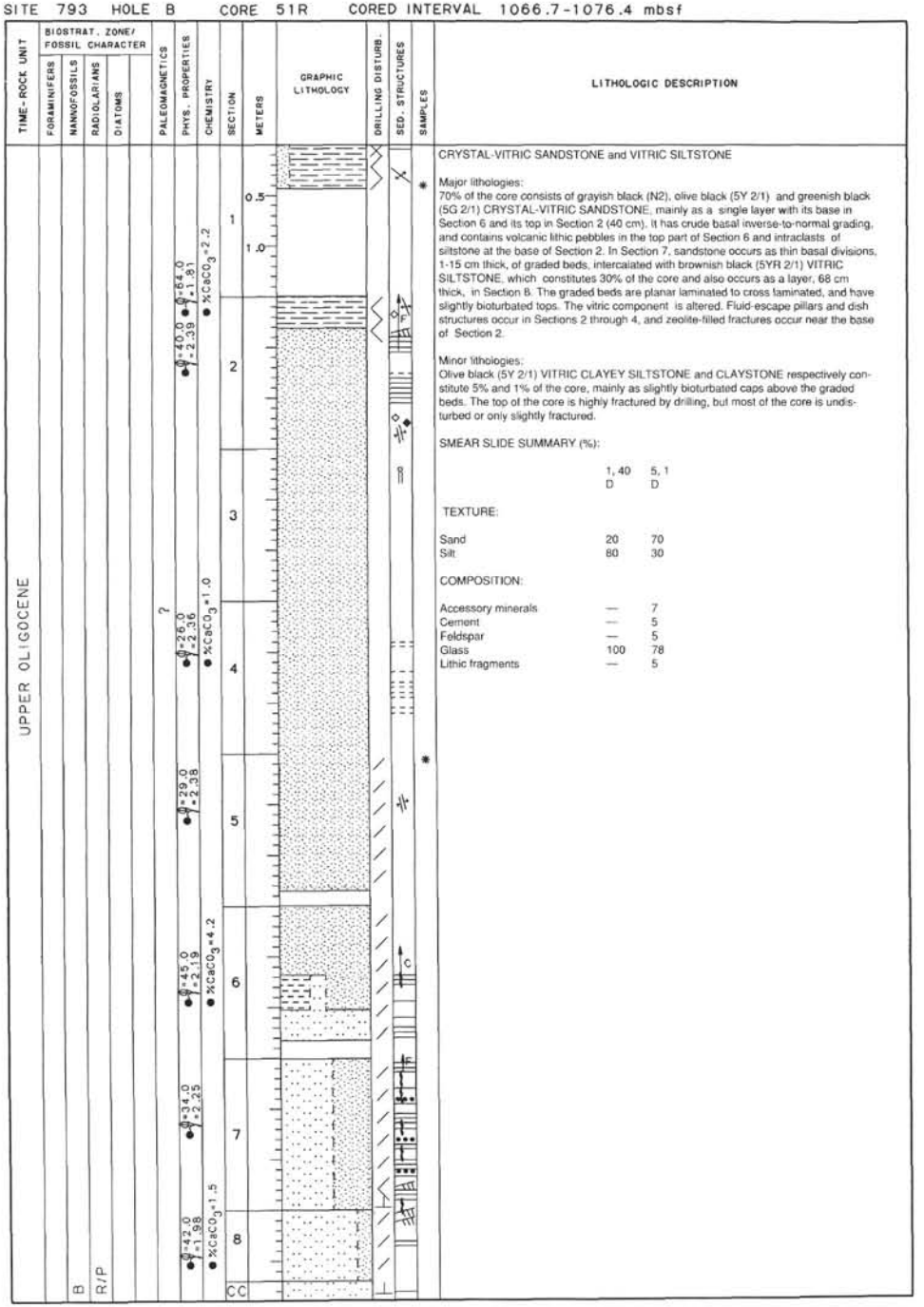
The top half of the core is undisturbed, and the lower half is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	4, 60 D	4, 98 D
TEXTURE:		
Sand	80	—
Silt	20	90
Clay	—	10
COMPOSITION:		
Accessory minerals	10	—
Cement	—	10
Clay	—	10
Feldspar	10	1
Glass	75	78
Lithic fragments	5	—
Nannofossils	—	1



SITE 793 HOLE B CORE 51R CORED INTERVAL 1066.7-1076.4 mbsf



LITHOLOGIC DESCRIPTION

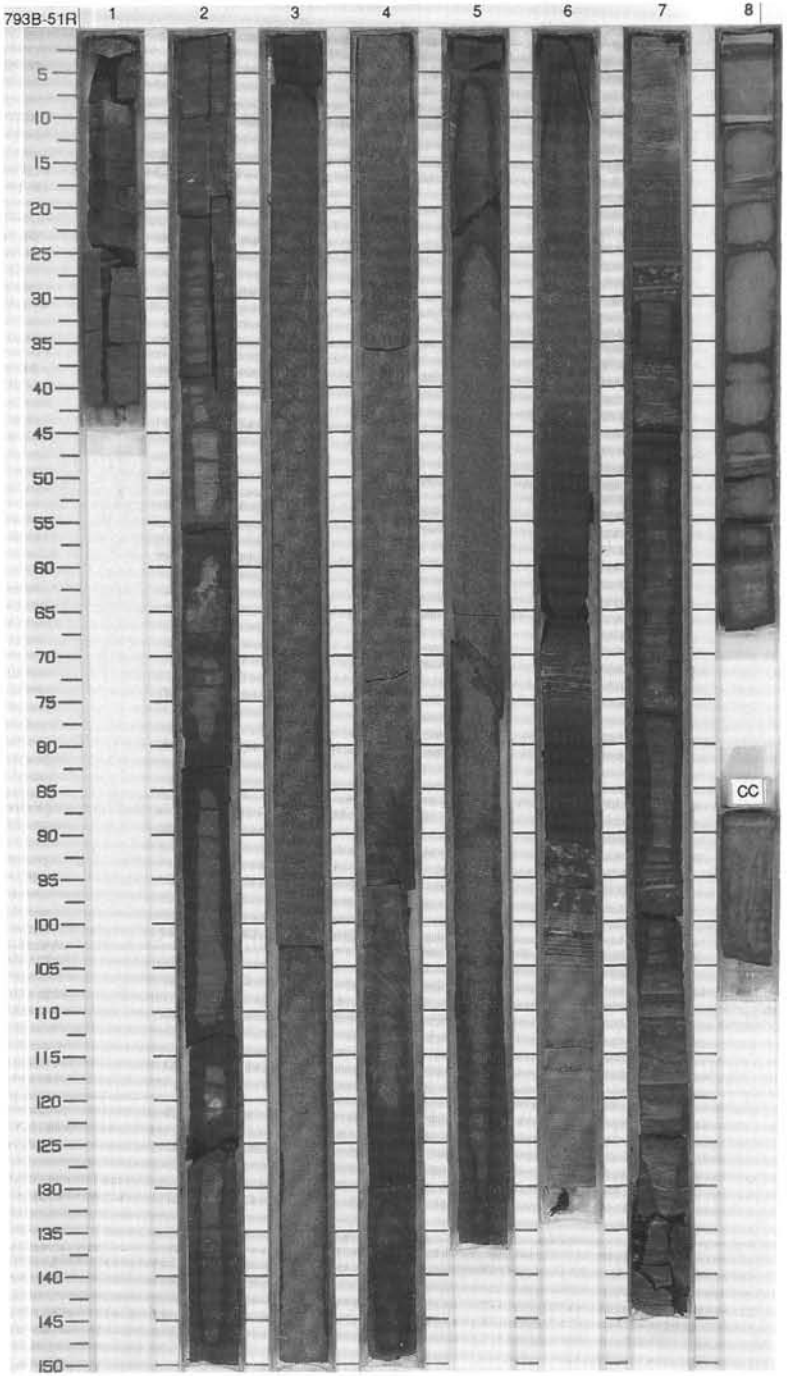
CRYSTAL-VITRIC SANDSTONE and VITRIC SILTSTONE

Major lithologies:
70% of the core consists of grayish black (N2), olive black (5Y 2/1) and greenish black (5G 2/1) CRYSTAL-VITRIC SANDSTONE, mainly as a single layer with its base in Section 6 and its top in Section 2 (40 cm). It has crude basal inverse-to-normal grading, and contains volcanic lithic pebbles in the top part of Section 6 and intraclasts of siltstone at the base of Section 2. In Section 7, sandstone occurs as thin basal divisions, 1-15 cm thick, of graded beds, intercalated with brownish black (5YR 2/1) VITRIC SILTSTONE, which constitutes 30% of the core and also occurs as a layer, 68 cm thick, in Section 8. The graded beds are planar laminated to cross laminated, and have slightly bioturbated tops. The vitric component is altered. Fluid-escape pillars and dish structures occur in Sections 2 through 4, and zeolite-filled fractures occur near the base of Section 2.

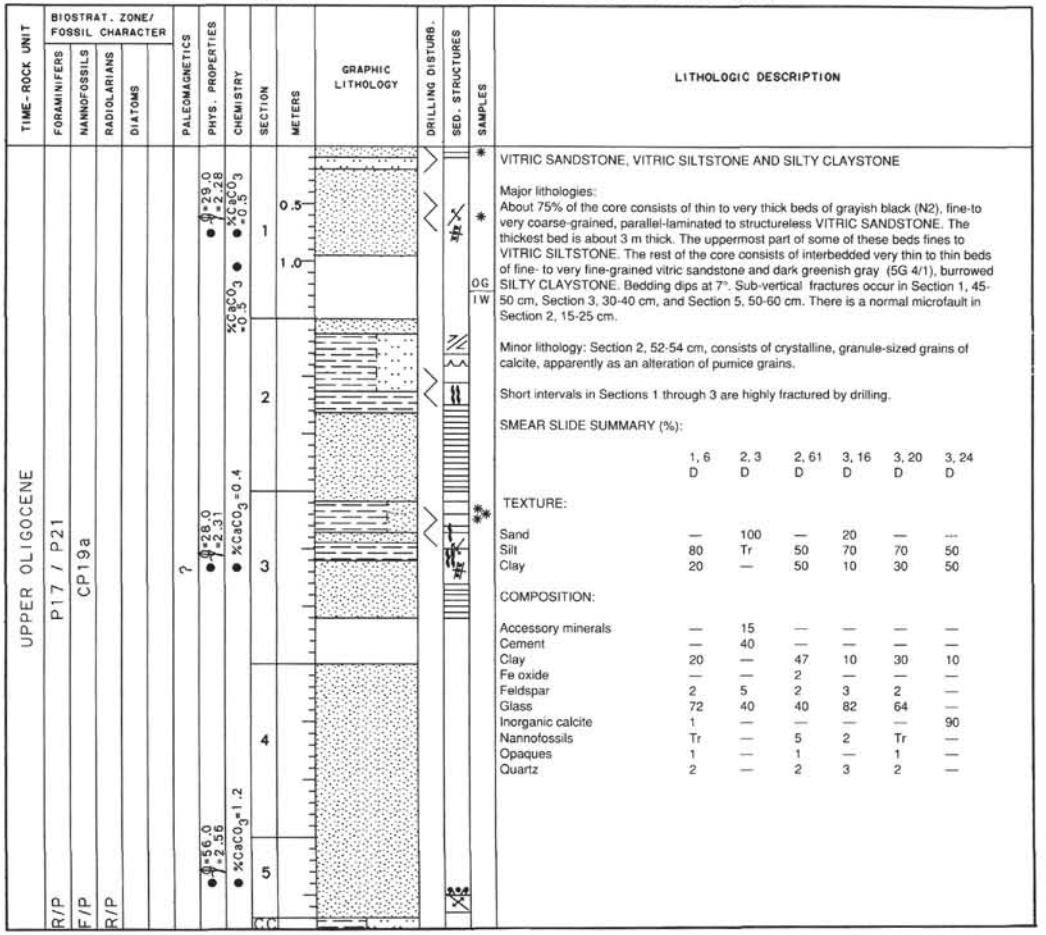
Minor lithologies:
Olive black (5Y 2/1) VITRIC CLAYEY SILTSTONE and CLAYSTONE respectively constitute 5% and 1% of the core, mainly as slightly bioturbated caps above the graded beds. The top of the core is highly fractured by drilling, but most of the core is undisturbed or only slightly fractured.

SMEAR SLIDE SUMMARY (%):

	1, 40 D	5, 1 D
TEXTURE:		
Sand	20	70
Silt	80	30
COMPOSITION:		
Accessory minerals	—	7
Cement	—	5
Feldspar	—	5
Glass	100	78
Lithic fragments	—	5



SITE 793 HOLE B CORE 52R CORED INTERVAL 1076.4-1086.1 mbsf



LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE, VITRIC SILTSTONE AND SILTY CLAYSTONE

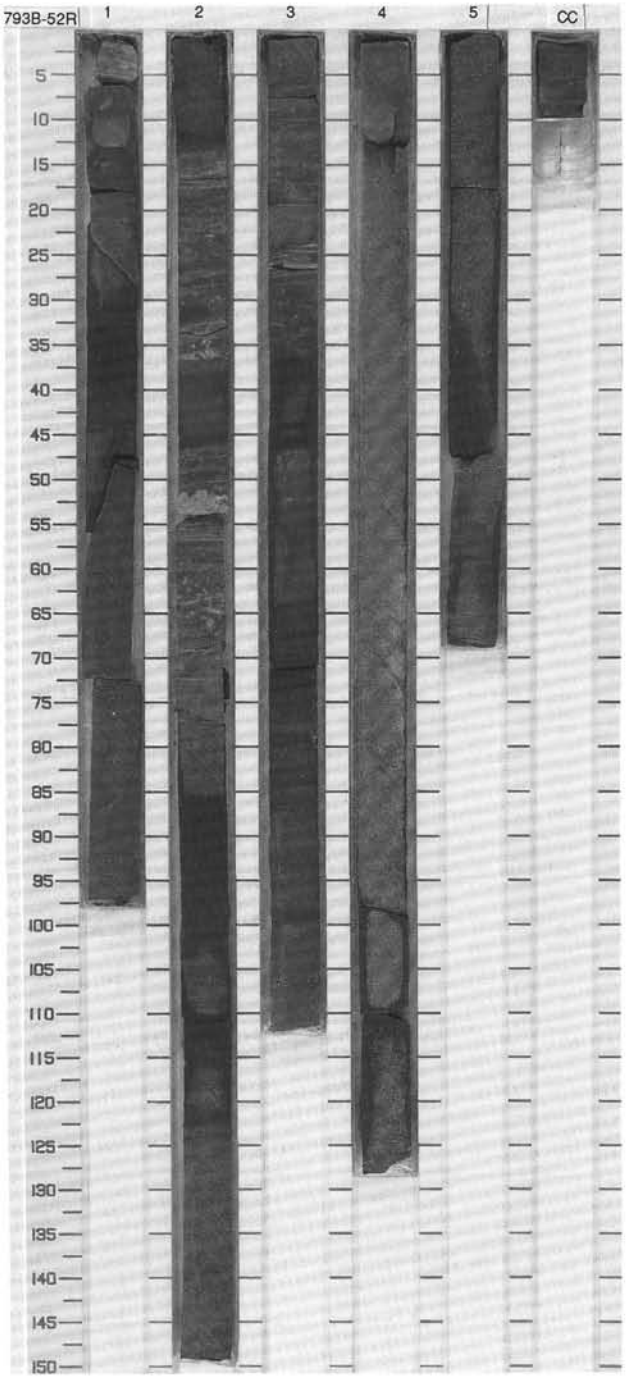
Major lithologies:
About 75% of the core consists of thin to very thick beds of grayish black (N2), fine-to very coarse-grained, parallel-laminated to structureless VITRIC SANDSTONE. The thickest bed is about 3 m thick. The uppermost part of some of these beds fines to VITRIC SILTSTONE. The rest of the core consists of interbedded very thin to thin beds of fine- to very fine-grained vitric sandstone and dark greenish gray (5G 4/1), burrowed SILTY CLAYSTONE. Bedding dips at 7°. Sub-vertical fractures occur in Section 1, 45-50 cm, Section 3, 30-40 cm, and Section 5, 50-60 cm. There is a normal microfault in Section 2, 15-25 cm.

Minor lithology: Section 2, 52-54 cm, consists of crystalline, granule-sized grains of calcite, apparently as an alteration of pumice grains.

Short intervals in Sections 1 through 3 are highly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 6 D	2, 3 D	2, 61 D	3, 16 D	3, 20 D	3, 24 D
TEXTURE:						
Sand	—	100	—	20	—	—
Silt	80	Tr	50	70	70	50
Clay	20	—	50	10	30	50
COMPOSITION:						
Accessory minerals	—	15	—	—	—	—
Cement	—	40	—	—	—	—
Clay	20	—	47	10	30	10
Fe oxide	—	—	2	—	—	—
Feldspar	2	5	2	3	2	—
Glass	72	40	40	82	64	—
Inorganic calcite	1	—	—	—	—	90
Nannofossils	Tr	—	5	2	Tr	—
Opaques	1	—	1	—	1	—
Quartz	2	—	2	3	2	—



SITE 793 HOLE B CORE 53R CORED INTERVAL 1086.1-1095.7 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
UPPER OLIGOCENE	B	CP19a	B		R	●Ø=52.0 ρ=2.06	● %$CaCO_3$=3.4	4						
						●Ø=44.0 ρ=2.10	● %$CaCO_3$=0.5	3						
						Ø<38.0 ● ρ=2.31	%$CaCO_3$ =1.0 ●	2						
								1	0.5 1.0					
								CC						

VITRIC SANDSTONE, VITRIC SILTSTONE AND SILTY CLAYSTONE

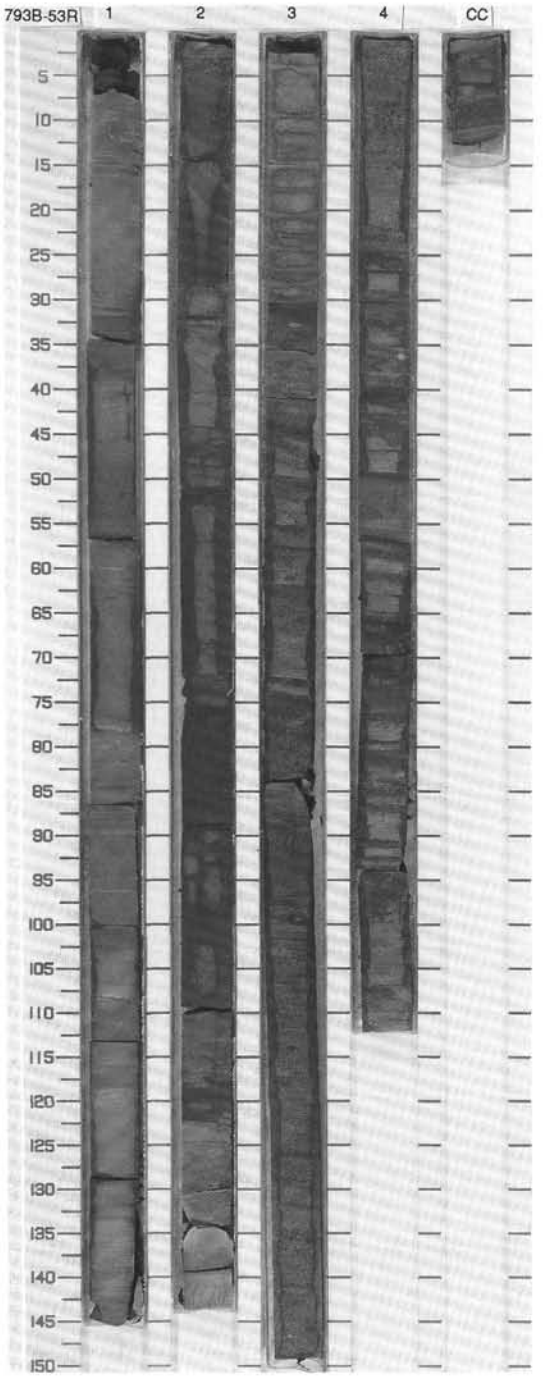
Major lithologies:
Most of the core consists of interbedded thin to medium beds of grayish black (N2) to greenish black (5GY 2/1), graded, parallel- to ripple-laminated VITRIC SILTSTONE or VITRIC SANDSTONE, and laminated, structureless or burrowed beds of greenish black (5GY 2/1) SILTY CLAYSTONE. The rest of the core consists of three medium to thick graded beds of grayish black (N2) and greenish black (5GY 2/1), parallel-to ripple-laminated, medium-to fine-grained VITRIC SANDSTONE.

There are clastic dikes and a fracture in Section 2, 90-135 cm.

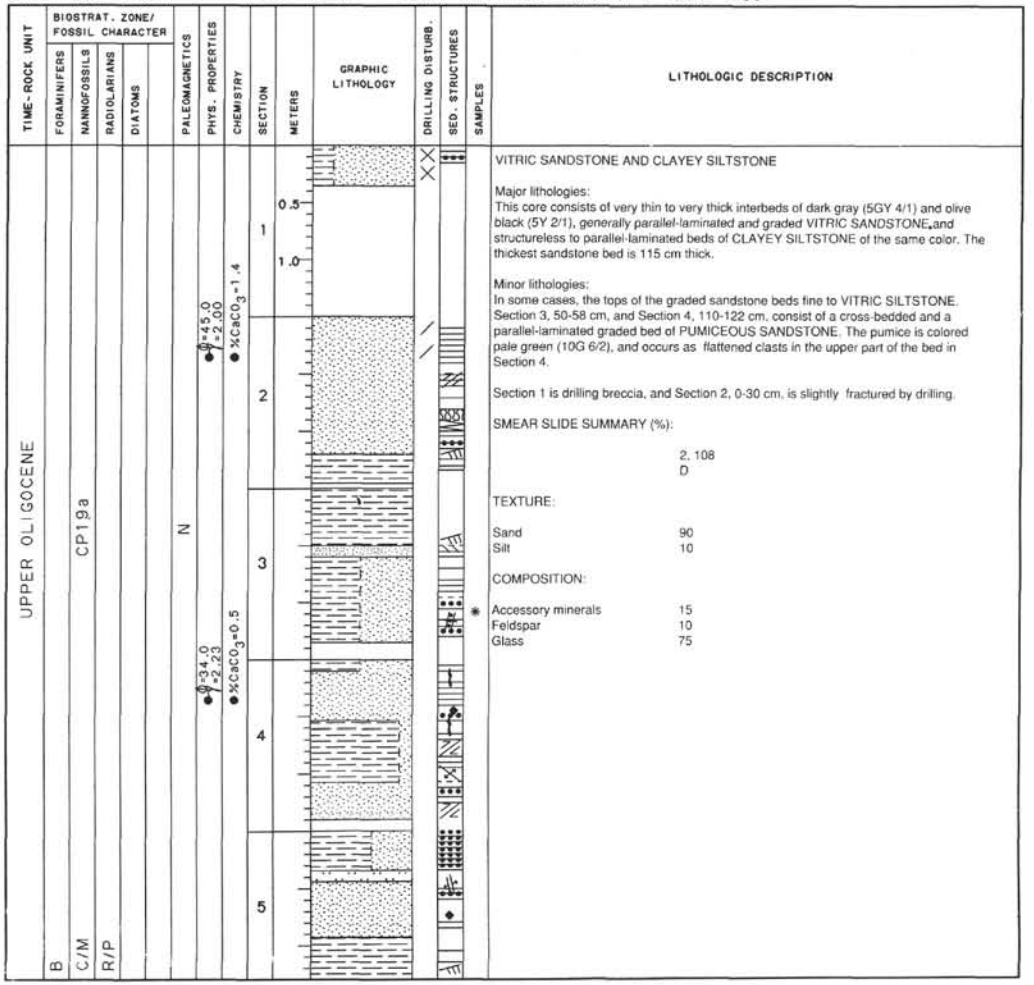
Parts of Sections 3 and 4 are highly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	4, 52 M
TEXTURE:	
Silt	20
Clay	80
COMPOSITION:	
Clay	70
Feldspar	Tr
Glass	20
Inorganic calcite	2
Nannofossils	5
Quartz	Tr



SITE 793 HOLE B CORE 54R CORED INTERVAL 1095.7-1105.4 mbsf



LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE AND CLAYEY SILTSTONE

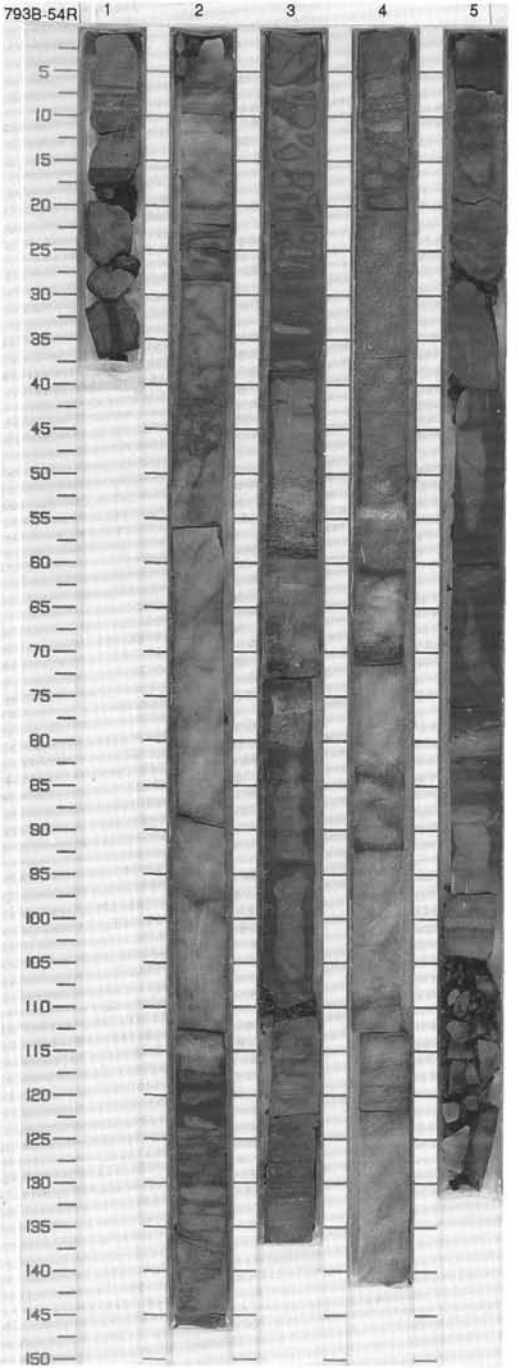
Major lithologies:
This core consists of very thin to very thick interbeds of dark gray (5GY 4/1) and olive black (5Y 2/1), generally parallel-laminated and graded VITRIC SANDSTONE, and structureless to parallel-laminated beds of CLAYEY SILTSTONE of the same color. The thickest sandstone bed is 115 cm thick.

Minor lithologies:
In some cases, the tops of the graded sandstone beds fine to VITRIC SILTSTONE. Section 3, 50-58 cm, and Section 4, 110-122 cm, consist of a cross-bedded and a parallel-laminated graded bed of PUMICEOUS SANDSTONE. The pumice is colored pale green (10G 6/2), and occurs as flattened clasts in the upper part of the bed in Section 4.

Section 1 is drilling breccia, and Section 2, 0-30 cm, is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	2, 108 D
TEXTURE:	
Sand	90
Silt	10
COMPOSITION:	
Accessory minerals	15
Feldspar	10
Glass	75



SITE 793 HOLE B CORE 55R CORED INTERVAL 1105.4-1115.0 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
LOWER-UPPER OLIGOCENE	B	B	B		N	ϕ=40.0 ● 1.17 ϕ=30.0 ● 1.33	● %CaCO3=0.5 ● %CaCO3=2.0 ● %CaCO3=0.4	1 2 3 4 CC	0.5 1.0				OG IW

LITHOLOGIC DESCRIPTION

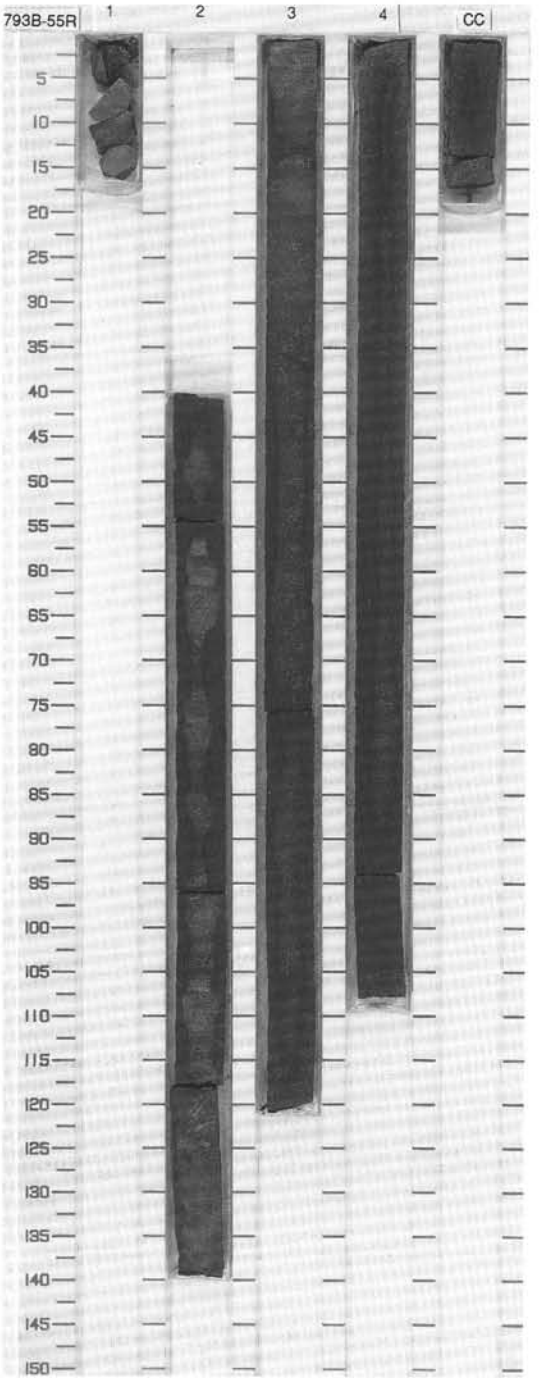
SANDSTONE AND SILTY CLAYSTONE

Major lithologies:
Section 1 through Section 3, 7 cm, consist of thinly interbedded, graded beds of parallel-to ripple-laminated, very fine-grained SANDSTONE and burrowed SILTY CLAYSTONE. All this sediment is brownish black (5YR 2/1). Sections 3 through CC consist of a 2.4 m-thick graded bed of grayish black (N2), structureless, medium-to very fine-grained SANDSTONE.

Section 1 consists of drilling breccia.

SMEAR SLIDE SUMMARY (%):

	3, 100 D
TEXTURE:	
Sand	10
Silt	85
Clay	5
COMPOSITION:	
Clay	5
Feldspar	3
Glass	87
Opaques	1
Quartz	3



SITE 793 HOLE B CORE 56R CORED INTERVAL 1115.0-1124.7 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
LOWER-UPPER OLIGOCENE	B	B	C/P		N	●ϕ=26.0 ρ=2.44 ●ϕ=37.0 ρ=2.23 ●ϕ=41.0 ρ=1.90 ●ϕ=43.0 ρ=1.92 ●ϕ=25.0 ρ=2.30 ●ϕ=25.0 ρ=2.36 ●%CaCO3=1.5		1 2 3 4 5 CC	0.5 1.0		X X X		*	

LITHOLOGIC DESCRIPTION

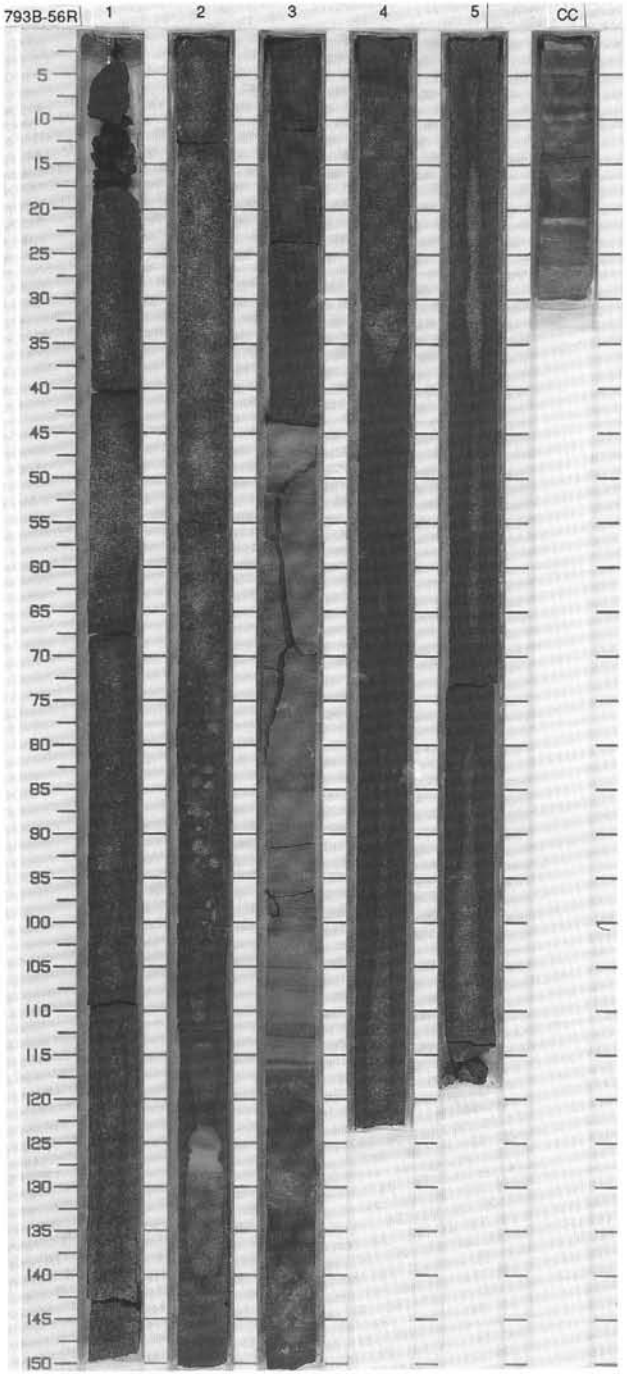
VOLCANIC PEBBLE-GRANULE CONGLOMERATE, VOLCANIC GRANULE-PEBBLE CONGLOMERATE, SANDSTONE AND CLAYEY SILTSTONE

Major lithologies:
Section 1 through Section 2, 105 cm, is a graded bed of olive black (5Y 2/1) VOLCANIC PEBBLE-GRANULE CONGLOMERATE, coarsening downward at the base to VOLCANIC GRANULE-PEBBLE CONGLOMERATE. This bed is 2.55m thick, and forms about 40% of the core. Pebbles at the base are as large as 6 cm across, and consist of highly vesicular two-pyroxene andesite, two-pyroxene dacite, gray and brick-red pumice. About 50% of the core, below the conglomerate, consists of grayish black (N2) and grayish blue green (5BG 5/2), thick to very thick beds of either structureless or parallel- to ripple-laminated, very coarse to medium (basal size) SANDSTONE. The thickest bed is 2.75 m thick. The remaining 10% of the core consists of thin to medium beds of graded, fine-grained SANDSTONE, parallel-and ripple-laminated or burrowed CLAYEY SILTSTONE.

Section 1, 0-30 cm, is drilling breccia. The rest of the core is undisturbed by drilling.

SMEAR SLIDE SUMMARY (%):

	3, 100 D
TEXTURE:	
Silt	80
Clay	20
COMPOSITION:	
Clay	10
Feldspar	2
Glass	81
Nannofossils	Tr
Opaques	3
Quartz	2



SITE 793 HOLE B CORE 57R CORED INTERVAL 1124.7-1134.0 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
LOWER OLIGOCENE	B	C/G	CP17 - 18		N	ϕ=13.0 ρ=2.01 %$CaCO_3$ =2.2 ϕ=34.0 ρ=2.26 %$CaCO_3$=0.5		1 2 3	0.5 1.0			F F	*

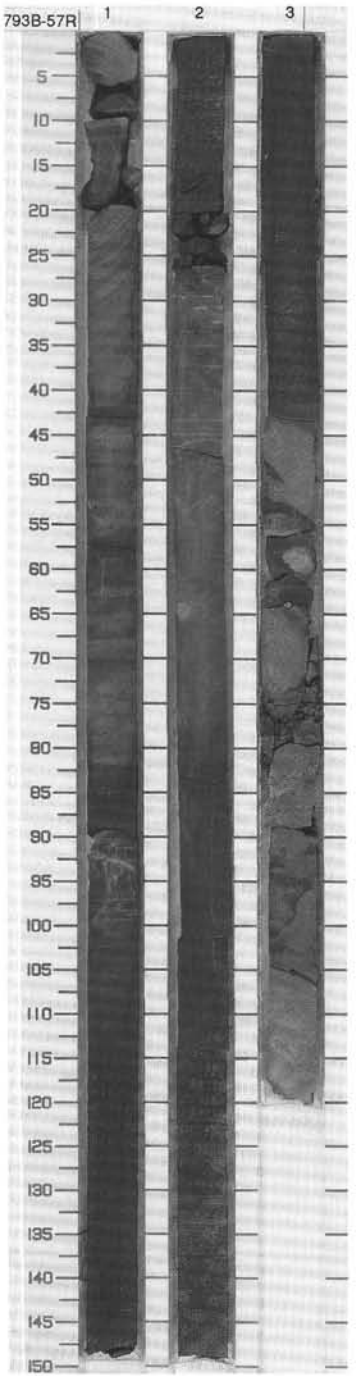
LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE, VITRIC SILTSTONE, SILTY CLAYSTONE AND INTRACLAST CONGLOMERATE

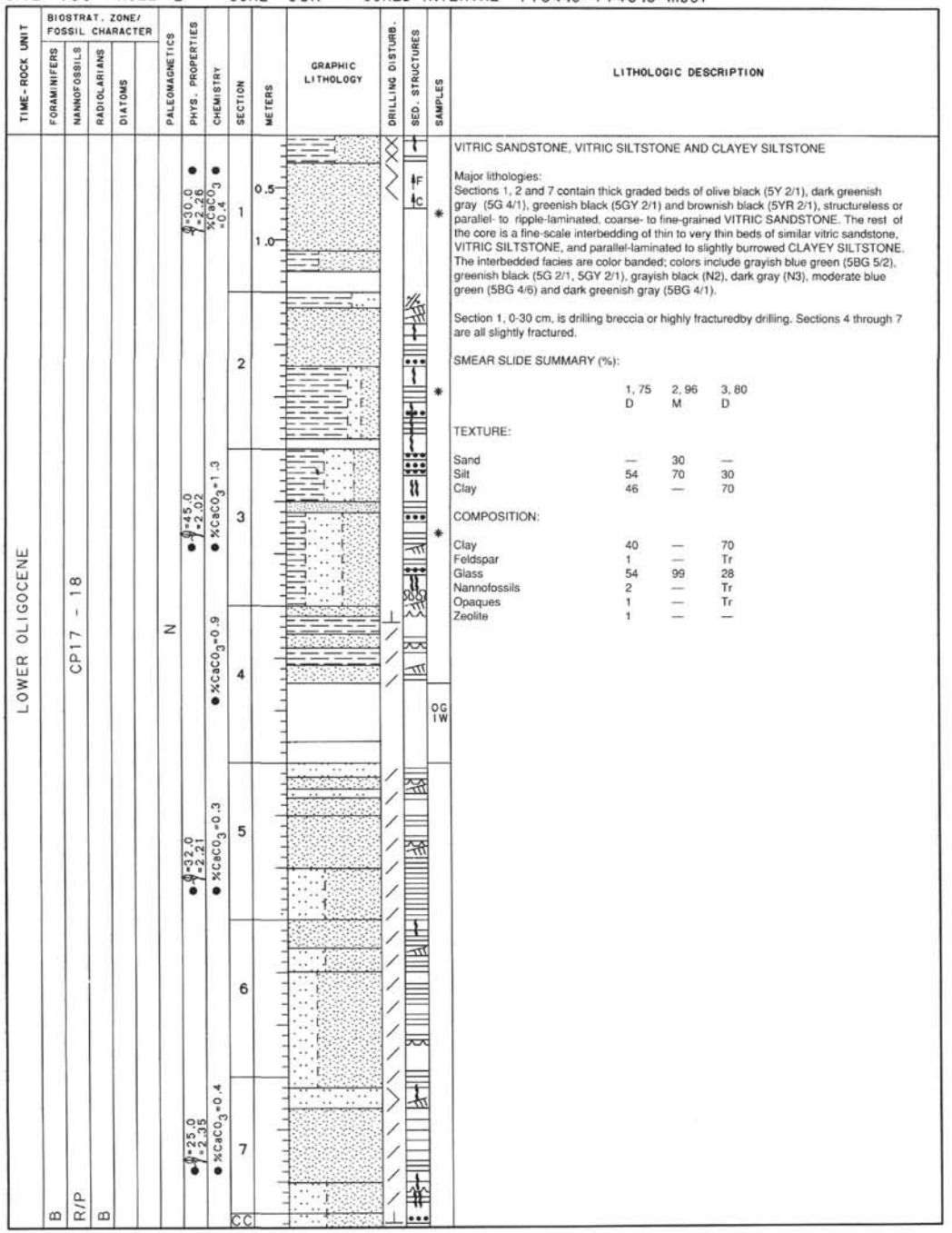
Major lithologies:
About 75% of the core consists of two graded beds, one formed of a lower division of parallel-laminated coarse-to medium-grained VITRIC SANDSTONE that grades upward into parallel-laminated VITRIC SILTSTONE, overlain by a cap of burrowed SILTY CLAYSTONE. All this sediment is greenish black (5G 2/1). The lower bed has a base of INTRACLAST CONGLOMERATE with cobbles of silty claystone as large as about 25 cm set in a matrix of coarse sandstone. The sediment then grades upward from structureless to parallel- to ripple-laminated sandstone, eventually passing into parallel-laminated siltstone and silty claystone. This bed is 2.3 m thick. The rest of the core consists of thin to medium beds of fine-grained sandstone, siltstone and clayey siltstone in graded couplets.

SMEAR SLIDE SUMMARY (%):

	3, 85 D
TEXTURE:	
Sand	60
Silt	30
Clay	10
COMPOSITION:	
Clay	10
Fe oxide	1
Feldspar	3
Glass	77
Hornblende	3
Nannofossils	Tr
Opaques	2
Quartz	3



SITE 793 HOLE B CORE 58R CORED INTERVAL 1134.0-1143.6 mbsf



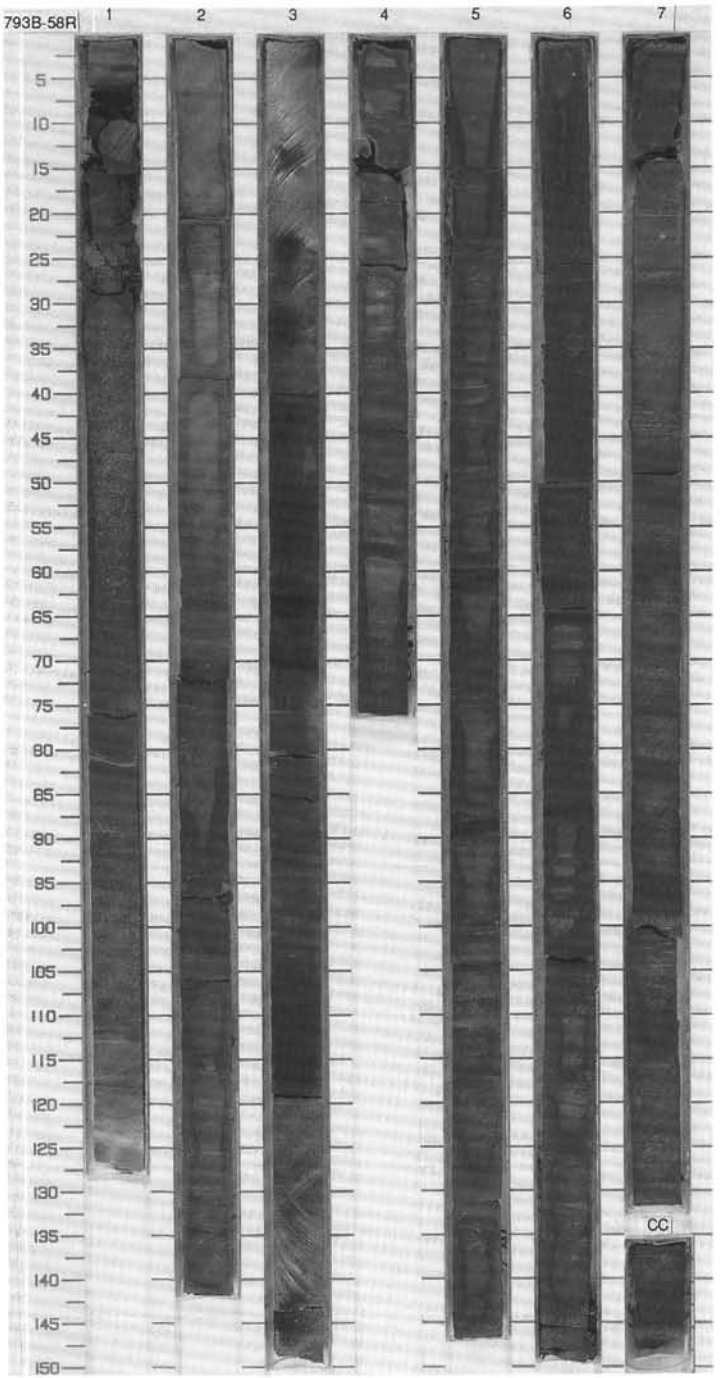
VITRIC SANDSTONE, VITRIC SILTSTONE AND CLAYEY SILTSTONE

Major lithologies:
Sections 1, 2 and 7 contain thick graded beds of olive black (5Y 2/1), dark greenish gray (5G 4/1), greenish black (5GY 2/1) and brownish black (5YR 2/1), structureless or parallel- to ripple-laminated, coarse- to fine-grained VITRIC SANDSTONE. The rest of the core is a fine-scale interbedding of thin to very thin beds of similar vitric sandstone, VITRIC SILTSTONE, and parallel-laminated to slightly burrowed CLAYEY SILTSTONE. The interbedded facies are color banded; colors include grayish blue green (5BG 5/2), greenish black (5G 2/1, 5GY 2/1), grayish black (N2), dark gray (N3), moderate blue green (5BG 4/6) and dark greenish gray (5BG 4/1).

Section 1, 0-30 cm, is drilling breccia or highly fracturedby drilling. Sections 4 through 7 are all slightly fractured.

SMEAR SLIDE SUMMARY (%):

	1, 75 D	2, 96 M	3, 80 D
TEXTURE:			
Sand	—	30	—
Silt	54	70	30
Clay	46	—	70
COMPOSITION:			
Clay	40	—	70
Feldspar	1	—	Tr
Glass	54	99	28
Nannofossils	2	—	Tr
Opaques	1	—	Tr
Zeolite	1	—	—



SITE 793 HOLE B CORE 59R CORED INTERVAL 1143.6-1153.2 mbsf

TIME-ROCK UNIT: B / R/M / B

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

PALEOMAGNETICS: N

PHYS. PROPERTIES: ρ=26.0, 2.31; ρ=26.0, 2.35; ρ=27.0, 2.37

CHEMISTRY: %CaCO3=0.3; %CaCO3=0.2; %CaCO3=1.5; %CaCO3=0.3; %CaCO3=0.3

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTSTONE

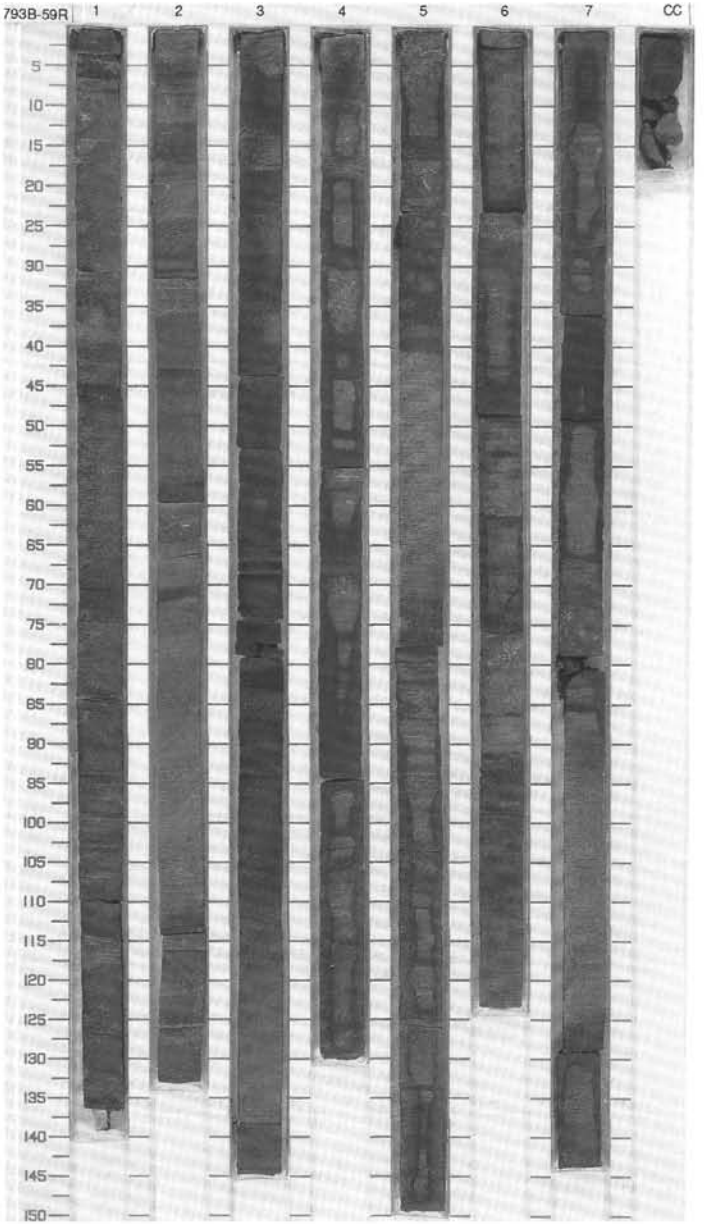
Major lithologies:
Grayish black (N2) and brownish black (5YR 2/1) CRYSTAL-VITRIC SANDSTONE and VITRIC SILTSTONE respectively comprise 71% and 27% of the core. The sandstone occurs in six beds, 24-61 cm thick, and as thin basal divisions, 1-18 cm thick, of beds that grade upward into VITRIC SILTSTONE, some of which is slightly bioturbated. The vitric component has been largely altered. Some of the graded beds have scoured bases; the thicker beds are planar laminated. Cross lamination is also present. A graded bed in Section 7, 48-73 cm, has basal siltstone clasts 5-20 mm in diameter, and a horizontal intraclast, 7 mm thick and wider than the core barrel. A zeolite-filled microfracture occurs in Section 3, and a clastic dike is located in Section 7.

Minor lithologies:
Slightly bioturbated NANNOFOSSIL-RICH SILTY CLAYSTONE and CLAYEY SILTSTONE each comprise 1% of the core. In Section 3, 132-135 cm, there is a clot of plant debris.

The top two sections are undisturbed by drilling, and the rest of the core is slightly fractured.

SMEAR SLIDE SUMMARY (%):

	3, 104 D	3, 132 D	6, 48 M
TEXTURE:			
Sand	40	70	—
Silt	30	30	55
Clay	30	—	45
COMPOSITION:			
Accessory minerals	2	2	Tr
Cement	—	20	—
Clay	30	—	40
Feldspar	Tr	1	—
Foraminifers	—	—	Tr
Glass	67	72	50
Lithic fragments	1	2	—
Micrite	Tr	—	—
Nannofossils	Tr	—	10
Plant	—	1	—
Radiolarians	—	—	Tr



SITE 793 HOLE B CORE 60R CORED INTERVAL 1153.2-1162.9 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
	B	R/P	B		N	ϕ=22.0 ρ=2.53 %$CaCO_3$=0.4	ϕ=25.0 ρ=2.66 %$CaCO_3$=0.2	ϕ=28.0 ρ=2.31 %$CaCO_3$=0.4	ϕ=25.0 ρ=2.41 %$CaCO_3$=0.5	1 2 3 4 5 6 7	0.5 1.0			* #

LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE

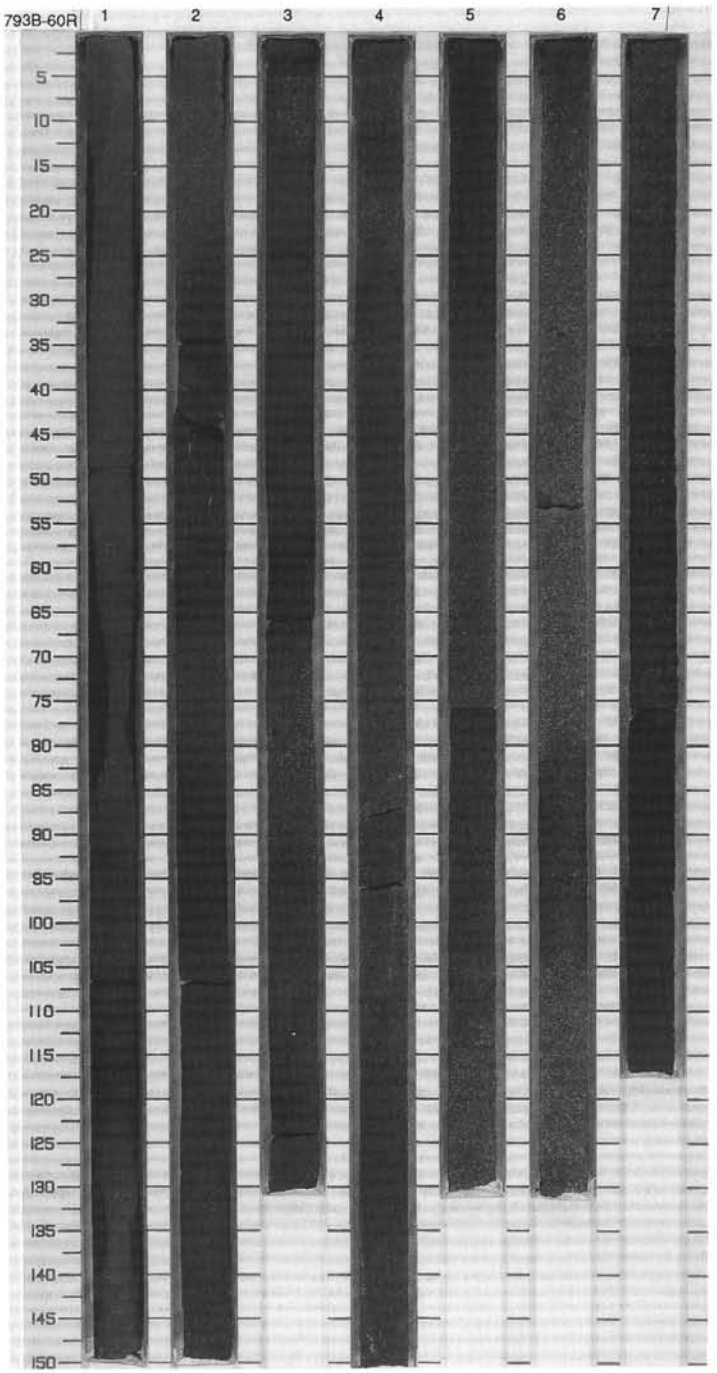
Major lithology: 90% of the core consists of grayish black (N2) and greenish black (5GY 2/1), medium-grained CRYSTAL-VITRIC SANDSTONE. The vitric component has been largely altered. The sandstone has planar-laminated divisions in Sections 1 and 2. In Section 3, it is medium to coarse grained with a well rounded claystone pebble 21 mm in diameter. In Section 4, it is normally graded from coarse to medium sand. Section 4, 60 cm, to Section 6, 110 cm, is the upper, main part of a normally graded bed that has a basal division of conglomerate (see Minor lithology). This upper part of the bed grades upward from very coarse-grained sandstone with volcanic granules to medium-grained sandstone. Post-depositional structures include two zeolite-filled subvertical fractures and a dewatering pipe.

Minor lithology: Grayish black (N2) VOLCANIC CONGLOMERATE in Sections 6 and 7 constitutes 10% of the core. Sand/granule/pebble ratios are 65/30/5 in Section 6 and 40/30/30 in Section 7. Maximum clast size is 5-7 mm; mean size of the ten largest clasts is 3-5 mm. Siltstone clasts 12-20 mm in size are present in Section 6.

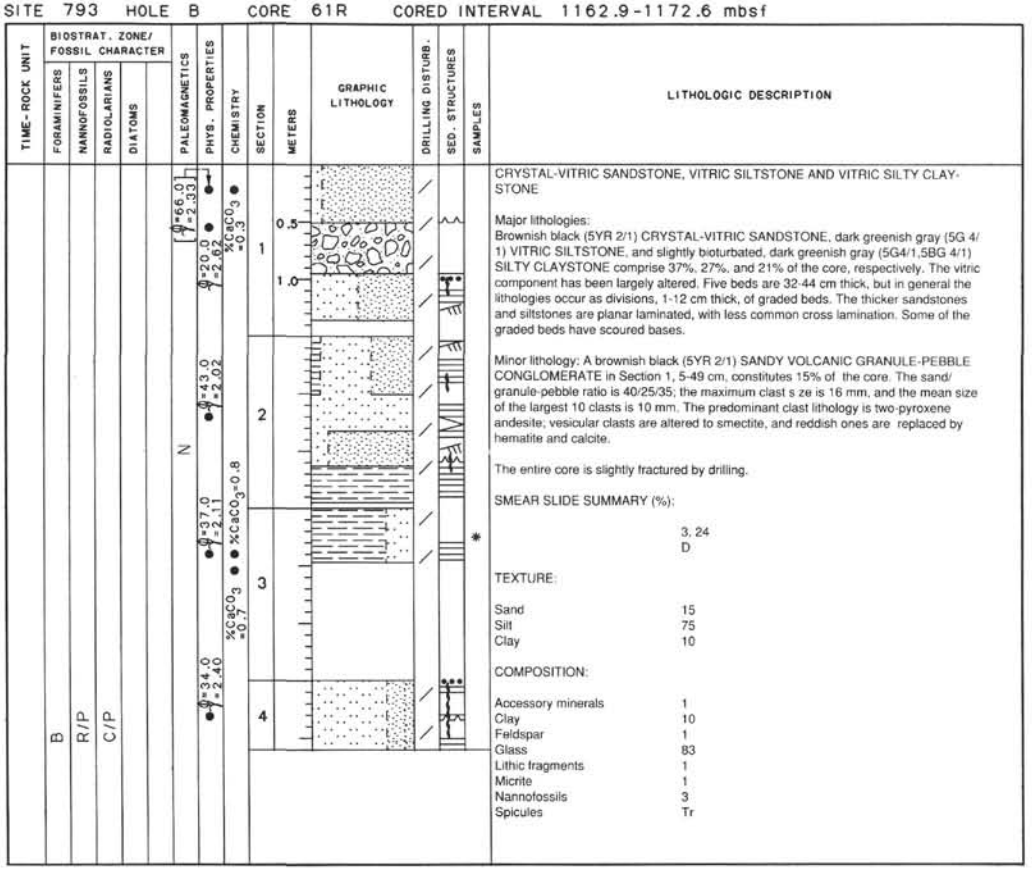
The core is undisturbed to slightly fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	1, 148 D	3, 128 D
TEXTURE:		
Sand	80	100
Silt	20	—
COMPOSITION:		
Accessory minerals	3	10
Cement	30	35
Feldspar	5	10
Glass	55	45
Lithic fragments	5	—



SITE 793 HOLE B CORE 61R CORED INTERVAL 1162.9-1172.6 mbsf



LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE, VITRIC SILTSTONE AND VITRIC SILTY CLAYSTONE

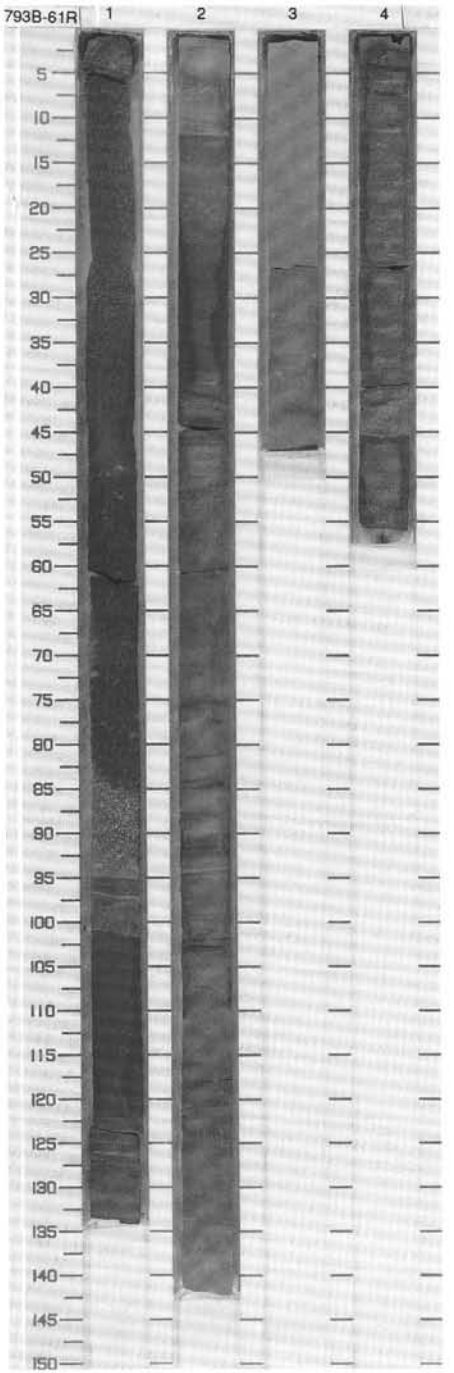
Major lithologies:
Brownish black (5YR 2/1) CRYSTAL-VITRIC SANDSTONE, dark greenish gray (5G 4/1) VITRIC SILTSTONE, and slightly bioturbated, dark greenish gray (5G4/1,5BG 4/1) SILTY CLAYSTONE comprise 37%, 27%, and 21% of the core, respectively. The vitric component has been largely altered. Five beds are 32-44 cm thick, but in general the lithologies occur as divisions, 1-12 cm thick, of graded beds. The thicker sandstones and siltstones are planar laminated, with less common cross lamination. Some of the graded beds have scoured bases.

Minor lithology: A brownish black (5YR 2/1) SANDY VOLCANIC GRANULE-PEBBLE CONGLOMERATE in Section 1, 5-49 cm, constitutes 15% of the core. The sand/granule-pebble ratio is 40/25/35; the maximum clast s ze is 16 mm, and the mean size of the largest 10 clasts is 10 mm. The predominant clast lithology is two-pyroxene andesite; vesicular clasts are altered to smectite, and reddish ones are replaced by hematite and calcite.

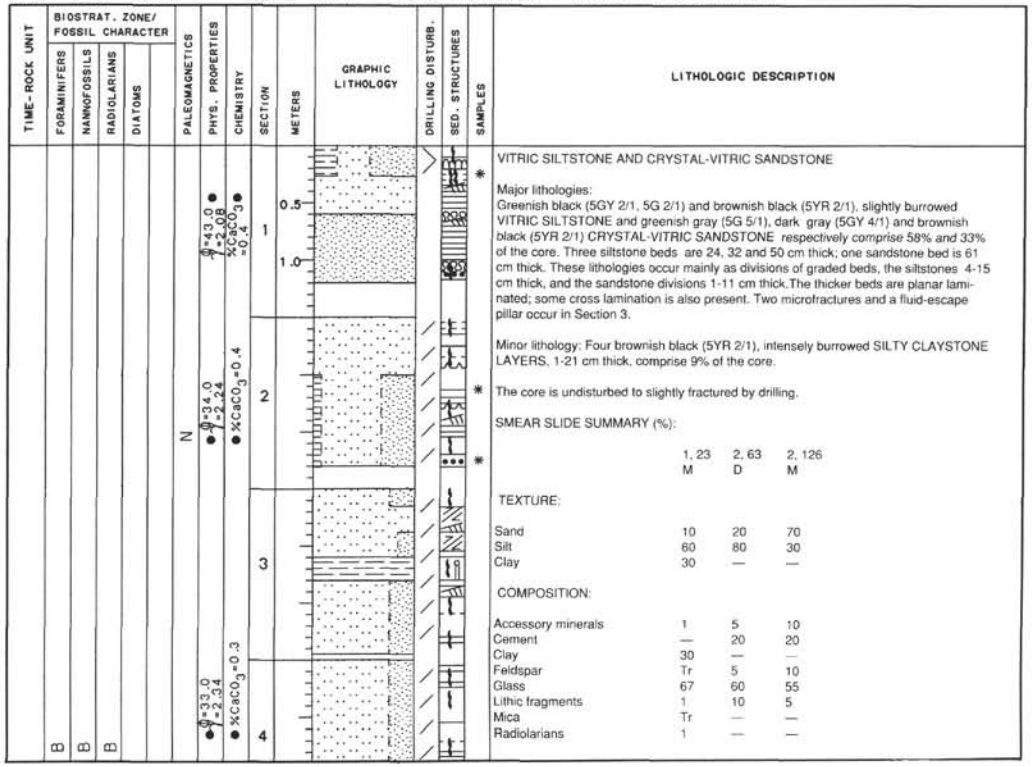
The entire core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	3, 24 D
TEXTURE:	
Sand	15
Silt	75
Clay	10
COMPOSITION:	
Accessory minerals	1
Clay	10
Feldspar	1
Glass	83
Lithic fragments	1
Micrite	1
Nannofossils	3
Spicules	Tr



SITE 793 HOLE B CORE 62R CORED INTERVAL 1172.6-1182.2 mbsf



LITHOLOGIC DESCRIPTION

VITRIC SILTSTONE AND CRYSTAL-VITRIC SANDSTONE

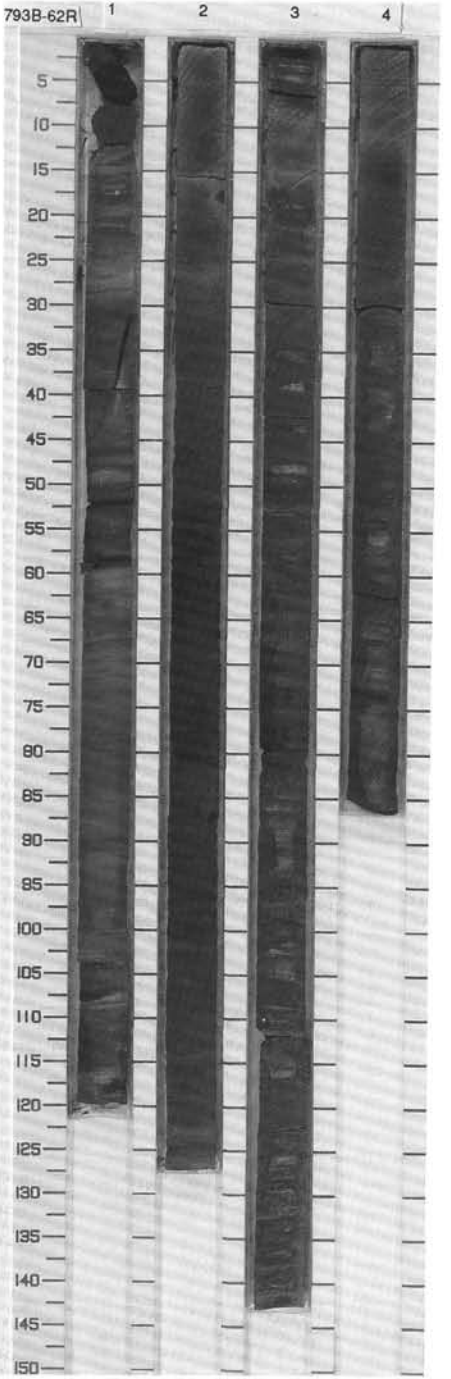
Major lithologies:
Greenish black (5GY 2/1, 5G 2/1) and brownish black (5YR 2/1), slightly burrowed VITRIC SILTSTONE and greenish gray (5G 5/1), dark gray (5GY 4/1) and brownish black (5YR 2/1) CRYSTAL-VITRIC SANDSTONE *respectively comprise* 58% *and* 33% of the core. Three siltstone beds are 24, 32 and 50 cm thick; one sandstone bed is 61 cm thick. These lithologies occur mainly as divisions of graded beds, the siltstones 4-15 cm thick, and the sandstone divisions 1-11 cm thick. The thicker beds are planar laminated; some cross lamination is also present. Two microfractures and a fluid-escape pillar occur in Section 3.

Minor lithology: Four brownish black (5YR 2/1), intensely burrowed SILTY CLAYSTONE LAYERS, 1-21 cm thick, comprise 9% of the core.

The core is undisturbed to slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 23 M	2, 63 D	2, 126 M
TEXTURE:			
Sand	10	20	70
Silt	60	80	30
Clay	30	—	—
COMPOSITION:			
Accessory minerals	1	5	10
Cement	—	20	20
Clay	30	—	—
Feldspar	Tr	5	10
Glass	67	60	55
Lithic fragments	1	10	5
Mica	Tr	—	—
Radiolarians	1	—	—



SITE 793 HOLE B CORE 63R CORED INTERVAL 1182.2-1191.9 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
	B	B	R/P		R	? R		1 2 3 4	0.5 1.0				* *

LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE, VITRIC SILTSTONE AND VITRIC SILTY CLAYSTONE

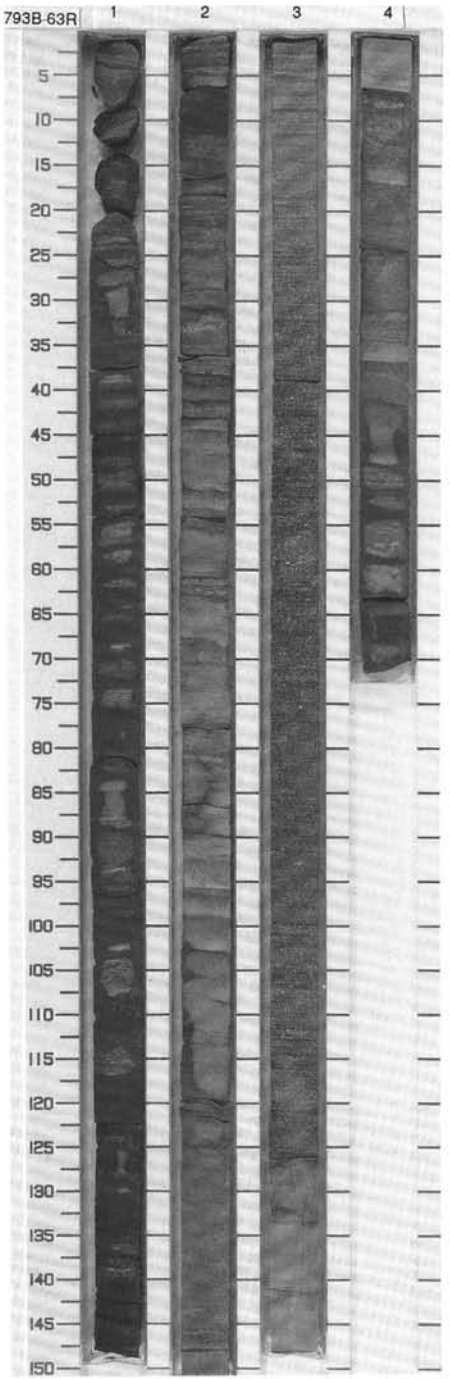
Major lithologies:
The core consists of dark gray (5GY 4/1), dark greenish gray (5BG 4/1), and dark gray (5Y 4/1) CRYSTAL-VITRIC SANDSTONE (54%) and VITRIC SILTSTONE (22%), and dark gray (5Y 4/1) VITRIC SILTY CLAYSTONE (19%). Section 2, 129 cm, to Section 3, 127 cm, is a single, parallel-laminated, medium-to fine-grained sandstone bed that contains numerous bioclasts, including tests of *Discocyclina* and other large benthic foraminifers. The rest of the sandstone occurs as basal divisions, 2-18 cm thick, of graded beds. The graded beds commonly have scoured bases. The siltstone layers are slightly burrowed, and the silty claystone beds are strongly bioturbated. Sections 2, 3 and 4 each contain a fracture filled with zeolite. A dewatering structure occurs at the top of Section 2.

Minor lithology: Bioturbated, greenish gray (5G 4/1) SILTY CLAYSTONE comprises 5% of the core.

Section 1, 0-28 cm, is highly fractured by drilling. The rest of the core is undisturbed.

SMEAR SLIDE SUMMARY (%):

	1, 24 D	3, 2 D
TEXTURE:		
Sand	20	50
Silt	80	30
Clay	—	20
COMPOSITION:		
Accessory minerals	—	10
Bioclast	—	20
Cement	20	—
Clay	—	5
Feldspar	10	3
Glass	70	20
Micrite	—	40



SITE 793 HOLE B CORE 64R CORED INTERVAL 1191.9-1201.5 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

B
R/M
B

PALEOMAGNETICS: R ? R

PHYS. PROPERTIES: ϕ=36.0, ρ=2.25 at 0.5 m; ϕ=40.0, ρ=2.20 at 2 m; ϕ=31.0, ρ=2.32 at 4 m; ϕ=25.0, ρ=2.58 at 6 m

CHEMISTRY: %$CaCO_3$=0.5 at 0.5 m; %$CaCO_3$=0.4 at 2 m; %$CaCO_3$=0.5 at 4 m; %$CaCO_3$=1.0 at 5 m; %$CaCO_3$=6.1 at 6 m

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

METERS: 0.5, 1.0

SAMPLES: OG, IW

LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE, FORAMINIFER-BEARING VITRIC SANDSTONE, VITRIC SILTSTONE AND SILTY CLAYSTONE

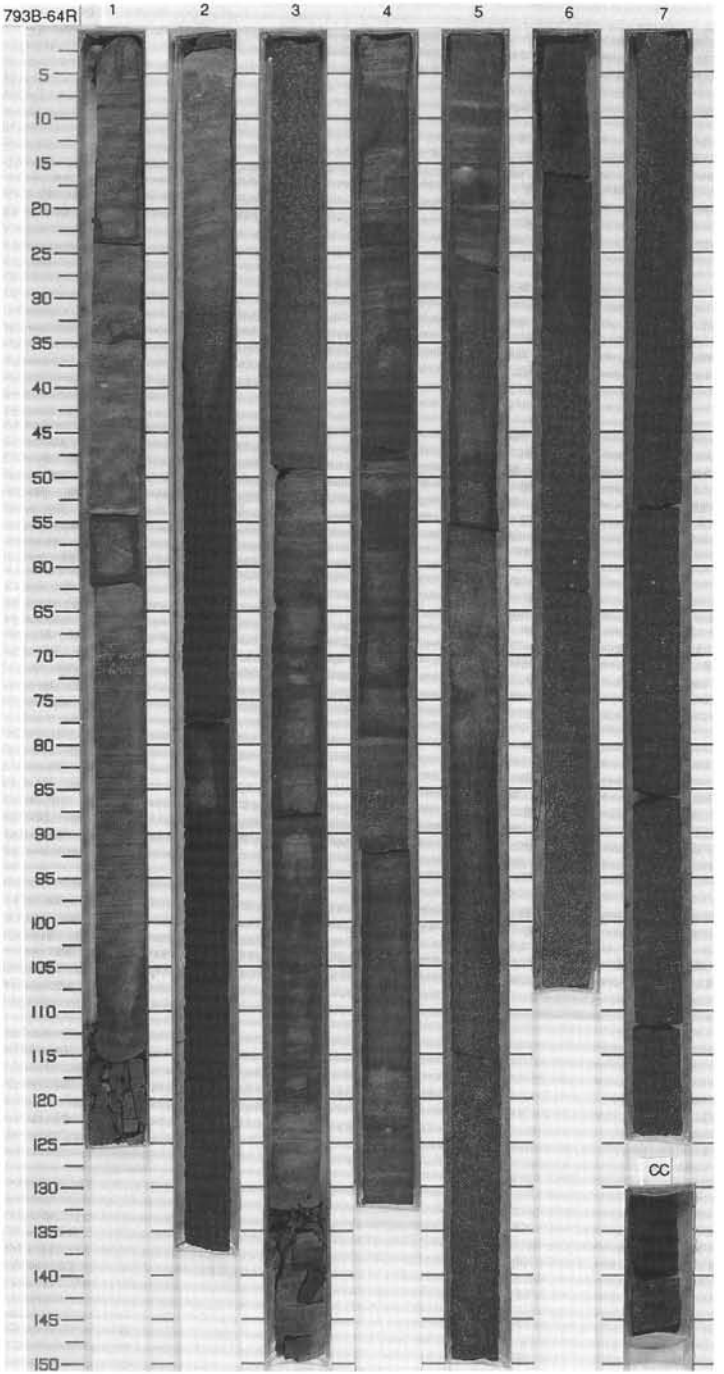
Major lithologies:
About 50% of the core consists of olive black (5Y 2/1) and greenish black (5GY 2/1), thick to very thick, graded beds of fine- to medium-grained VITRIC SANDSTONE. Some of the sandstone is structureless, some parallel laminated, and some ripple laminated. Several of these sandstone beds have "snowflake"-like alteration spots. Large benthic foraminifers in sandstones of Sections 2 and 7 justify the name FORAMINIFER-BEARING VITRIC SANDSTONE. The rest of the core consists of a fine-scale interbedding of graded beds of olive black (5Y 2/1) and greenish black (5GY 2/1), very fine-grained VITRIC SANDSTONE, VITRIC SILTSTONE and parallel-laminated to burrowed SILTY CLAYSTONE. There is a mineral-filled fracture in Section 4, 120 cm.

Minor lithologies:
Section 3, 80-105 cm, contains three beds, <1 cm thick, of sharp-topped, fine-grained VITRIC SANDSTONE (ash beds). Sections 7, 85 cm, toCC consist of greenish black (5GY 2/1), division coarse-grained GRANULE-RICH VITRIC SANDSTONE that forms the lower division of a 3 m-thick graded bed.

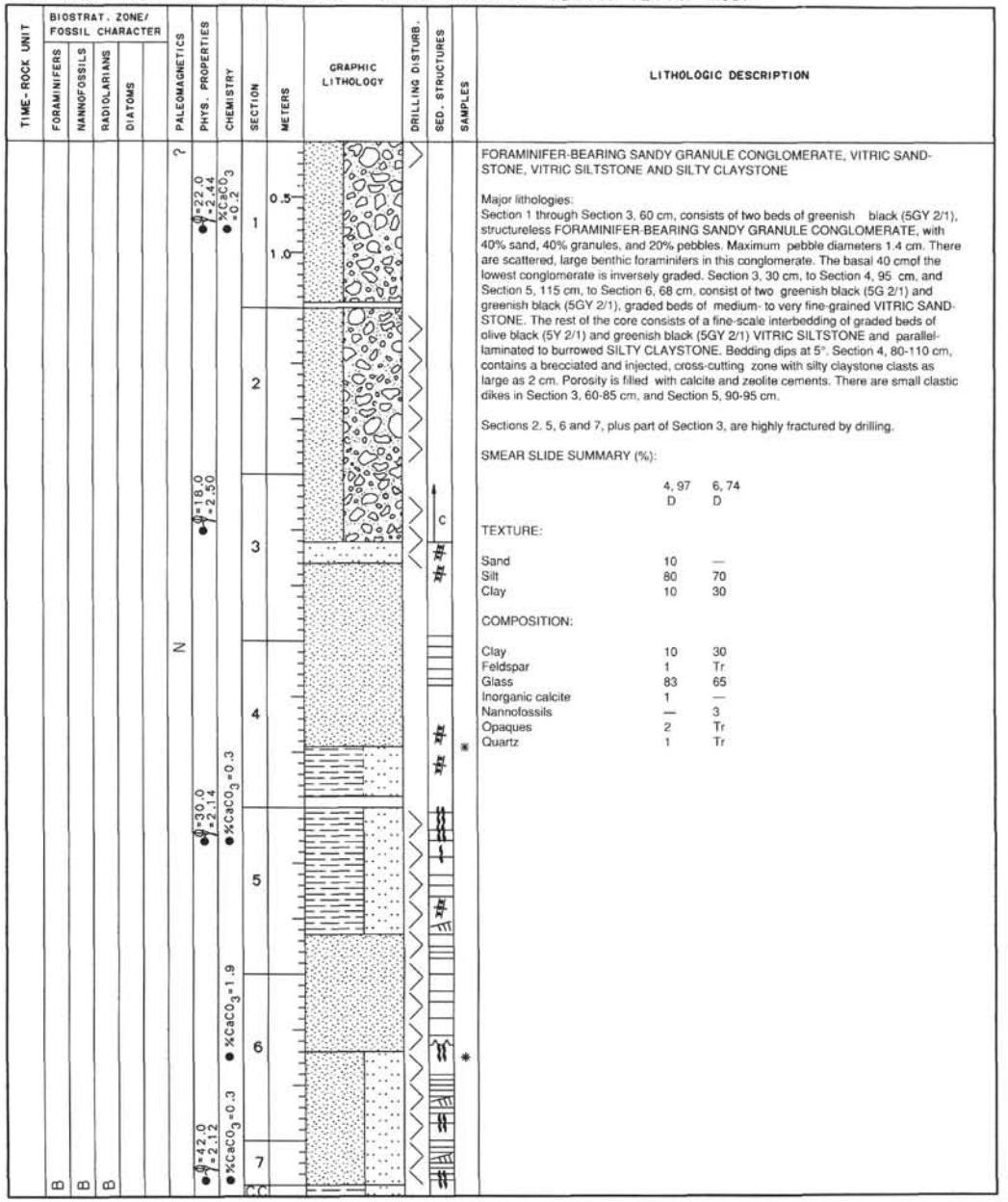
Section 1, 20-60 cm, is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	6, 10 D
TEXTURE:	
Sand	70
Silt	20
Clay	10
COMPOSITION:	
Clay	10
Fe oxide	1
Feldspar	3
Glass	82
Opaques	1
Quartz	3



SITE 793 HOLE B CORE 65R CORED INTERVAL 1201.5-1211.1 mbsf



LITHOLOGIC DESCRIPTION

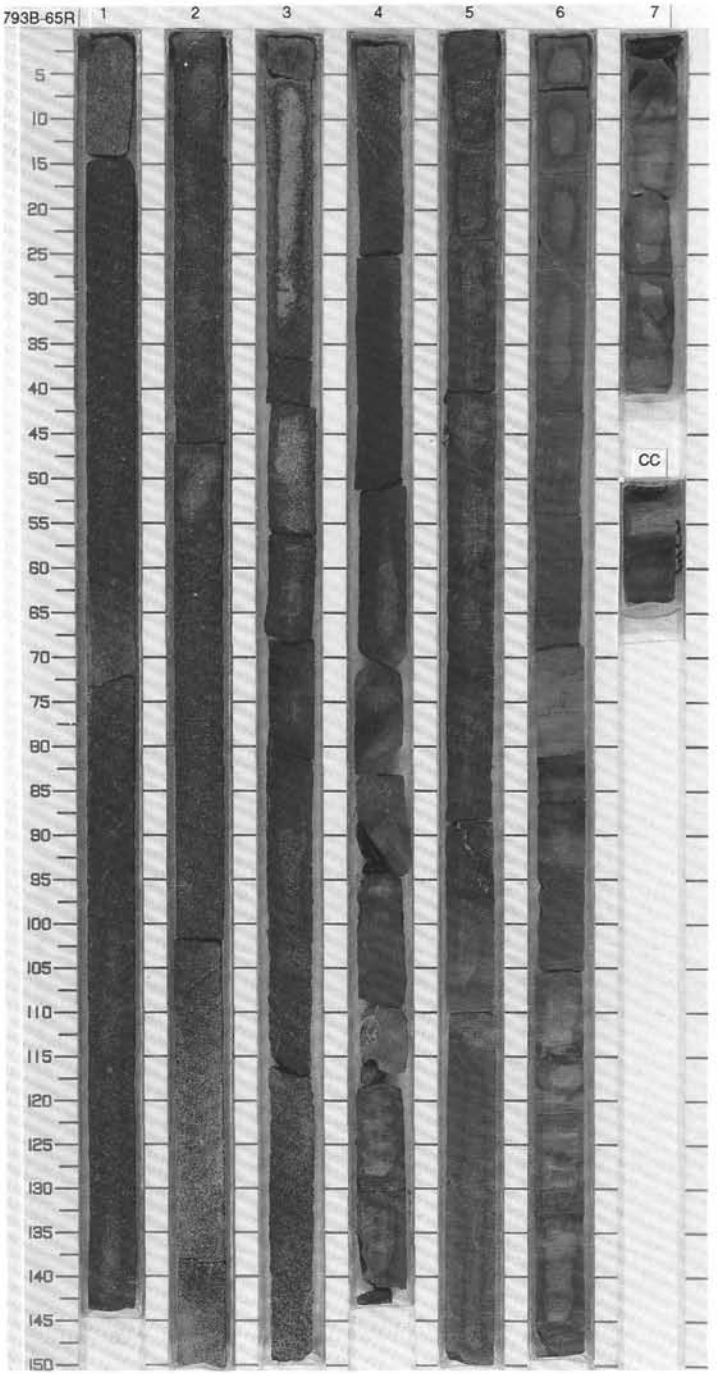
FORAMINIFER-BEARING SANDY GRANULE CONGLOMERATE, VITRIC SANDSTONE, VITRIC SILTSTONE AND SILTY CLAYSTONE

Major lithologies:
Section 1 through Section 3, 60 cm, consists of two beds of greenish black (5GY 2/1), structureless FORAMINIFER-BEARING SANDY GRANULE CONGLOMERATE, with 40% sand, 40% granules, and 20% pebbles. Maximum pebble diameters 1.4 cm. There are scattered, large benthic foraminifers in this conglomerate. The basal 40 cmof the lowest conglomerate is inversely graded. Section 3, 30 cm, to Section 4, 95 cm, and Section 5, 115 cm, to Section 6, 68 cm, consist of two greenish black (5G 2/1) and greenish black (5GY 2/1), graded beds of medium- to very fine-grained VITRIC SANDSTONE. The rest of the core consists of a fine-scale interbedding of graded beds of olive black (5Y 2/1) and greenish black (5GY 2/1) VITRIC SILTSTONE and parallel-laminated to burrowed SILTY CLAYSTONE. Bedding dips at 5°. Section 4, 80-110 cm, contains a brecciated and injected, cross-cutting zone with silty claystone clasts as large as 2 cm. Porosity is filled with calcite and zeolite cements. There are small clastic dikes in Section 3, 60-85 cm, and Section 5, 90-95 cm.

Sections 2, 5, 6 and 7, plus part of Section 3, are highly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	4, 97 D	6, 74 D
TEXTURE:		
Sand	10	—
Silt	80	70
Clay	10	30
COMPOSITION:		
Clay	10	30
Feldspar	1	Tr
Glass	83	65
Inorganic calcite	1	—
Nannofossils	—	3
Opaques	2	Tr
Quartz	1	Tr



SITE 793 HOLE B CORE 66R CORED INTERVAL 1211.1-1220.8 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

B
B
R/P

N

ϕ=36.0
ρ=2.03
%CaCO3=3.1

ϕ=36.0
ρ=1.75
%CaCO3
=1.7

ϕ=33.0
ρ=2.22
%CaCO3
=0.3

ϕ=32.0
ρ=2.23
%CaCO3=0.2

ϕ=24.0
ρ=2.33
%CaCO3
=0.2

SECTION: 1 2 3 4 5 6 7 CC

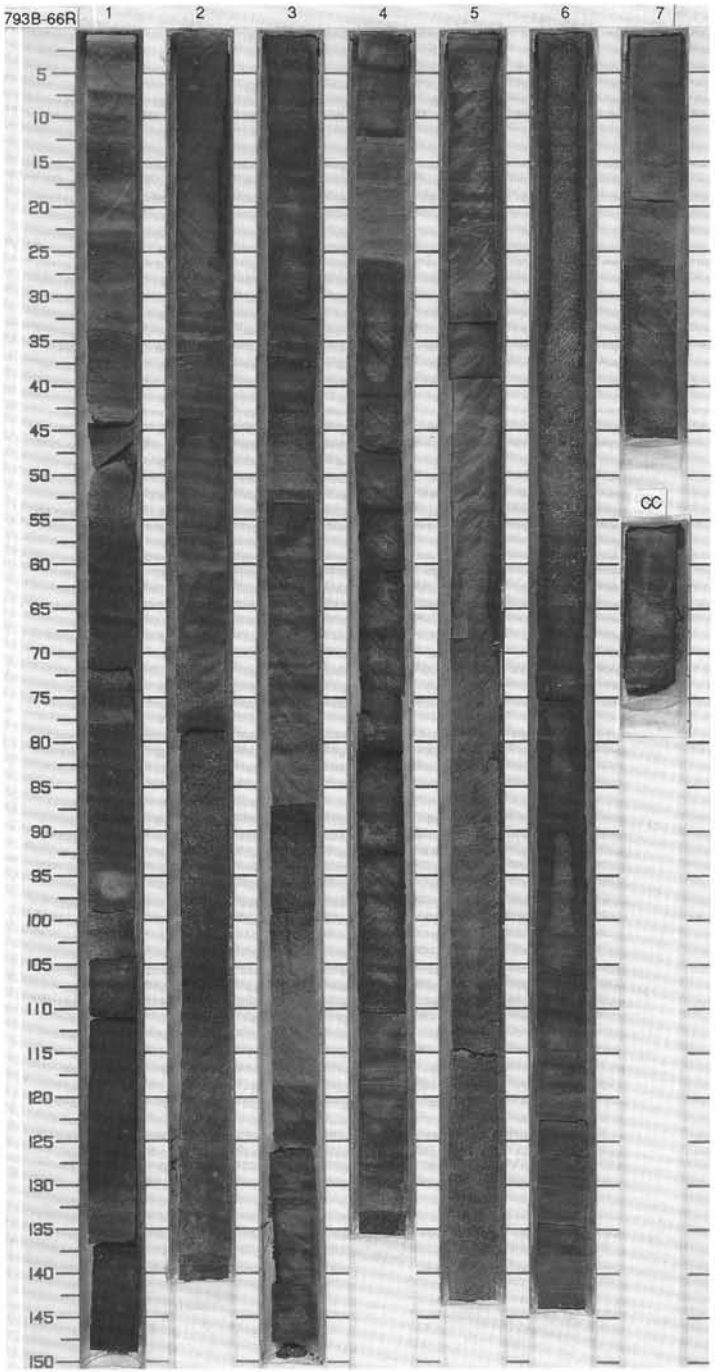
METERS: 0.5 1.0

F C

SILTY CLAYSTONE, VITRIC SILTSTONE, VITRIC SANDSTONE AND FORAMINIFER-BEARING VITRIC SANDSTONE

Major lithologies:
About 75% of the core consists of finely interbedded, dusky green (5G 3/2) and olive black (5Y 2/1), parallel-laminated to burrowed SILTY CLAYSTONE and graded beds of VITRIC SILTSTONE. Silty claystone constitutes 70-90% of this interbedded facies. A few of the vitric siltstone beds are dusky blue green (5BG3/2). The rest ofthecore consists of five medium to thick, graded beds of VITRIC SANDSTONE, and a 1.65 m-thick graded bed of FORAMINIFER-BEARING VITRIC SANDSTONE that has a lower structureless division, followed successively upward by parallel- and ripple-laminated divisions. The lower 20 cm of this bed is inversely graded. Benthic foraminifers as large as 2-3 mm across are scattered throughout the lower part of the bed. There is a sandstone dike, 2-3 mm wide, in Section 5, 20-25 cm.

Section 6, 60-140 cm, is slightly fractured by drilling. With minor exceptions, the rest of the core is undisturbed.



SITE 793 HOLE B CORE 67R CORED INTERVAL 1220.8-1230.5 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
LOWER OLIGOCENE	B	CP17 - 18	R/M	R/P	N	●ϕ=29.0 ▼=2.30 ●ϕ=29.0 ▼=2.46 ●ϕ=39.0 ▼=2.04 ●ϕ=19.0 ▼=2.26	●%$CaCO_3$ =0.4 ●%$CaCO_3$ =1.6 ●%$CaCO_3$ =0.3 ●%$CaCO_3$ =0.4 ●%$CaCO_3$ =0.6	1 2 3 4 5 6 7 CC	0.5 1.0			F C C	* *

LITHOLOGIC DESCRIPTION

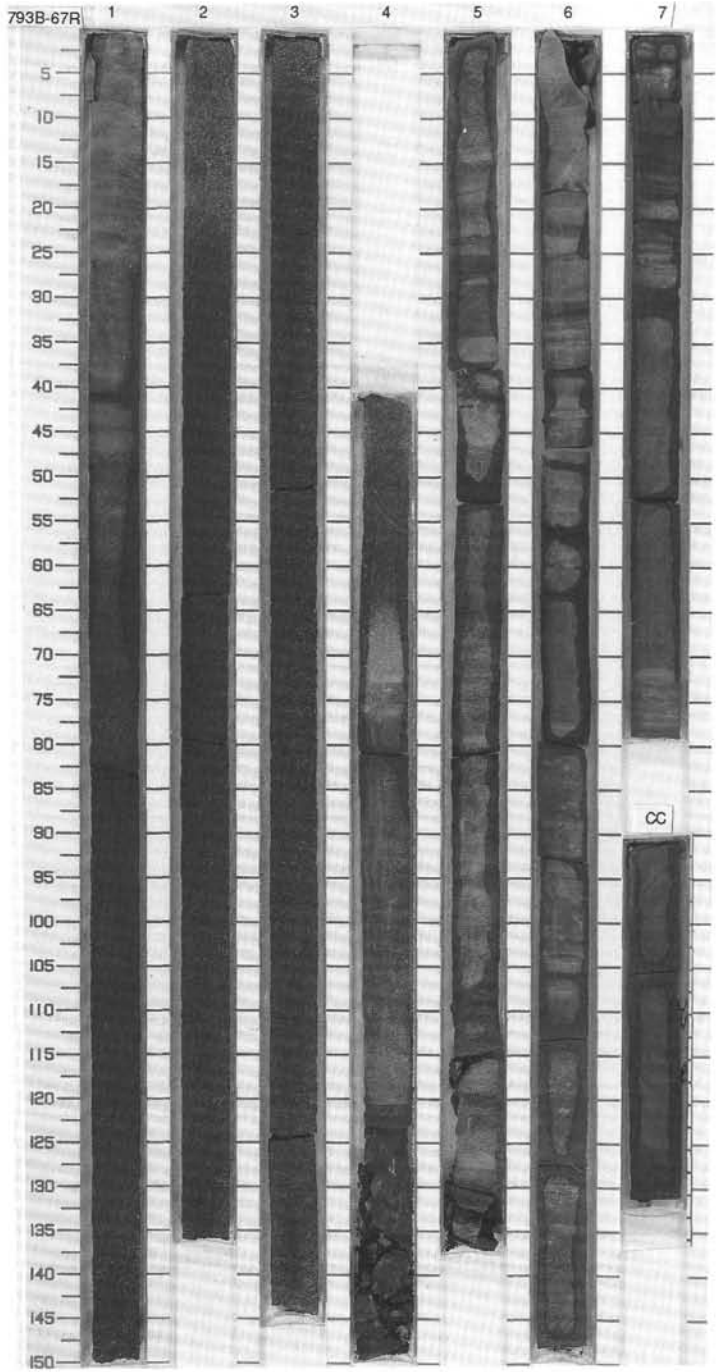
VOLCANIC-LITHIC SANDY GRANULE CONGLOMERATE, GRANULE- RICH VITRIC SANDSTONE, VITRIC SANDSTONE, VITRIC SILTSTONE AND CLAYEY SILTSTONE

Major lithologies:
There is a 4.1 m-thick graded bed, from Section 1, 55 cm, to Section 4, 75 cm, that has a lower part consisting of VOLCANIC-LITHIC SANDY GRANULE CONGLOMERATE, grading upward into GRANULE-RICH VITRIC SANDSTONE, and then into fine- to very fine-grained sandstone and siltstone. Except for laminated siltstone at the top, the bed is structureless. The base of the bed is inversely graded. Maximum clasts size is 6 mm. Sediment color is greenish black (5GY 2/1, 5G 2/1). The rest of the core consists of thinly interbedded graded beds of fine-grained VITRIC SANDSTONE, VITRIC SILTSTONE and parallel-laminated to slightly burrowed CLAYEY SILTSTONE. Section 4, 125-150 cm, and Section 5, 40-50 cm, contain fine-grained clastic dikes and normal microfaults.

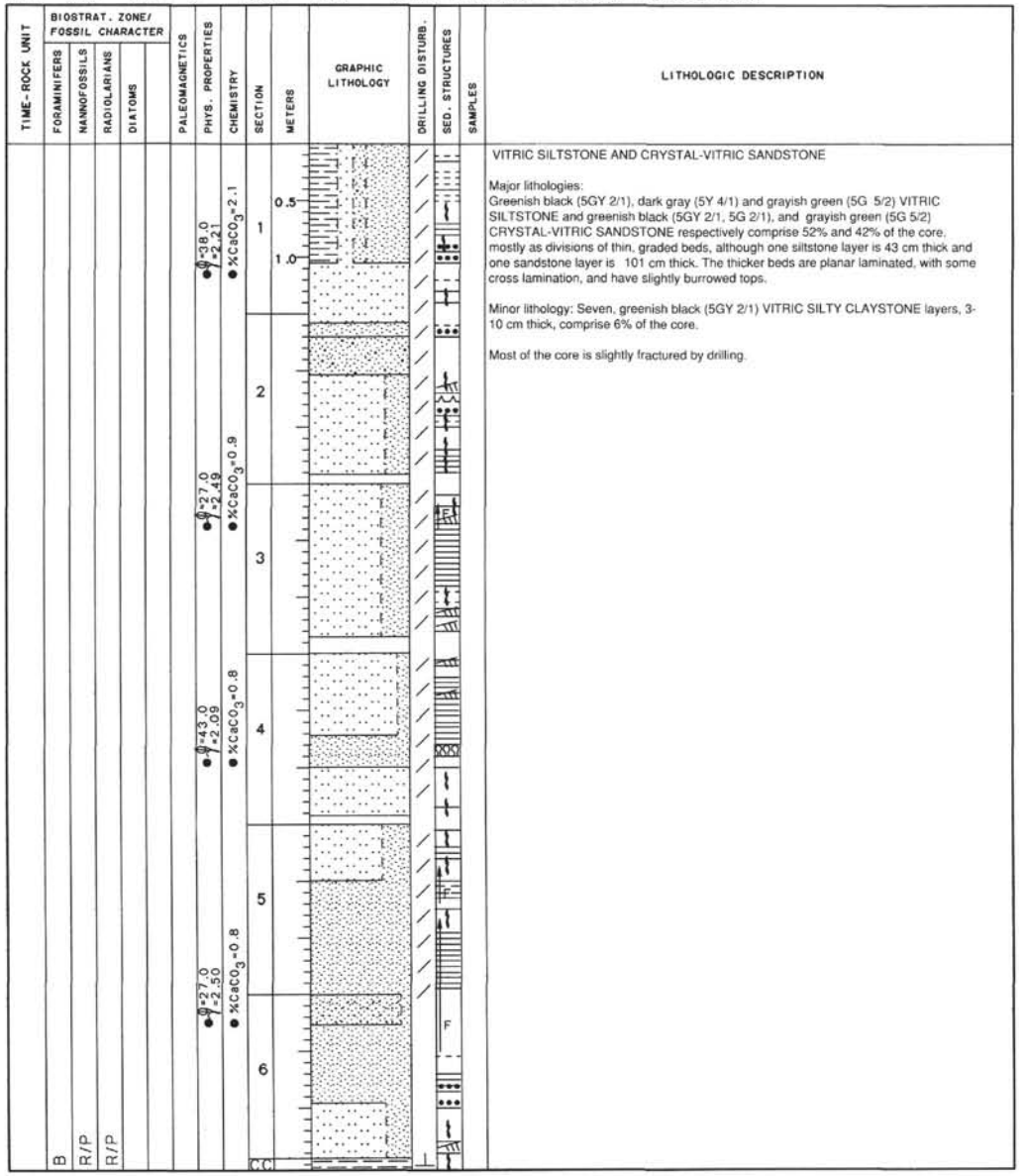
Parts of Sections 4 through 7 are moderately to slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 9 D	6, 80 D
TEXTURE:		
Silt	30	25
Clay	70	75
COMPOSITION:		
Clay	70	72
Feldspar	2	2
Glass	24	20
Nannofossils	Tr	–
Opaques	1	3
Quartz	2	2



SITE 793 HOLE B CORE 68R CORED INTERVAL 1230.5-1240.2 mbsf

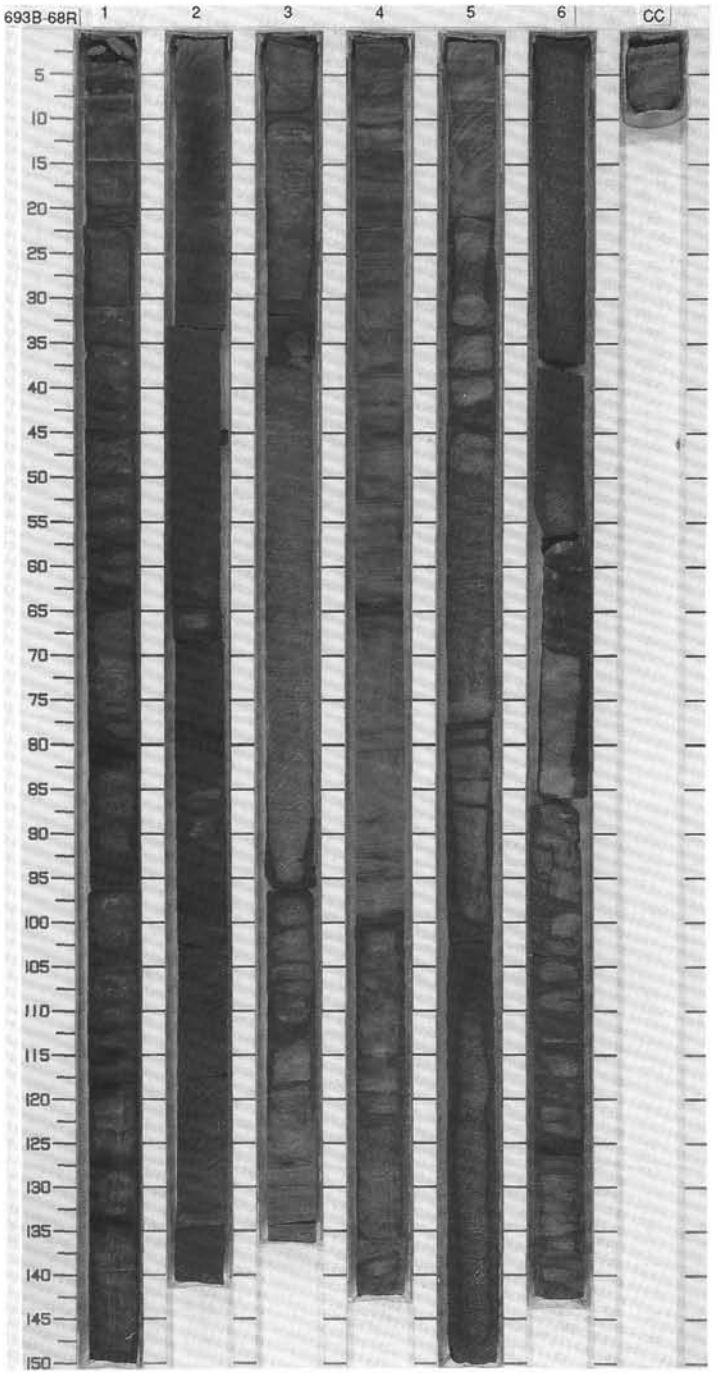


VITRIC SILTSTONE AND CRYSTAL-VITRIC SANDSTONE

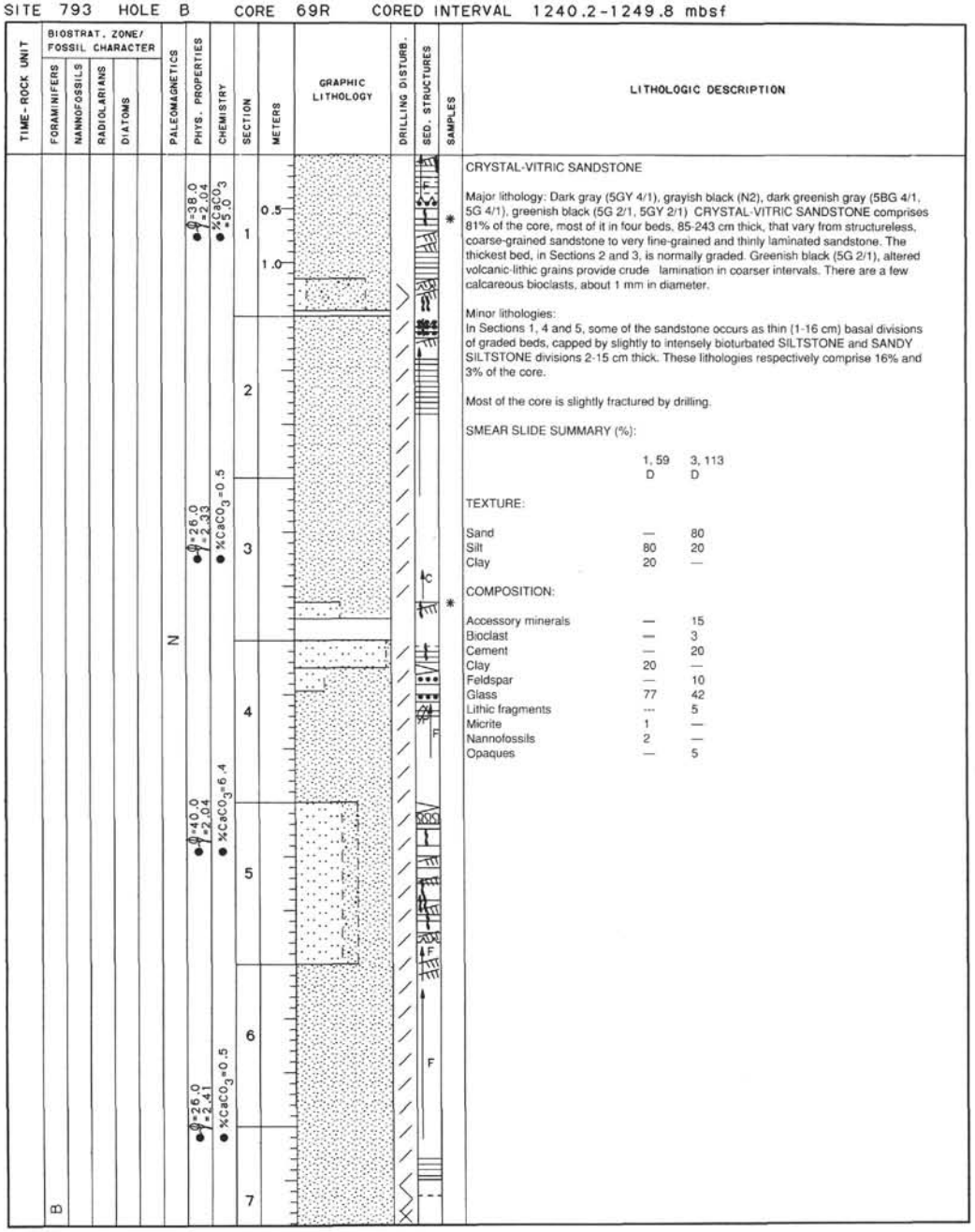
Major lithologies:
Greenish black (5GY 2/1), dark gray (5Y 4/1) and grayish green (5G 5/2) VITRIC SILTSTONE and greenish black (5GY 2/1, 5G 2/1), and grayish green (5G 5/2) CRYSTAL-VITRIC SANDSTONE respectively comprise 52% and 42% of the core, mostly as divisions of thin, graded beds, although one siltstone layer is 43 cm thick and one sandstone layer is 101 cm thick. The thicker beds are planar laminated, with some cross lamination, and have slightly burrowed tops.

Minor lithology: Seven, greenish black (5GY 2/1) VITRIC SILTY CLAYSTONE layers, 3-10 cm thick, comprise 6% of the core.

Most of the core is slightly fractured by drilling.



SITE 793 HOLE B CORE 69R CORED INTERVAL 1240.2-1249.8 mbsf



LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE

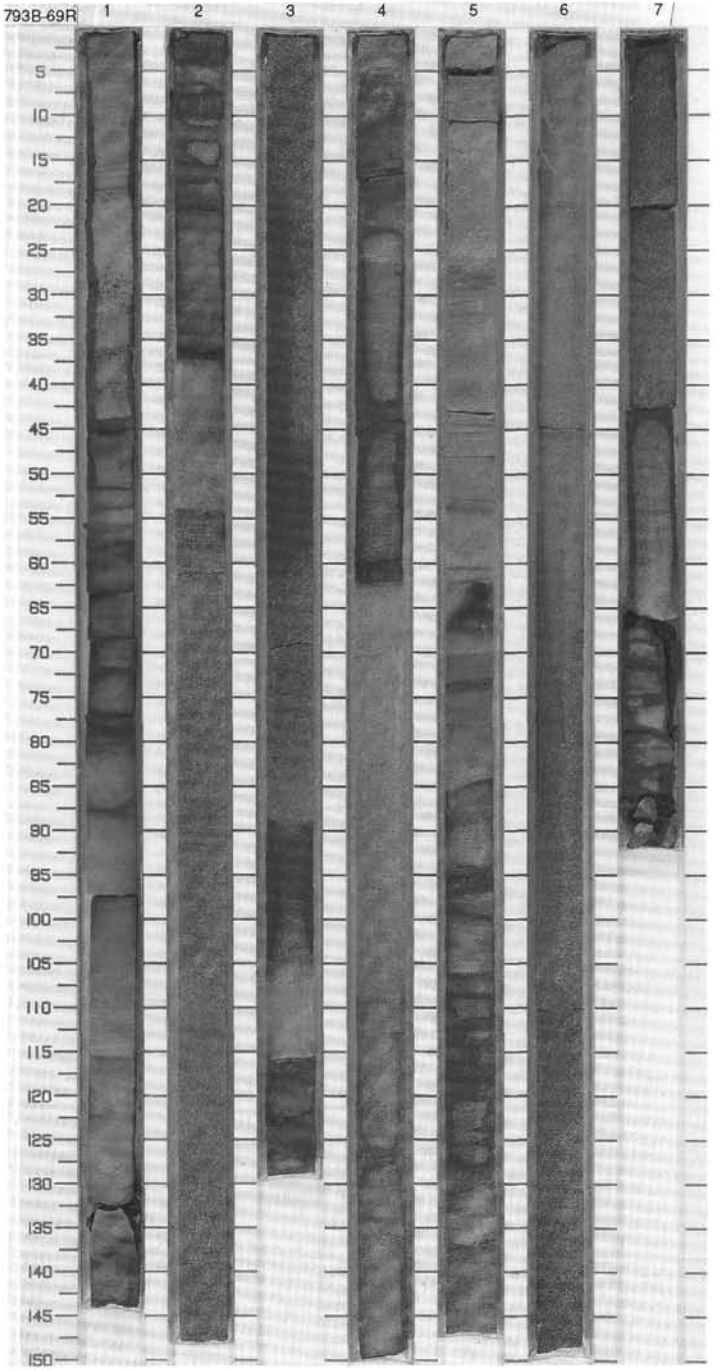
Major lithology: Dark gray (5GY 4/1), grayish black (N2), dark greenish gray (5BG 4/1, 5G 4/1), greenish black (5G 2/1, 5GY 2/1) CRYSTAL-VITRIC SANDSTONE comprises 81% of the core, most of it in four beds, 85-243 cm thick, that vary from structureless, coarse-grained sandstone to very fine-grained and thinly laminated sandstone. The thickest bed, in Sections 2 and 3, is normally graded. Greenish black (5G 2/1), altered volcanic-lithic grains provide crude lamination in coarser intervals. There are a few calcareous bioclasts, about 1 mm in diameter.

Minor lithologies:
In Sections 1, 4 and 5, some of the sandstone occurs as thin (1-16 cm) basal divisions of graded beds, capped by slightly to intensely bioturbated SILTSTONE and SANDY SILTSTONE divisions 2-15 cm thick. These lithologies respectively comprise 16% and 3% of the core.

Most of the core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 59 D	3, 113 D
TEXTURE:		
Sand	—	80
Silt	80	20
Clay	20	—
COMPOSITION:		
Accessory minerals	—	15
Bioclast	—	3
Cement	—	20
Clay	20	—
Feldspar	—	10
Glass	77	42
Lithic fragments	—	5
Micrite	1	—
Nannofossils	2	—
Opaques	—	5



SITE 793 HOLE B CORE 70R CORED INTERVAL 1249.8-1259.4 mbsf

TIME-ROCK UNIT: LOWER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS: B; NANNOFOSSILS: C/M; RADIOLARIANS: B; DIATOMS: CP17 - 18

PALEOMAGNETICS: R / N

PHYS. PROPERTIES: ϕ=33.0, 1.28; ϕ=39.0, 2.33; ϕ=24.0, 2.36; ϕ=26.0, 2.40

CHEMISTRY: %$CaCO_3$=0.9; %$CaCO_3$=2.9; %$CaCO_3$=1.2; %$CaCO_3$=2.1

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

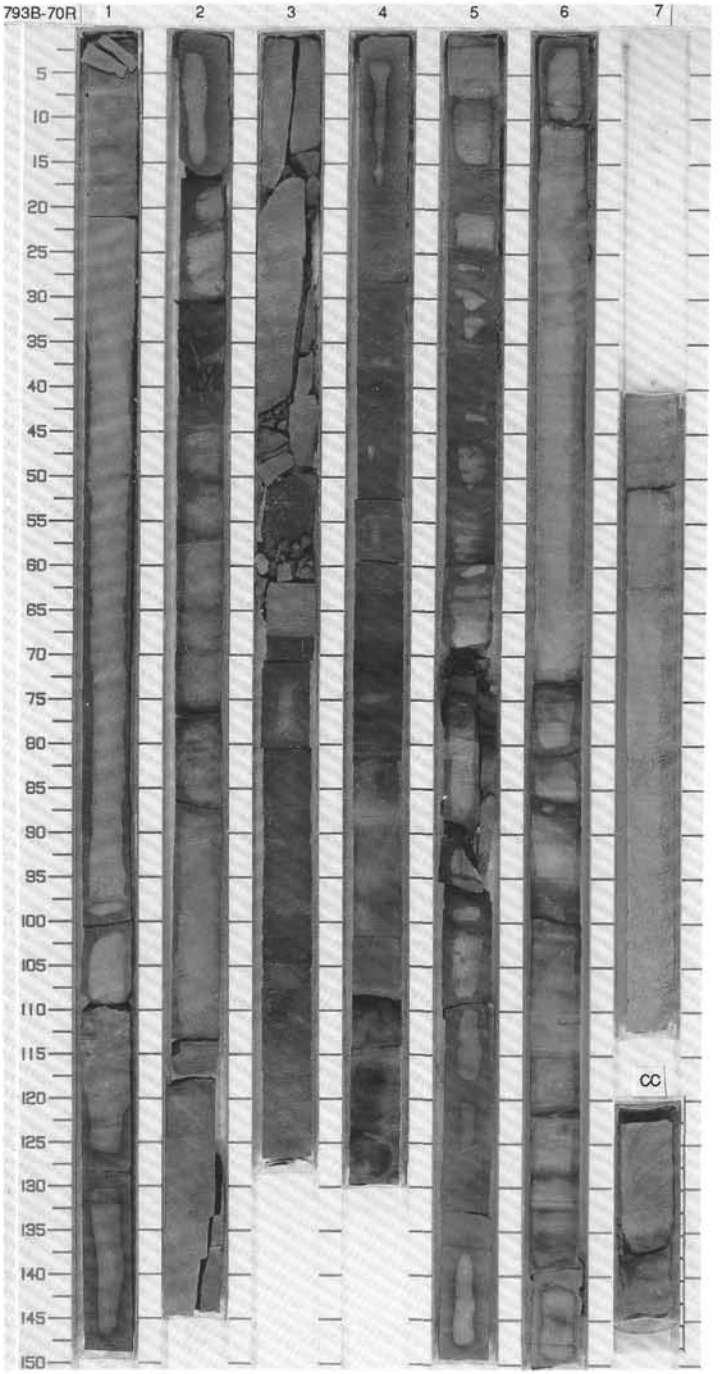
LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTY CLAYSTONE

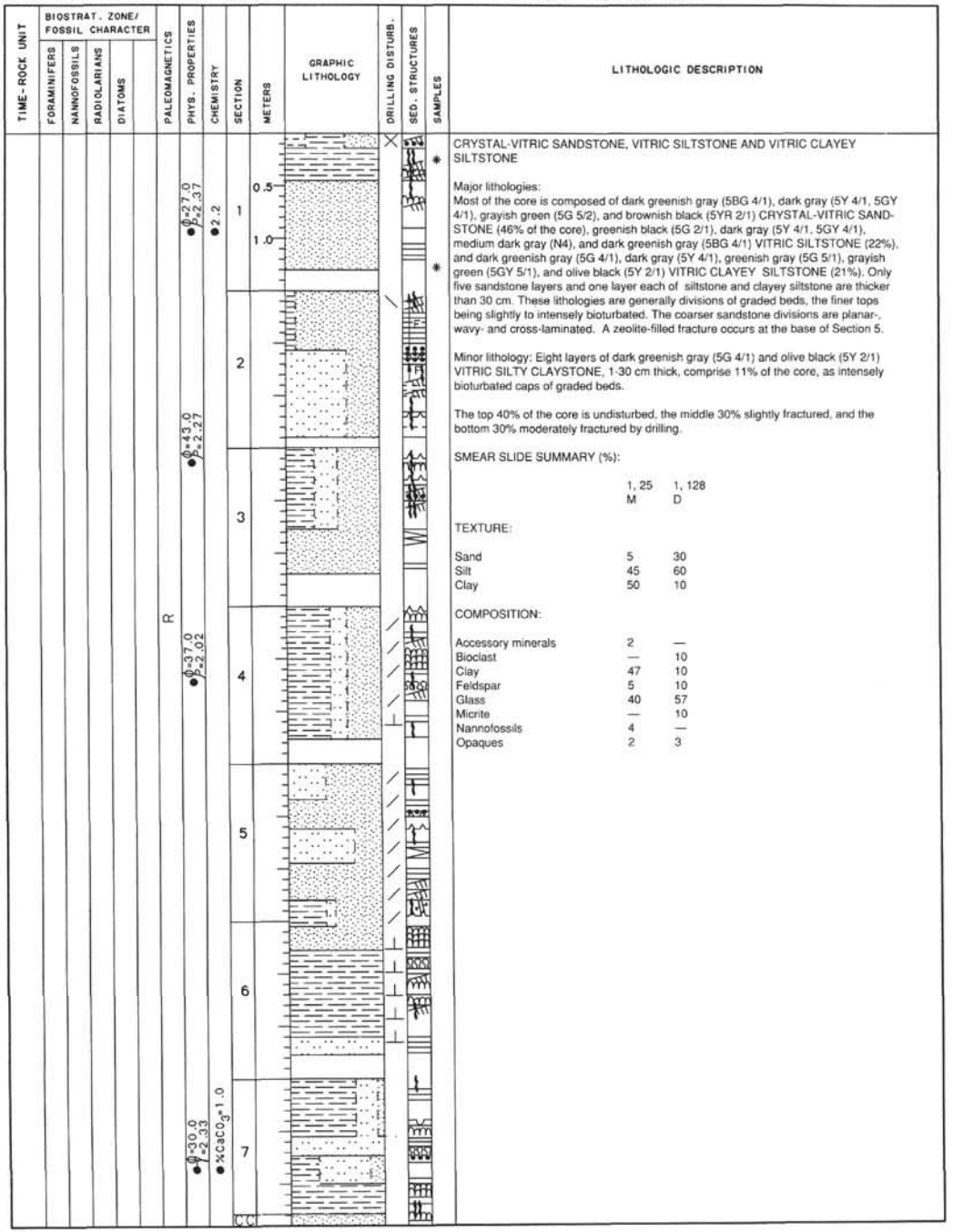
Major lithologies:
Greenish black (5GY 2/1), dark greenish gray (5BG 4/1, 5G 4/1), and dark gray (5GY 4/1) CRYSTAL-VITRIC SANDSTONE and dark greenish gray (5BG 4/1) and dark gray (5Y 4/1) VITRIC SILTY CLAYSTONE comprise 54% and 20% of the core, respectively. Much of the sandstone is in seven layers, 23-104 cm thick. The thickest bed (Sections 5 and 6) is graded from structureless, medium-grained sandstone to fine-grained, parallel-laminated sandstone. Other layers are basal divisions, several centimeters thick, of graded beds. The siltstone, in layers 1-16 cm thick, consists of slightly to intensely burrowed caps of graded beds. There are water-escape features in Section 2, a micro-fault in Section 3, and fractures in Sections 1, 2, 4 and 5.

Minor lithologies:
VITRIC SILTSTONE (7%), CLAYSTONE (6%), and VITRIC SILTY SANDSTONE (2%) comprise the remainder of the core, as middle or upper divisions of the graded beds.

Most of the core is undisturbed to slightly fractured by drilling.



SITE 793 HOLE B CORE 71R CORED INTERVAL 1259.4-1268.7 mbsf



LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE, VITRIC SILTSTONE AND VITRIC CLAYEY SILTSTONE

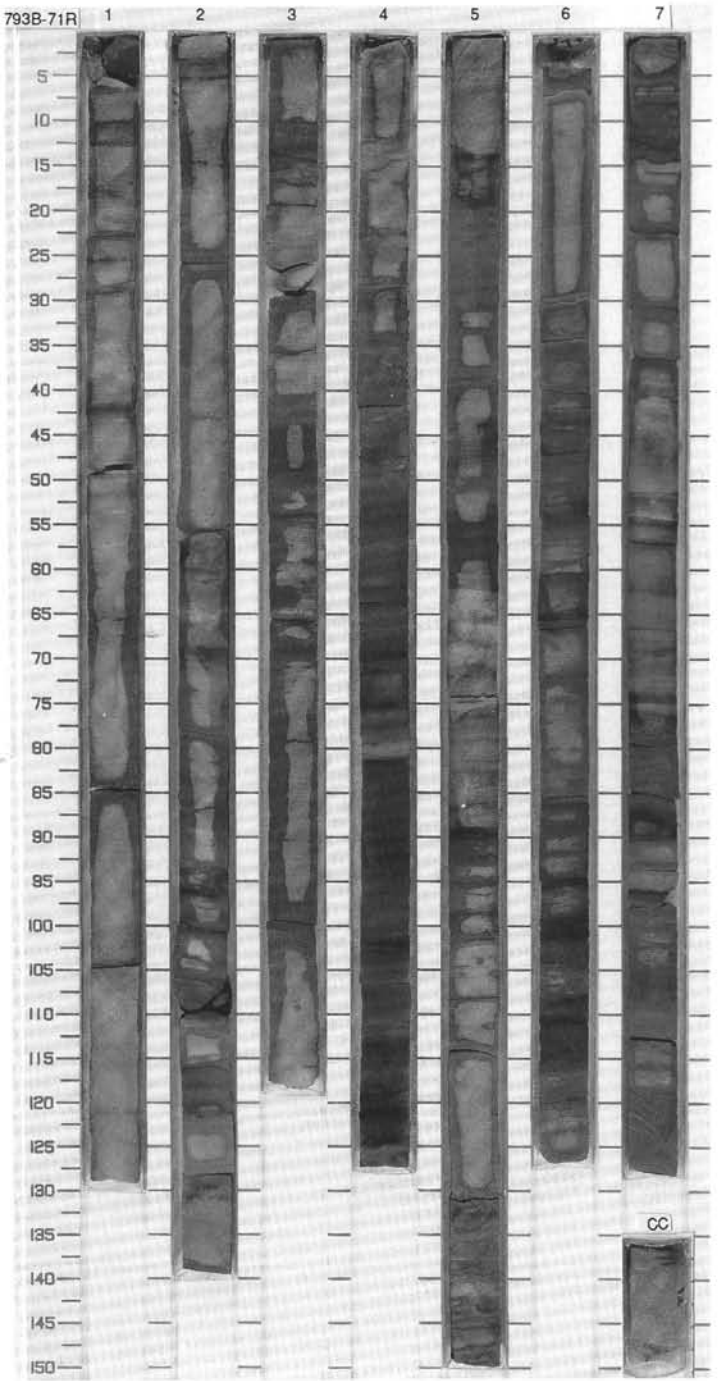
Major lithologies:
Most of the core is composed of dark greenish gray (5BG 4/1), dark gray (5Y 4/1, 5GY 4/1), grayish green (5G 5/2), and brownish black (5YR 2/1) CRYSTAL-VITRIC SANDSTONE (46% of the core), greenish black (5G 2/1), dark gray (5Y 4/1, 5GY 4/1), medium dark gray (N4), and dark greenish gray (5BG 4/1) VITRIC SILTSTONE (22%), and dark greenish gray (5G 4/1), dark gray (5Y 4/1), greenish gray (5G 5/1), grayish green (5GY 5/1), and olive black (5Y 2/1) VITRIC CLAYEY SILTSTONE (21%). Only five sandstone layers and one layer each of siltstone and clayey siltstone are thicker than 30 cm. These lithologies are generally divisions of graded beds, the finer tops being slightly to intensely bioturbated. The coarser sandstone divisions are planar-, wavy- and cross-laminated. A zeolite-filled fracture occurs at the base of Section 5.

Minor lithology: Eight layers of dark greenish gray (5G 4/1) and olive black (5Y 2/1) VITRIC SILTY CLAYSTONE, 1-30 cm thick, comprise 11% of the core, as intensely bioturbated caps of graded beds.

The top 40% of the core is undisturbed, the middle 30% slightly fractured, and the bottom 30% moderately fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 25 M	1, 128 D
TEXTURE:		
Sand	5	30
Silt	45	60
Clay	50	10
COMPOSITION:		
Accessory minerals	2	—
Bioclast	—	10
Clay	47	10
Feldspar	5	10
Glass	40	57
Micrite	—	10
Nannofossils	4	—
Opaques	2	3



SITE 793 HOLE B CORE 72R CORED INTERVAL 1268.7-1278.4 mbsf

TIME-ROCK UNIT: LOWER OLIGOCENE

BIOSTRAT. ZONE/ FOSSIL CHARACTER: FORAMINIFERS: B; NANNOFOSSILS: CP17 - 18; RADIOLARIANS: C/P; DIATOMS:

PALEOMAGNETICS

PHYS. PROPERTIES: ϕ=24.0, 2.61; ϕ=39.0, 1.88; ϕ=44.0, 2.02; ϕ=36.0, 2.28

CHEMISTRY: %$CaCO_3$=0.5; %$CaCO_3$=2.7; %$CaCO_3$=0.7; %$CaCO_3$=2.6

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES: F, F

SAMPLES: *, *, *, #

LITHOLOGIC DESCRIPTION

VOLCANIC-LITHIC GRANULE CONGLOMERATE, GRANULE-RICH VITRIC SANDSTONE, VITRIC SANDSTONE, VITRIC SILTSTONE AND CLAYEY SILTSTONE

Major lithologies:
Two very thick beds, spanning parts of Sections 1, 2, 5, 6 and 7, consist of olive black (5Y 2/1) VOLCANIC-LITHIC GRANULE CONGLOMERATE, grading upward into GRANULE-RICH VITRIC SANDSTONE, and then into VITRIC SANDSTONE. This rock is structureless or parallel laminated. The upper bed has an inversely graded base. The rest of the core (about 40% of recovery) consists of very thin to thick beds of parallel- and ripple-laminated, olive black (5Y 2/1) and pale green (10G 6/2), fine-to very fine-grained VITRIC SANDSTONE, VITRIC SILTSTONE and CLAYEY SILTSTONE.

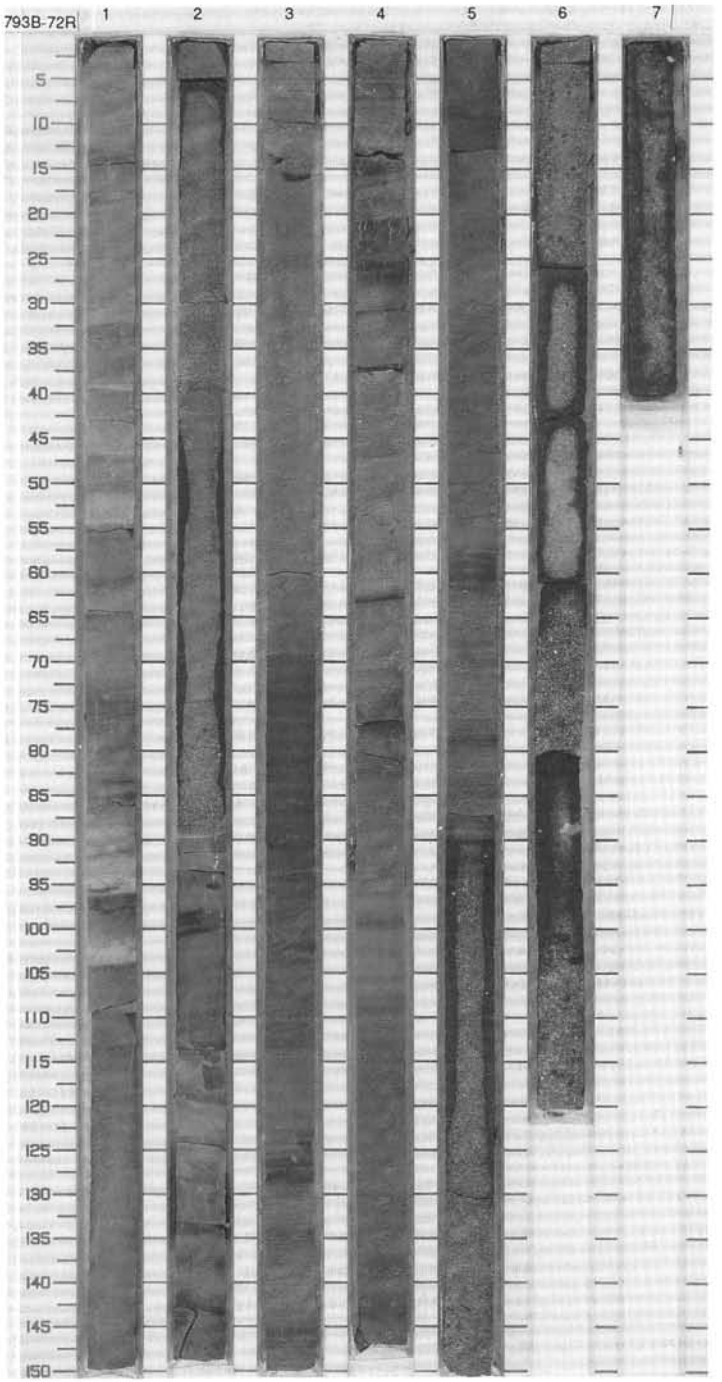
There and extensional microfaults, sub-vertical fractures and veinlets in Sections 2, 3 and 4.

Minor lithologies:
Section 5, 25-90 cm, consists of very fine-grained grayish green (5G 5/2) CARBONATE VITRIC SANDSTONE, with calcite of unknown origin. Section 3, 70-115 cm, Section 4, 110-128 cm, and Section 4, 140 cm to Section 5, 25 cm, consist of beds of grayish green (5G 5/2), fine- to very fine-grained MUDDY SANDSTONE with a lower division of convolute laminae.

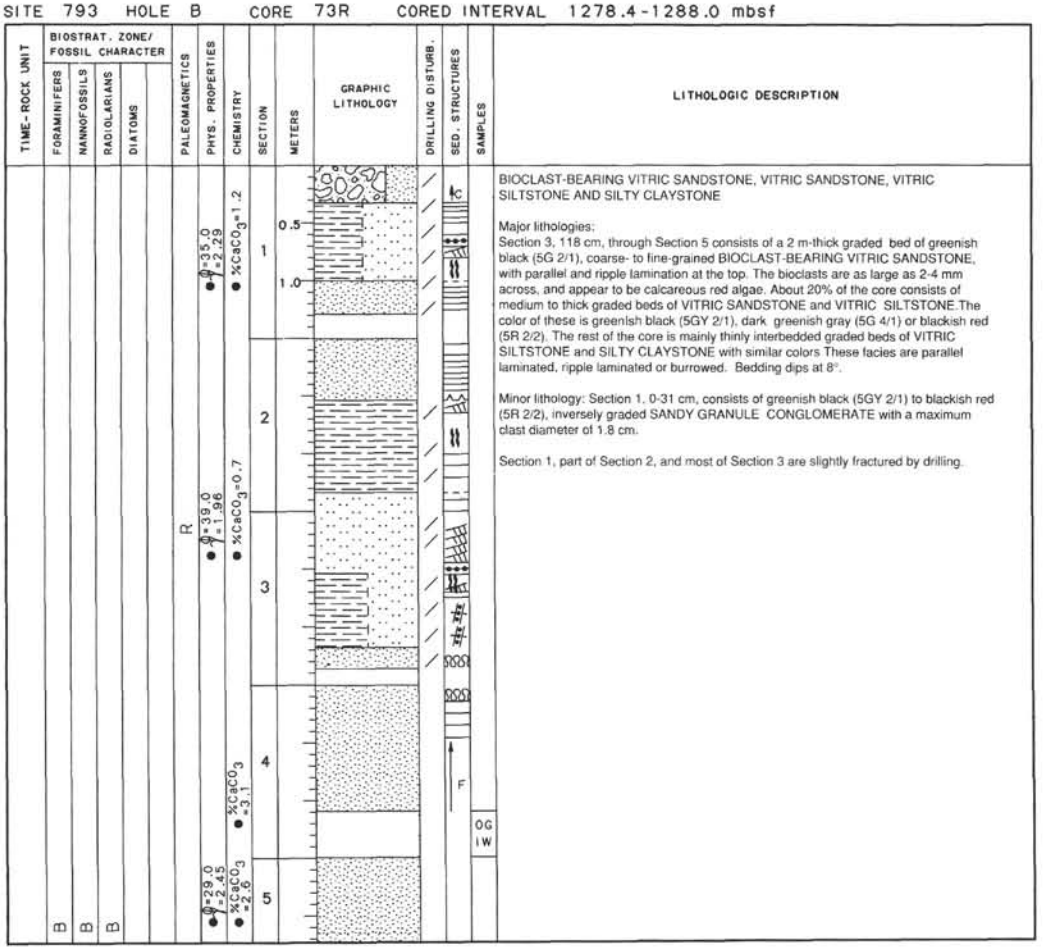
Some intervals are slightly fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	3, 100 D	4, 34 D	5, 65 D	5, 92 D
TEXTURE:				
Sand	—	—	—	100
Silt	54	20	90	—
Clay	46	80	10	—
COMPOSITION:				
Accessory minerals	—	—	—	5
Cement	—	—	—	35
Clay	46	72	10	—
Feldspar	Tr	1	Tr	5
Glass	50	20	29	50
Inorganic calcite	1	—	60	—
Nannofossils	—	3	—	—
Opaques	1	3	1	—
Quartz	Tr	1	Tr	—
Rock fragment	—	—	—	5



SITE 793 HOLE B CORE 73R CORED INTERVAL 1278.4-1288.0 mbsf

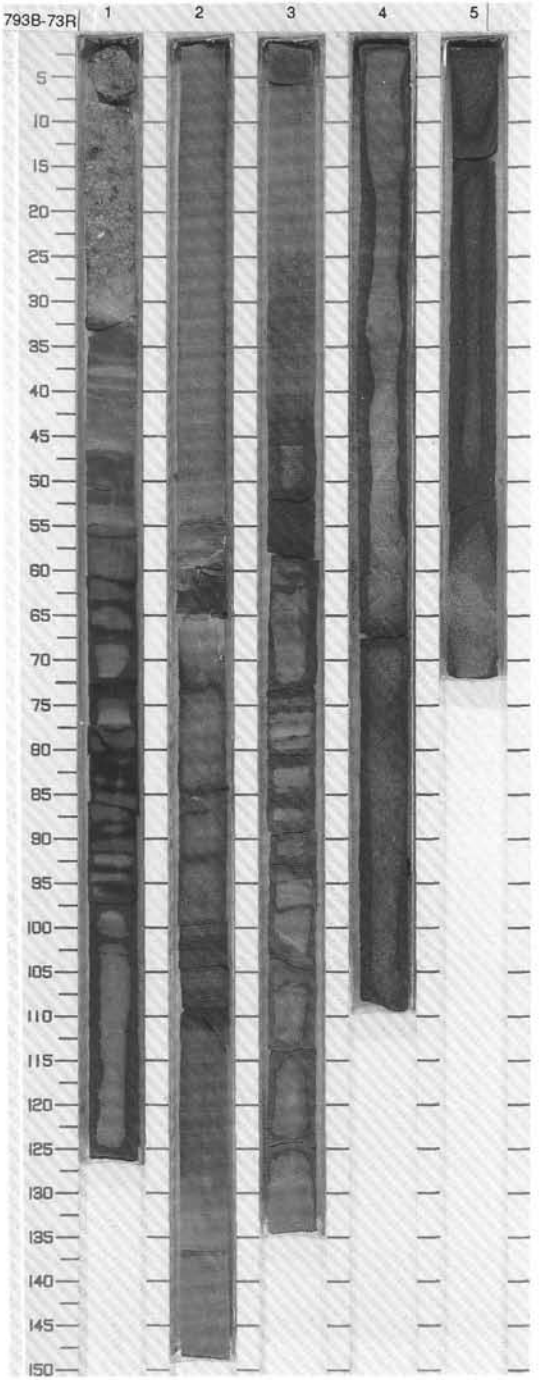


BIOCLAST-BEARING VITRIC SANDSTONE, VITRIC SANDSTONE, VITRIC SILTSTONE AND SILTY CLAYSTONE

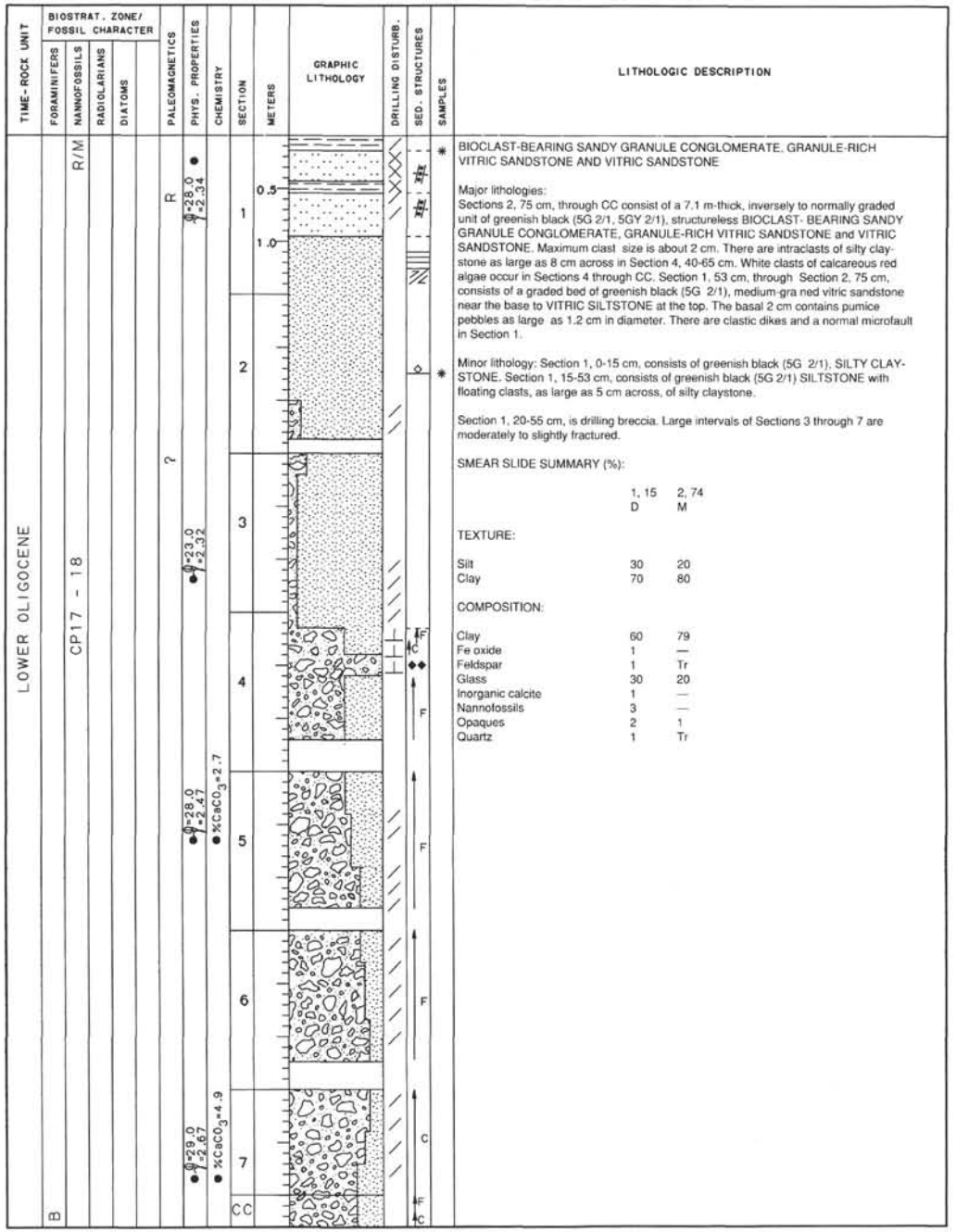
Major lithologies:
Section 3, 118 cm, through Section 5 consists of a 2 m-thick graded bed of greenish black (5G 2/1), coarse- to fine-grained BIOCLAST-BEARING VITRIC SANDSTONE, with parallel and ripple lamination at the top. The bioclasts are as large as 2-4 mm across, and appear to be calcareous red algae. About 20% of the core consists of medium to thick graded beds of VITRIC SANDSTONE and VITRIC SILTSTONE.The color of these is greenish black (5GY 2/1), dark greenish gray (5G 4/1) or blackish red (5R 2/2). The rest of the core is mainly thinly interbedded graded beds of VITRIC SILTSTONE and SILTY CLAYSTONE with similar colors These facies are parallel laminated, ripple laminated or burrowed. Bedding dips at 8°.

Minor lithology: Section 1, 0-31 cm, consists of greenish black (5GY 2/1) to blackish red (5R 2/2), inversely graded SANDY GRANULE CONGLOMERATE with a maximum clast diameter of 1.8 cm.

Section 1, part of Section 2, and most of Section 3 are slightly fractured by drilling.



SITE 793 HOLE B CORE 74R CORED INTERVAL 1288.0-1297.7 mbsf



LITHOLOGIC DESCRIPTION

BIOCLAST-BEARING SANDY GRANULE CONGLOMERATE, GRANULE-RICH VITRIC SANDSTONE AND VITRIC SANDSTONE

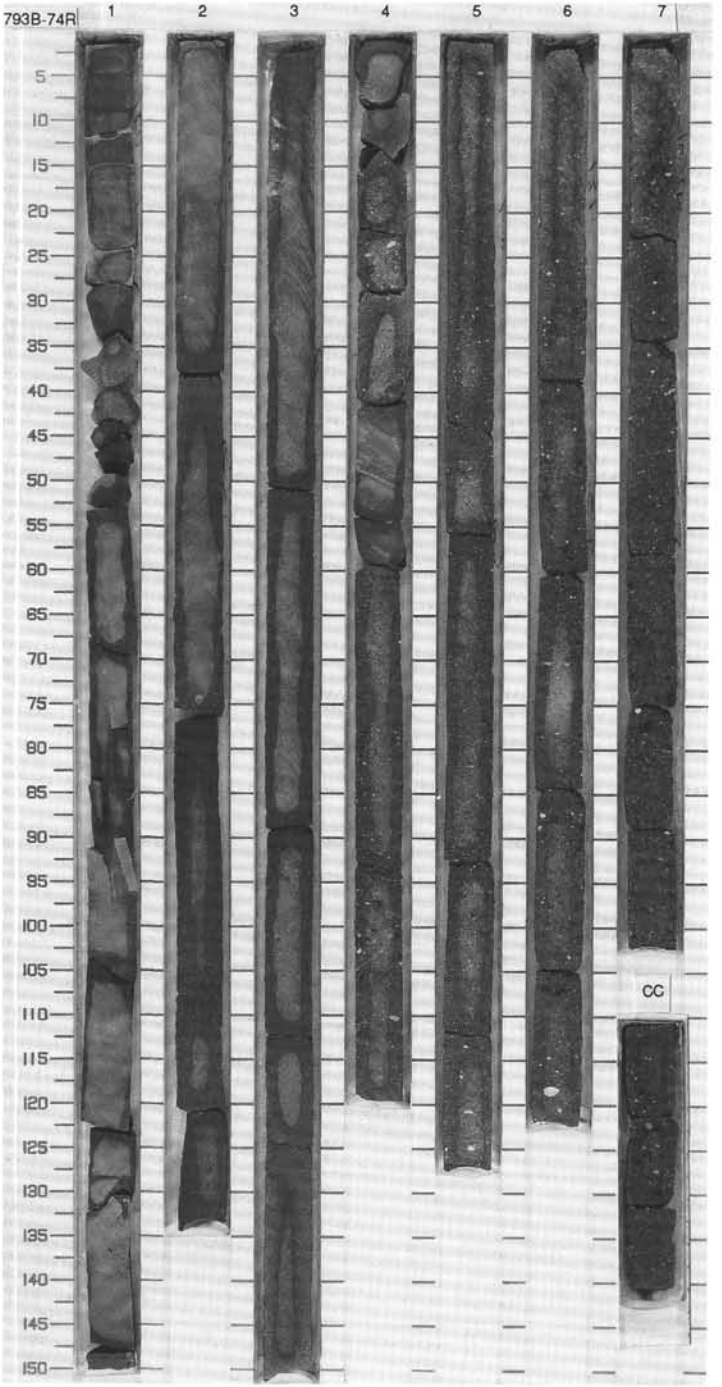
Major lithologies:
Sections 2, 75 cm, through CC consist of a 7.1 m-thick, inversely to normally graded unit of greenish black (5G 2/1, 5GY 2/1), structureless BIOCLAST- BEARING SANDY GRANULE CONGLOMERATE, GRANULE-RICH VITRIC SANDSTONE and VITRIC SANDSTONE. Maximum clast size is about 2 cm. There are intraclasts of silty claystone as large as 8 cm across in Section 4, 40-65 cm. White clasts of calcareous red algae occur in Sections 4 through CC. Section 1, 53 cm, through Section 2, 75 cm, consists of a graded bed of greenish black (5G 2/1), medium-gra ned vitric sandstone near the base to VITRIC SILTSTONE at the top. The basal 2 cm contains pumice pebbles as large as 1.2 cm in diameter. There are clastic dikes and a normal microfault in Section 1.

Minor lithology: Section 1, 0-15 cm, consists of greenish black (5G 2/1), SILTY CLAYSTONE. Section 1, 15-53 cm, consists of greenish black (5G 2/1) SILTSTONE with floating clasts, as large as 5 cm across, of silty claystone.

Section 1, 20-55 cm, is drilling breccia. Large intervals of Sections 3 through 7 are moderately to slightly fractured.

SMEAR SLIDE SUMMARY (%):

	1, 15 D	2, 74 M
TEXTURE:		
Silt	30	20
Clay	70	80
COMPOSITION:		
Clay	60	79
Fe oxide	1	—
Feldspar	1	Tr
Glass	30	20
Inorganic calcite	1	—
Nannofossils	3	—
Opaques	2	1
Quartz	1	Tr



SITE 793 HOLE B CORE 75R CORED INTERVAL 1297.7-1307.3 mbsf

TIME-ROCK UNIT: LOWER OLIGOCENE

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

PALEOMAGNETICS: ?

PHYS. PROPERTIES: ?

CHEMISTRY: C/M; CP17 - 18

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

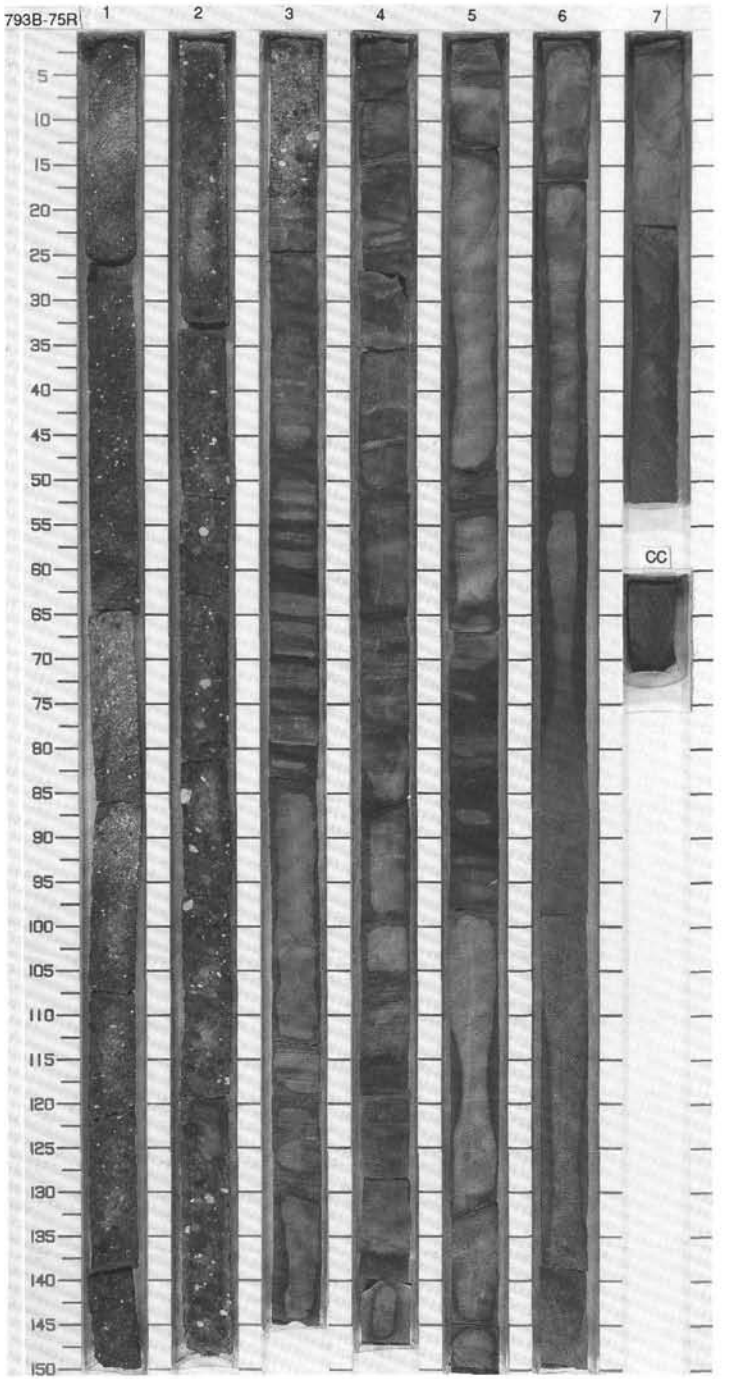
BIOCLAST-BEARING LITHIC CONGLOMERATE, VITRIC SANDSTONE, VITRIC SILTSTONE AND SILTY CLAYSTONE

Major lithologies:
Sections 1, 0 cm, through 3, 20 cm, consist of greenish black (5GY 2/1), structureless, inversely to normally graded BIOCLAST-BEARING LITHIC CONGLOMERATE. The upper part of this bed occurs in Core 74R. Volcanic clasts are aphyric andesites. Maximum pebble size is 1.7 cm. Sand/granule/pebble ratio is 20/40/40. The bioclastic grains are pebbles of calcareous red algae. Sections 6 through CC consist of one very thick bed and two medium beds of greenish black (5G 2/1), fine-to very fine-grained VITRIC SANDSTONE with "snowflake"-like alteration spots, and diffused dewatering fractures. The rest of the core consists of thin to medium interbeds of fine-grained vitric sandstone, VITRIC SILTSTONE, and parallel-laminated to burrowed SILTY CLAYSTONE. Sections 3, 4 and 5 contain steep fractures, mineral-filled fractures and microfaults.

Most of the core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	2, 50 M	2, 51 D	5, 63 D
TEXTURE:			
Sand	—	10	—
Silt	—	80	20
Clay	—	10	80
COMPOSITION:			
Accessory minerals	—	—	1
Clay	—	10	80
Feldspar	—	2	Tr
Glass	—	80	10
Hornblende	—	1	—
Inorganic calcite	100	2	2
Nannofossils	—	—	3
Opaques	—	3	2
Quartz	—	2	Tr



SITE 793 HOLE B CORE 76R CORED INTERVAL 1307.3-1317.0 mbsf

TIME-ROCK UNIT: LOWER OLIGOCENE

BIOSTRAT. ZONE/FOSSIL CHARACTER: FORAMINIFERS: B; NANNOFOSSILS: C/P; CP17 - 18; RADIOLARIANS; DIATOMS

PALEOMAGNETICS: ?

PHYS. PROPERTIES: ρ=19.0 γ=2.38; ρ=16.0 γ=2.38; ρ=20.0 γ=2.39

CHEMISTRY: %$CaCO_3$=0.5; %$CaCO_3$=0.7

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES: F, C, F

SAMPLES

LITHOLOGIC DESCRIPTION

VITRIC SANDSTONE AND BIOCLAST-BEARING VITRIC-LITHIC PEBBLY SANDSTONE

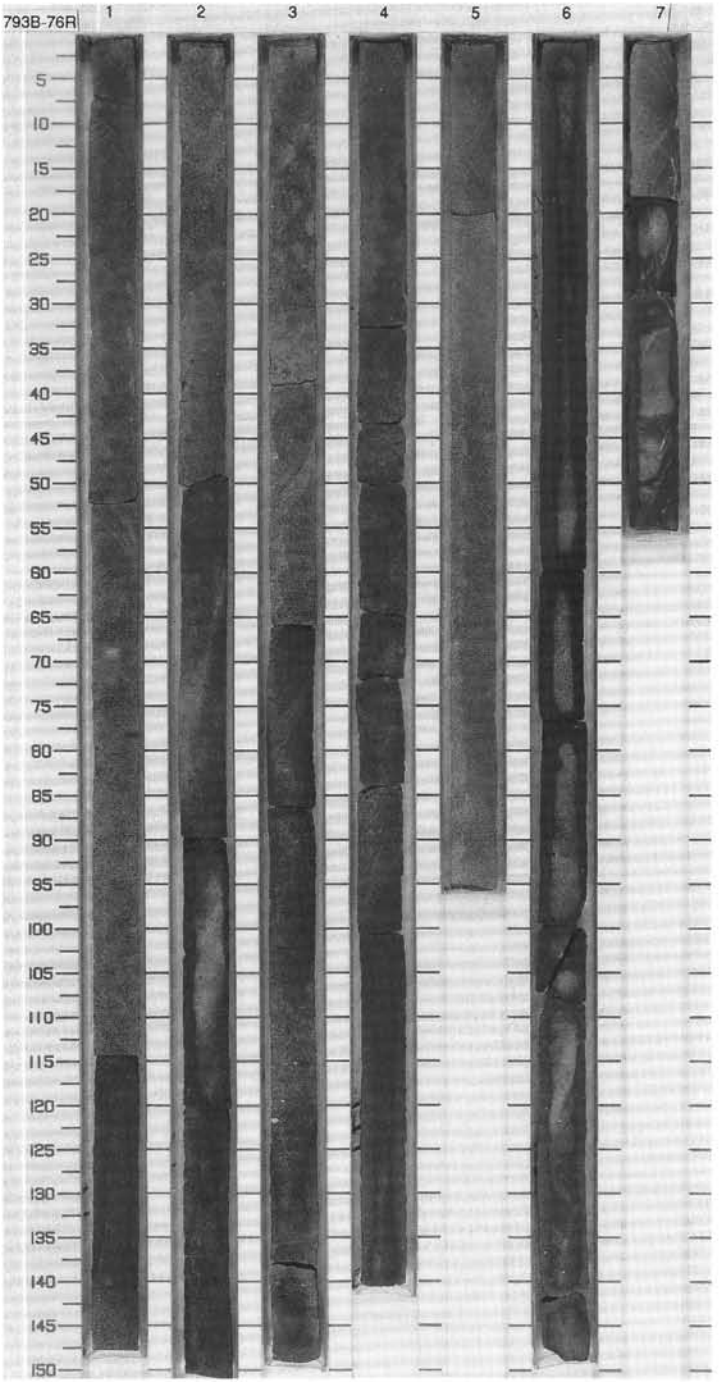
Major lithologies:
This core consists of parts of two very thick, graded beds of greenish black (5GY 2/1), structureless VITRIC SANDSTONE and BIOCLAST-BEARING VITRIC-LITHIC PEBBLY SANDSTONE. The uppermost bed continues into Core 75R. Grain size fluctuates as a result of variations in the content of volcanic and bioclastic granules and pebbles. The bioclastic grains consist of calcareous red algae. The vitric sandstone has "snowflake"-like alteration spots. Steeply dipping dewatering fractures occur in Section 2, 90-120 cm, Section 4, 90-110 cm, and Section 6, 110-120 cm. Mineral-filled fractures occur in Section 4, 30-40 cm, and Section 7, 30-40 cm. Microfaults occur in Section 6, 100-110 cm, and Section 7, 40-50 cm.

Minor lithologies:
Section 7, 17-55 cm, consists of interbedded, fine-grained VITRIC SANDSTONE, VITRIC SILTSTONE, SILTY CLAYSTONE and BRECCIATED CLAYSTONE that has been fractured in the fault in this interval. All this sediment is greenish black (5GY 2/1).

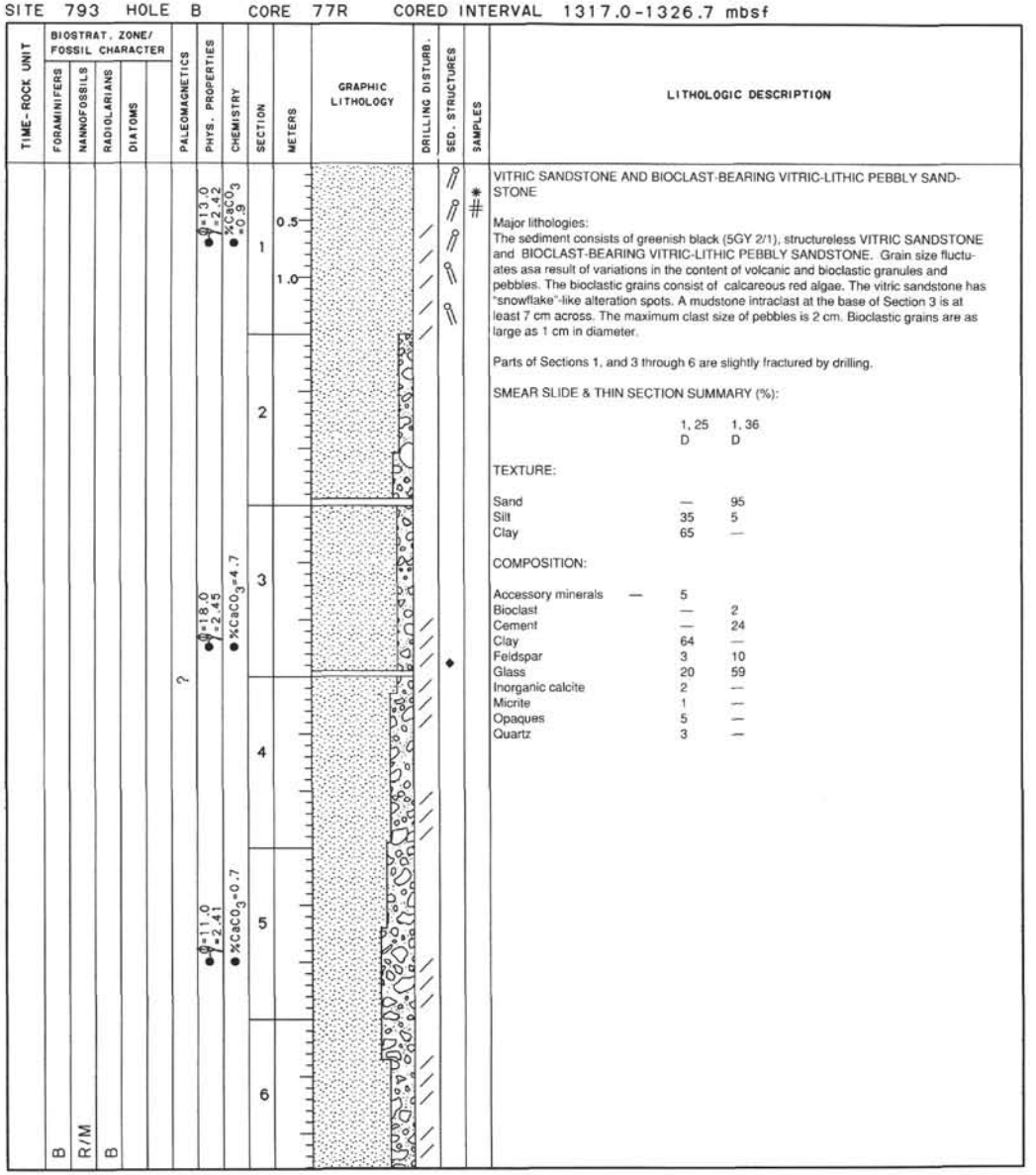
Parts of Sections 3, 4, 6 and 7 are slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 70 D	4, 45 D
TEXTURE:		
Silt	90	35
Clay	10	63
COMPOSITION:		
Clay	10	65
Feldspar	5	1
Glass	74	30
Hornblende	2	—
Inorganic calcite	—	2
Opaques	3	1
Quartz	5	1



SITE 793 HOLE B CORE 77R CORED INTERVAL 1317.0-1326.7 mbsf



LITHOLOGIC DESCRIPTION

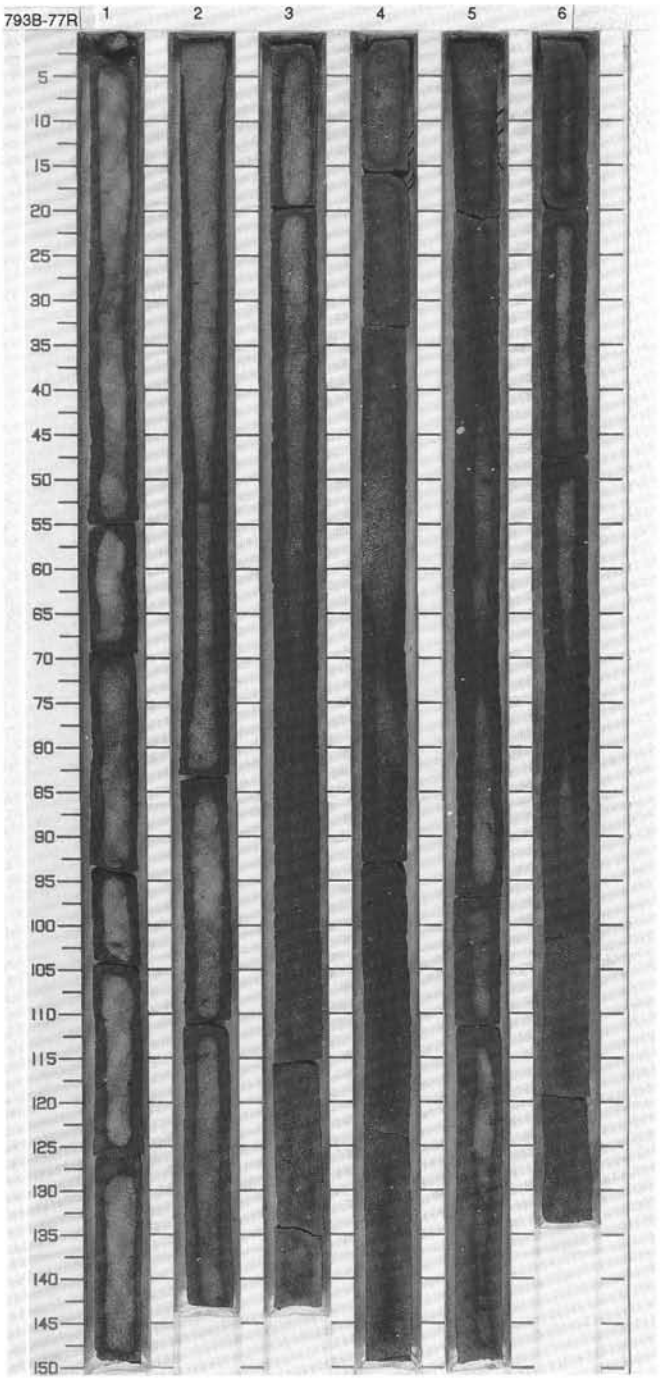
VITRIC SANDSTONE AND BIOCLAST-BEARING VITRIC-LITHIC PEBBLY SANDSTONE

Major lithologies:
The sediment consists of greenish black (5GY 2/1), structureless VITRIC SANDSTONE and BIOCLAST-BEARING VITRIC-LITHIC PEBBLY SANDSTONE. Grain size fluctuates asa result of variations in the content of volcanic and bioclastic granules and pebbles. The bioclastic grains consist of calcareous red algae. The vitric sandstone has "snowflake"-like alteration spots. A mudstone intraclast at the base of Section 3 is at least 7 cm across. The maximum clast size of pebbles is 2 cm. Bioclastic grains are as large as 1 cm in diameter.

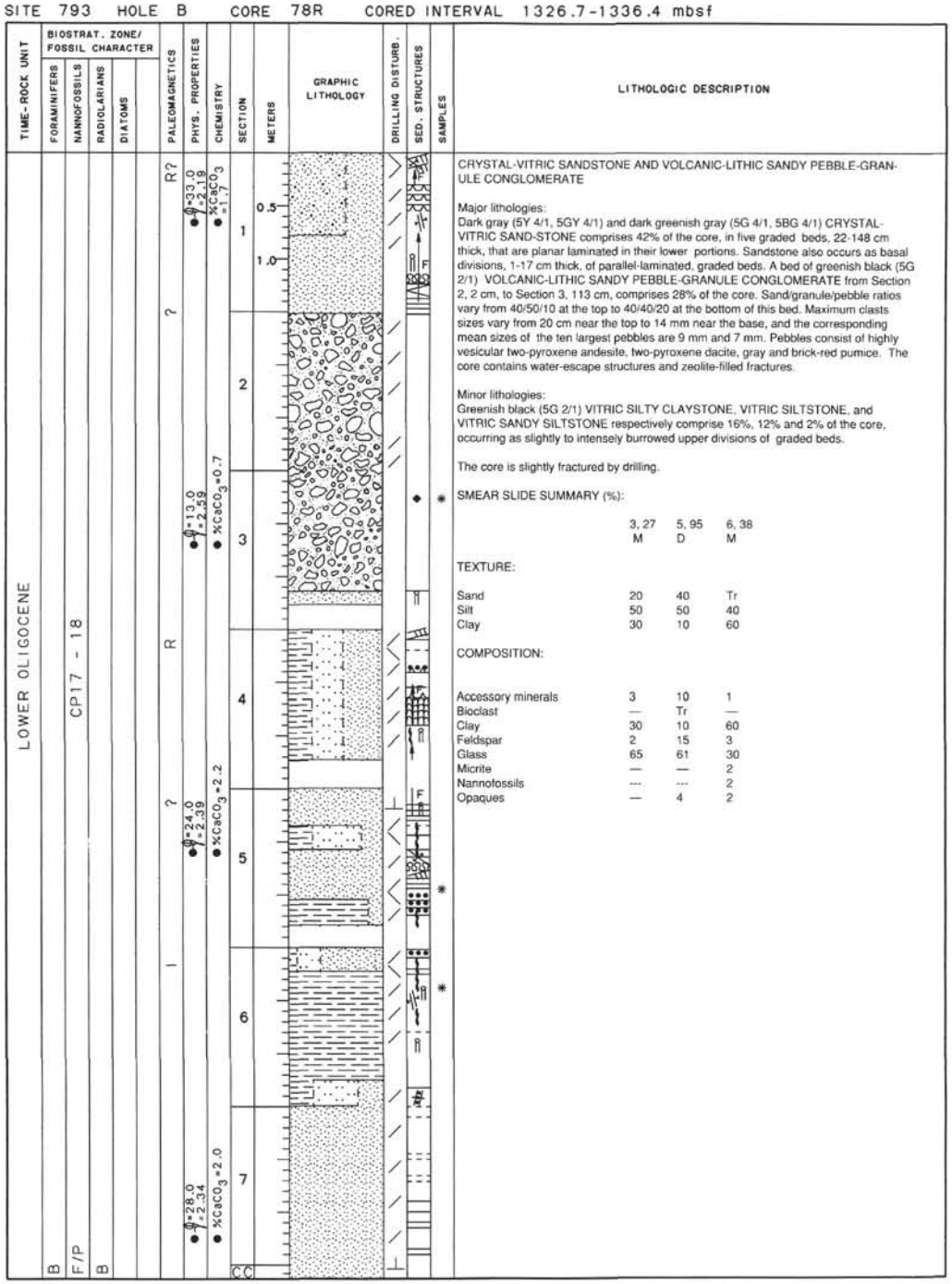
Parts of Sections 1, and 3 through 6 are slightly fractured by drilling.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	1, 25 D	1, 36 D
TEXTURE:		
Sand	—	95
Silt	35	5
Clay	65	—
COMPOSITION:		
Accessory minerals	5	
Bioclast	—	2
Cement	—	24
Clay	64	—
Feldspar	3	10
Glass	20	59
Inorganic calcite	2	—
Micrite	1	—
Opaques	5	—
Quartz	3	—



SITE 793 HOLE B CORE 78R CORED INTERVAL 1326.7-1336.4 mbsf



LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE AND VOLCANIC-LITHIC SANDY PEBBLE-GRANULE CONGLOMERATE

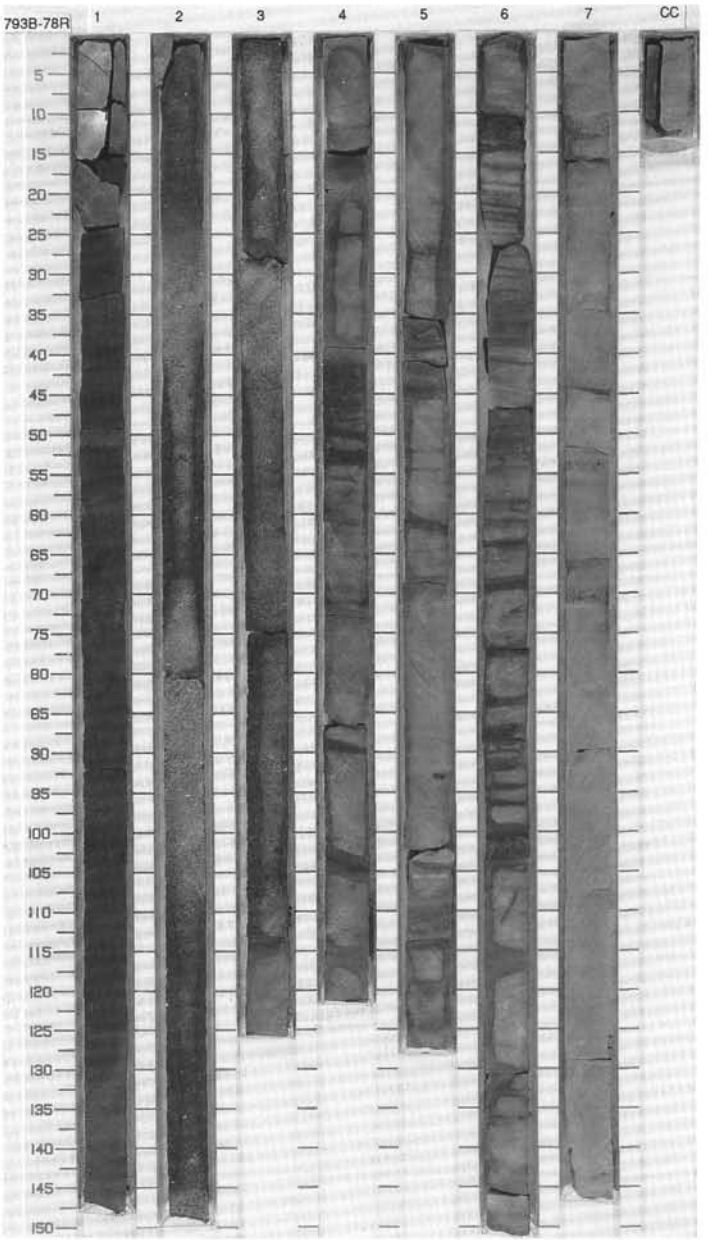
Major lithologies:
Dark gray (5Y 4/1, 5GY 4/1) and dark greenish gray (5G 4/1, 5BG 4/1) CRYSTAL-VITRIC SAND-STONE comprises 42% of the core, in five graded beds, 22-148 cm thick, that are planar laminated in their lower portions. Sandstone also occurs as basal divisions, 1-17 cm thick, of parallel-laminated, graded beds. A bed of greenish black (5G 2/1) VOLCANIC-LITHIC SANDY PEBBLE-GRANULE CONGLOMERATE from Section 2, 2 cm, to Section 3, 113 cm, comprises 28% of the core. Sand/granule/pebble ratios vary from 40/50/10 at the top to 40/40/20 at the bottom of this bed. Maximum clasts sizes vary from 20 cm near the top to 14 mm near the base, and the corresponding mean sizes of the ten largest pebbles are 9 mm and 7 mm. Pebbles consist of highly vesicular two-pyroxene andesite, two-pyroxene dacite, gray and brick-red pumice. The core contains water-escape structures and zeolite-filled fractures.

Minor lithologies:
Greenish black (5G 2/1) VITRIC SILTY CLAYSTONE, VITRIC SILTSTONE, and VITRIC SANDY SILTSTONE respectively comprise 16%, 12% and 2% of the core, occurring as slightly to intensely burrowed upper divisions of graded beds.

The core is slightly fractured by drilling.

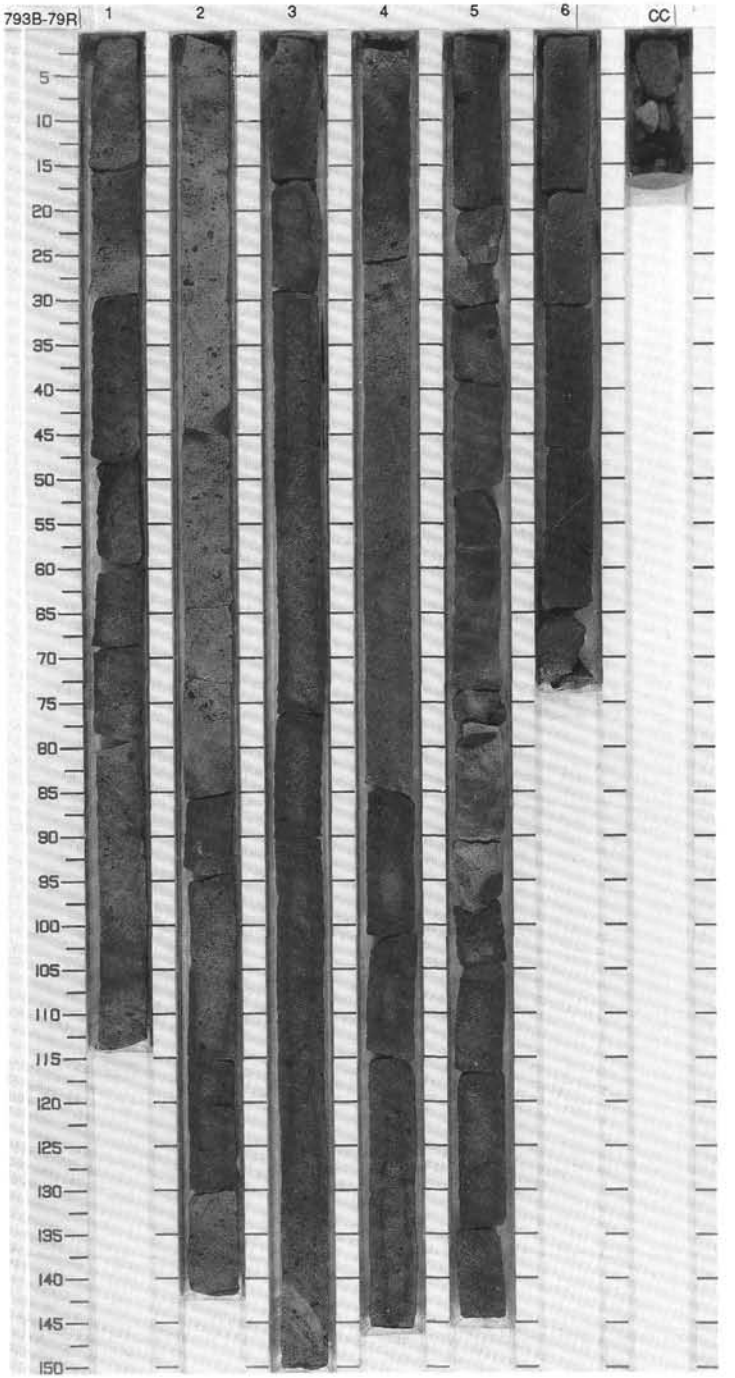
SMEAR SLIDE SUMMARY (%):

	3, 27 M	5, 95 D	6, 38 M
TEXTURE:			
Sand	20	40	Tr
Silt	50	50	40
Clay	30	10	60
COMPOSITION:			
Accessory minerals	3	10	1
Bioclast	—	Tr	—
Clay	30	10	60
Feldspar	2	15	3
Glass	65	61	30
Micrite	—	—	2
Nannofossils	—	—	2
Opaques	—	4	2

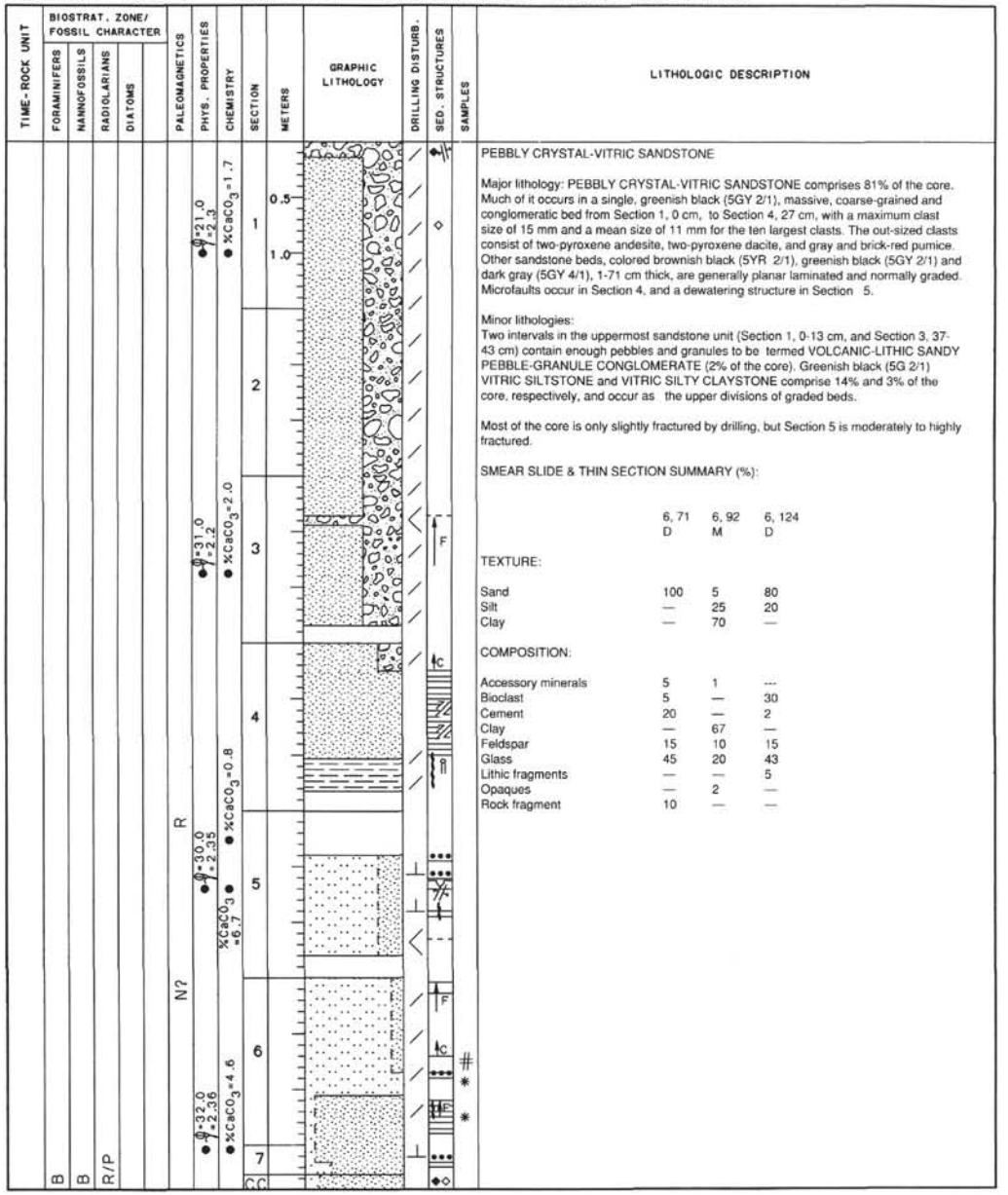


SITE 793 HOLE B CORE 79R CORED INTERVAL 1336.4-1346.0 mbsf

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
LOWER OLIGOCENE	B	CP17 - 18	R/P	B	?	ϕ=10.0 ρ=2.38 ϕ=39.0 ρ=2.17 ϕ=27.0 ρ=2.35 ϕ=22.0 ρ=2.45	%$CaCO_3$=0.18 %$CaCO_3$=4.5 %$CaCO_3$=2.0	1 2 3 4 5 6 CC	0.5 1.0					*CRYSTAL-VITRIC PEBBLY SANDSTONE WITH CLAYSTONE INTRACLASTS* Major lithology: 91% of the core consists of greenish black (5GY 2/1), massive CRYSTAL-VITRIC PEBBLY SANDSTONE with CLAYSTONE INTRACLASTS. Sand/granule/pebble ratio is 55/30/15; excluding intraclasts, the maximum clast size is 40 mm, and the mean size of the ten largest clasts ranges from 5 to 10 mm. Pebbles consist of highly vesicular two-pyroxene andesite, two-pyroxene dacite, and gray and brick-red pumice. Intraclasts of sedimentary rock, mostly claystone and silty claystone, occur in Sections 1-5, with concentrations in Sections 1 and 5. Typical intraclast sizes are 2-5 cm, but one in Section 5 occupies at least 32 cm of the core. A dewatering structure occurs in Section 5. Minor lithology: Section 6, 60 cm, through CC consists of greenish black (5GY 2/1), massive VOLCANIC-LITHIC SANDY GRANULE CONGLOMERATE, which constitutes 9% of the core. *The core is undisturbed to moderately fractured by drilling.*



SITE 793 HOLE B CORE 80R CORED INTERVAL 1346.0-1355.7 mbsf



LITHOLOGIC DESCRIPTION

PEBBLY CRYSTAL-VITRIC SANDSTONE

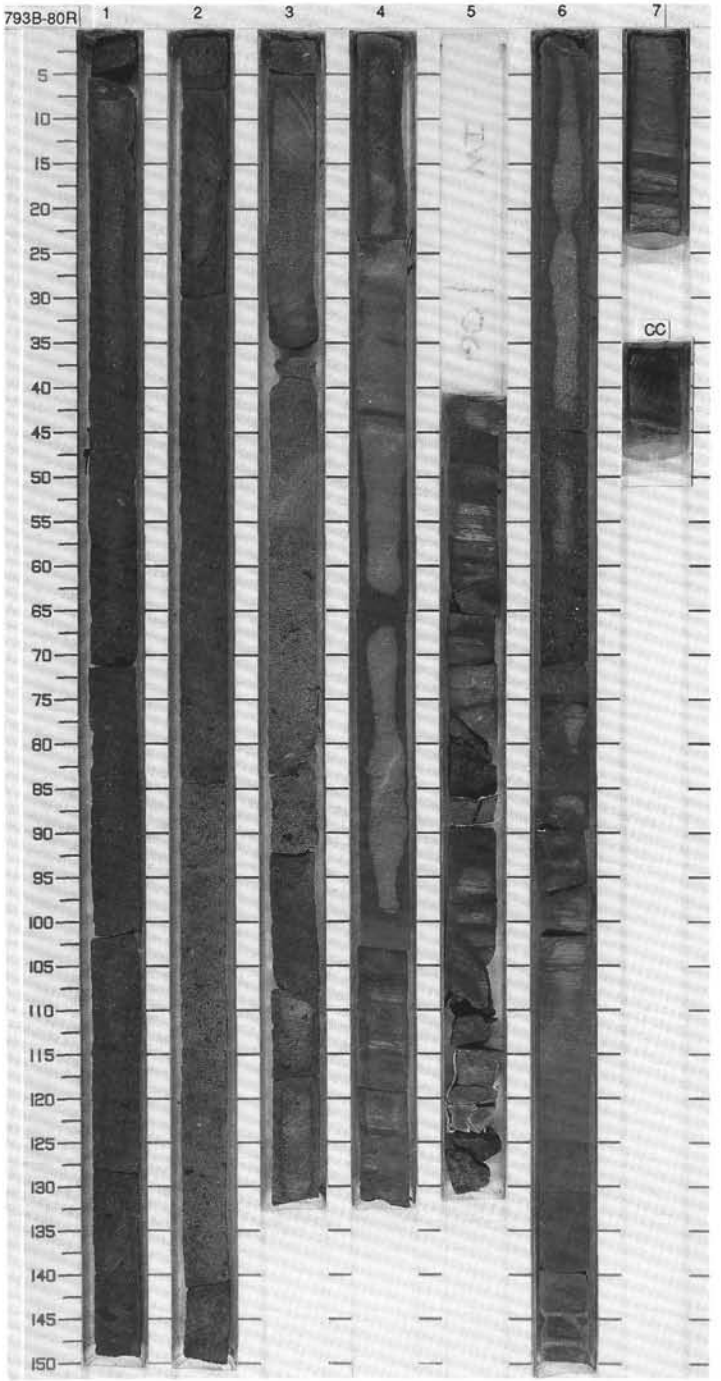
Major lithology: PEBBLY CRYSTAL-VITRIC SANDSTONE comprises 81% of the core. Much of it occurs in a single, greenish black (5GY 2/1), massive, coarse-grained and conglomeratic bed from Section 1, 0 cm, to Section 4, 27 cm, with a maximum clast size of 15 mm and a mean size of 11 mm for the ten largest clasts. The out-sized clasts consist of two-pyroxene andesite, two-pyroxene dacite, and gray and brick-red pumice. Other sandstone beds, colored brownish black (5YR 2/1), greenish black (5GY 2/1) and dark gray (5GY 4/1), 1-71 cm thick, are generally planar laminated and normally graded. Microfaults occur in Section 4, and a dewatering structure in Section 5.

Minor lithologies:
Two intervals in the uppermost sandstone unit (Section 1, 0-13 cm, and Section 3, 37-43 cm) contain enough pebbles and granules to be termed VOLCANIC-LITHIC SANDY PEBBLE-GRANULE CONGLOMERATE (2% of the core). Greenish black (5G 2/1) VITRIC SILTSTONE and VITRIC SILTY CLAYSTONE comprise 14% and 3% of the core, respectively, and occur as the upper divisions of graded beds.

Most of the core is only slightly fractured by drilling, but Section 5 is moderately to highly fractured.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	6, 71 D	6, 92 M	6, 124 D
TEXTURE:			
Sand	100	5	80
Silt	—	25	20
Clay	—	70	—
COMPOSITION:			
Accessory minerals	5	1	---
Bioclast	5	—	30
Cement	20	—	2
Clay	—	67	—
Feldspar	15	10	15
Glass	45	20	43
Lithic fragments	—	—	5
Opaques	—	2	—
Rock fragment	10	—	—



SITE 793 HOLE B CORE 81R CORED INTERVAL 1355.7-1365.3 mbsf

TIME-ROCK UNIT: LOWER OLIGOCENE

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

PALEOMAGNETICS: N? / ? / R?

PHYS. PROPERTIES: ●-33.0 ▯-2.27; ●-39.0 ▯-2.3; ●-32.0 ▯-2.32; ●-33.0 ▯-2.42; ●-36.0 ▯-2.27; ●-36.0 ▯-2.45

CHEMISTRY:

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

METERS: 0.5, 1.0

GRAPHIC LITHOLOGY

DRILLING DISTURB.

SED. STRUCTURES

SAMPLES

LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE AND VITRIC SILTSTONE

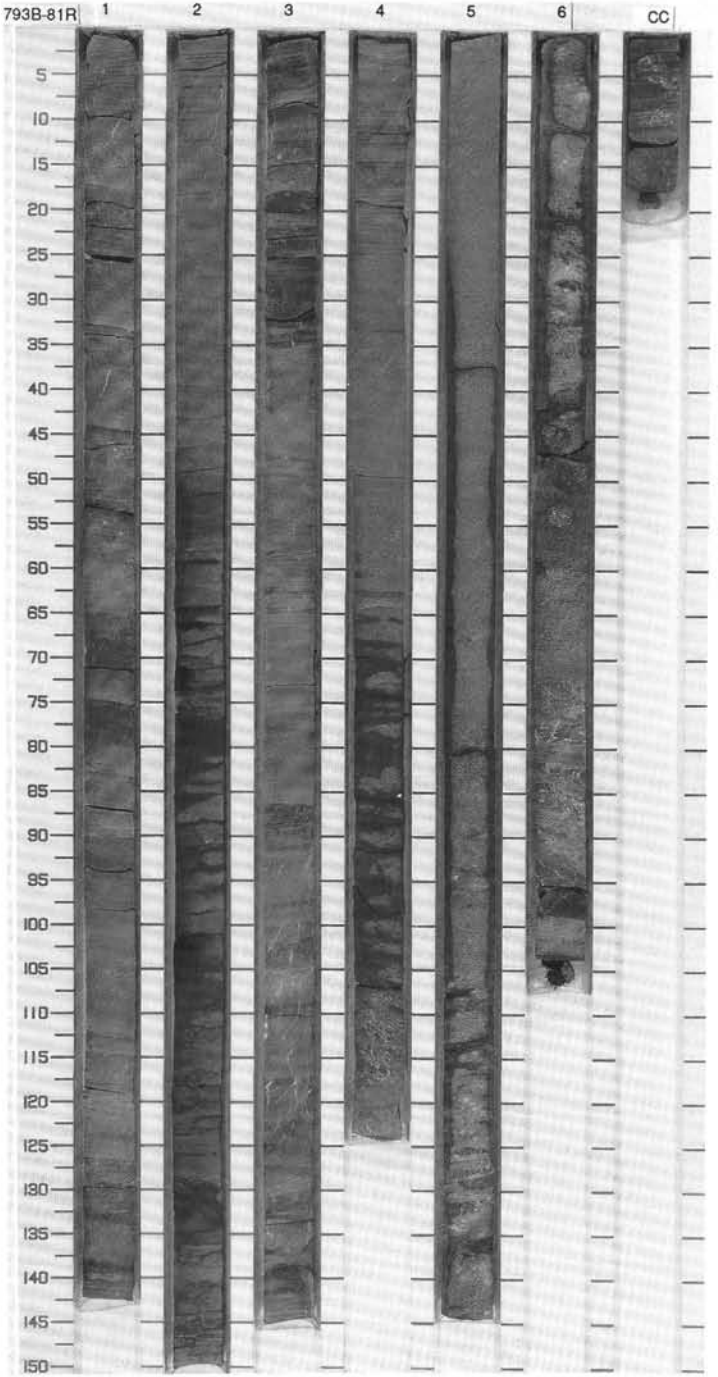
Major lithologies:
Greenish black (5G 2/1), olive black (5Y 2/1) and brownish black (5YR 2/1) CRYSTAL-VITRIC SANDSTONE and VITRIC SILTSTONE respectively comprise 60% and 27% of the core. About 80% of the sandstone occurs in four, planar-laminated, medium- to very fine-grained beds, 39-222 cm thick; the thickest of these (Sections 5 and 6) contains volcanic and sedimentary lithic pebbles and granules. The thinner sandstone and siltstone layers, 1-23 cm thick, are planar-, wavy-, and cross laminated divisions of graded beds. Several microfaults occur in Sections 1, 2, 3 and 6. There are numerous subvertical mineral-filled fractures.

Minor lithologies:
The rest of the core is composed of similarly colored VITRIC SILTY CLAYSTONE (7%), VITRIC SILTY CLAYSTONE (3%), VITRIC SANDY SILTSTONE (2%), and CLAYSTONE (1%), which occur as slightly to intensely burrowed caps above graded beds and as bioturbated mixtures of the major lithologies.

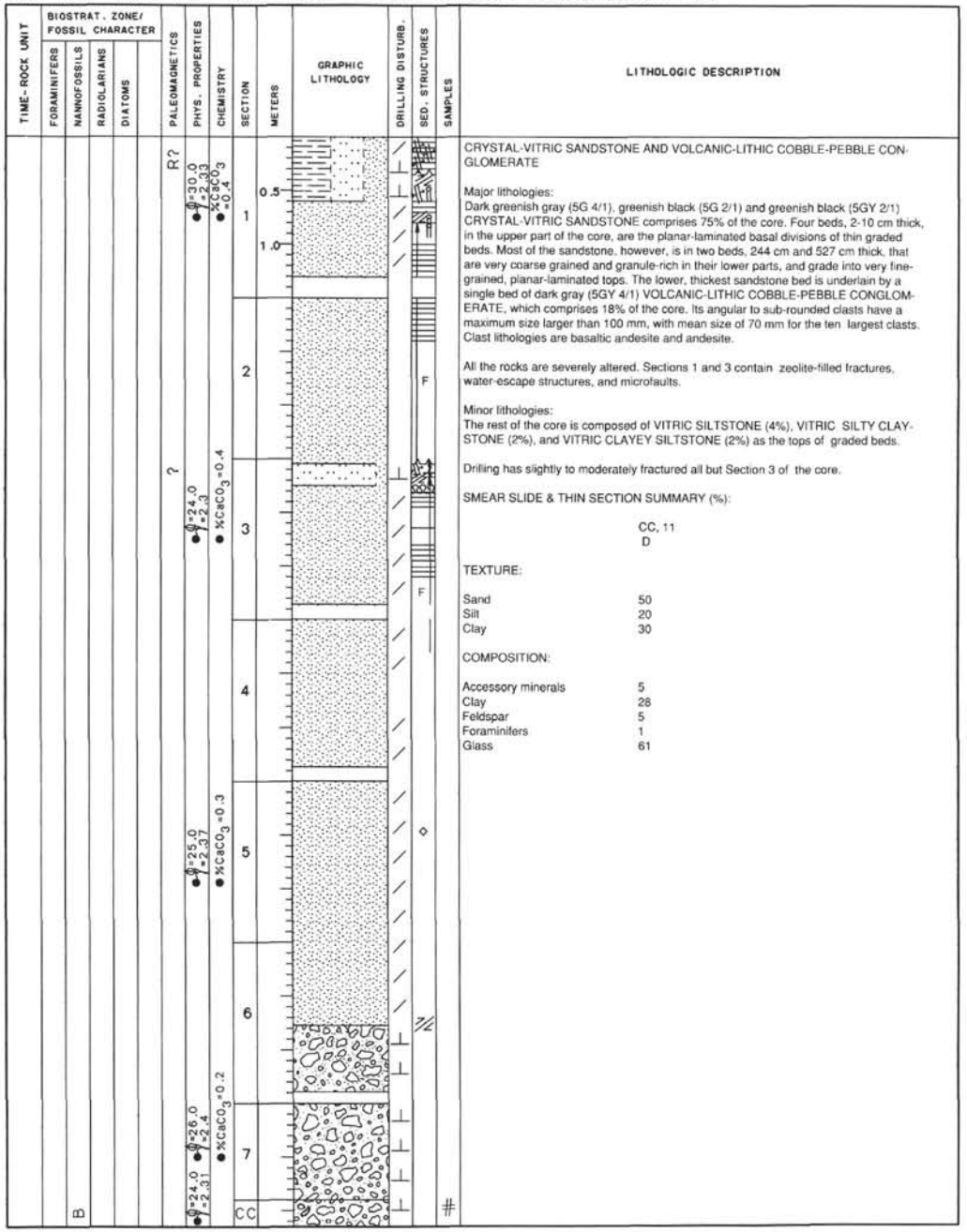
The entire core is slightly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 86 D	2, 58 D	2, 120 M
TEXTURE:			
Sand	—	50	—
Silt	15	30	30
Clay	85	20	70
COMPOSITION:			
Accessory minerals	1	3	1
Cement	—	2	Tr
Clay	83	20	71
Feldspar	5	10	2
Glass	2	53	25
Inorganic calcite	Tr	Tr	—
Lithic fragments	1	10	—
Micrite	1	—	—
Nannofossils	3	—	—
Opaques	4	2	—
Radiolarians	—	—	1



SITE 793 HOLE B CORE 82R CORED INTERVAL 1365.3-1374.9 mbsf



LITHOLOGIC DESCRIPTION

CRYSTAL-VITRIC SANDSTONE AND VOLCANIC-LITHIC COBBLE-PEBBLE CONGLOMERATE

Major lithologies:
Dark greenish gray (5G 4/1), greenish black (5G 2/1) and greenish black (5GY 2/1) CRYSTAL-VITRIC SANDSTONE comprises 75% of the core. Four beds, 2-10 cm thick, in the upper part of the core, are the planar-laminated basal divisions of thin graded beds. Most of the sandstone, however, is in two beds, 244 cm and 527 cm thick, that are very coarse grained and granule-rich in their lower parts, and grade into very fine-grained, planar-laminated tops. The lower, thickest sandstone bed is underlain by a single bed of dark gray (5GY 4/1) VOLCANIC-LITHIC COBBLE-PEBBLE CONGLOMERATE, which comprises 18% of the core. Its angular to sub-rounded clasts have a maximum size larger than 100 mm, with mean size of 70 mm for the ten largest clasts. Clast lithologies are basaltic andesite and andesite.

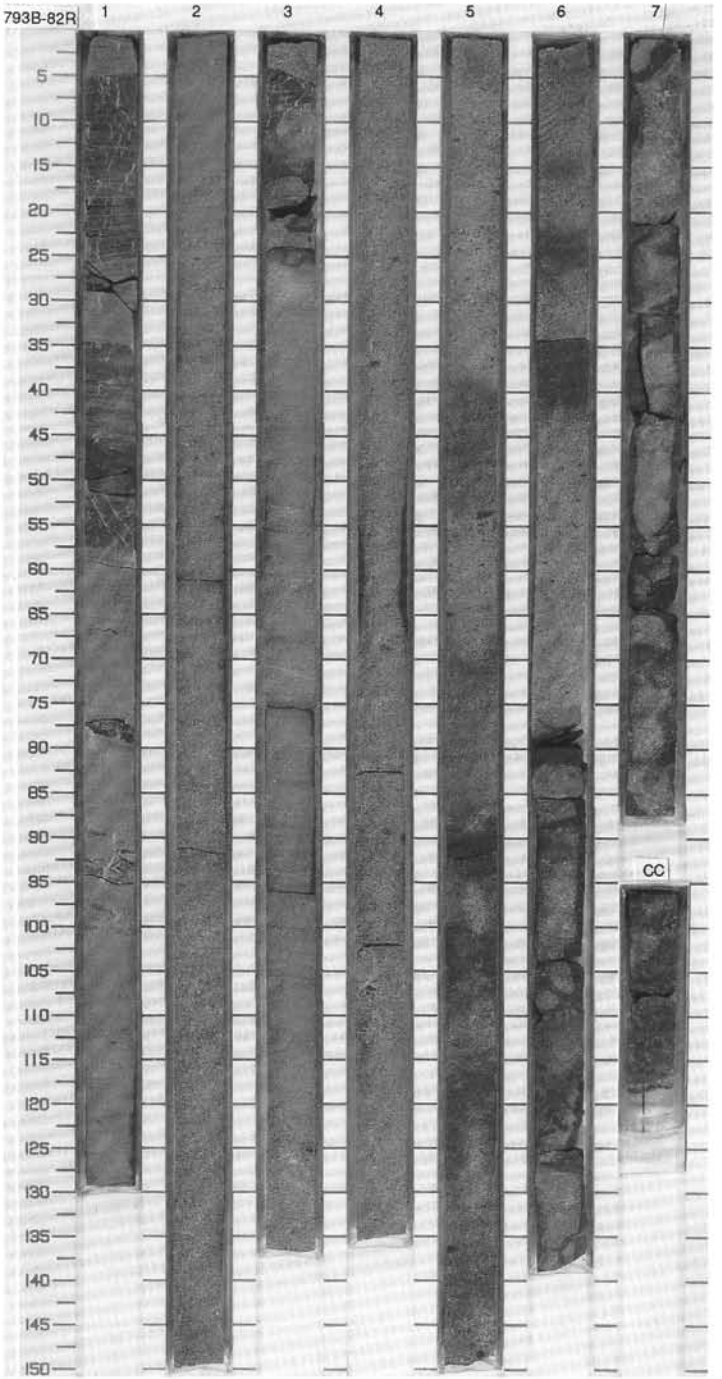
All the rocks are severely altered. Sections 1 and 3 contain zeolite-filled fractures, water-escape structures, and microfaults.

Minor lithologies:
The rest of the core is composed of VITRIC SILTSTONE (4%), VITRIC SILTY CLAYSTONE (2%), and VITRIC CLAYEY SILTSTONE (2%) as the tops of graded beds.

Drilling has slightly to moderately fractured all but Section 3 of the core.

SMEAR SLIDE & THIN SECTION SUMMARY (%):

	CC, 11 D
TEXTURE:	
Sand	50
Silt	20
Clay	30
COMPOSITION:	
Accessory minerals	5
Clay	28
Feldspar	5
Foraminifers	1
Glass	61



SITE 793 HOLE B CORE 83R CORED INTERVAL 1374.9-1384.5 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

TIME-ROCK UNIT: B

PHYS. PROPERTIES: ρ=29.0 ρ=43.0 ρ=33.0; =2.45 =2.25 =2.37; %$CaCO_3$=0.4 %$CaCO_3$=0.5

CHEMISTRY: %$CaCO_3$=0.4 %$CaCO_3$=0.5

SECTION: 1, 2, CC

METERS: 0.5, 1.0

SED. STRUCTURES: TS, XRF

SAMPLES: *

LITHOLOGIC DESCRIPTION

VOLCANIC BRECCIA AND VOLCANIC MICROBRECCIA

Major lithology: The core consists entirely of grayish green (5G 5/2), very poorly sorted VOLCANIC BRECCIA and VOLCANIC MICROBRECCIA with a matrixof zeolitic claystone. The matrix forms about 10% of the rock in Section 1, whereas in Section 2 there is little claystone matrix between sand- and granule-sized volcanic grains. All clasts are angular. Clasts in Section 1 are as large as 30 cm in diameter and consist of vesicular andesite with chilled margins. The larger clasts are olive black (5Y 2/1). There are fault surfaces with slickensides in Section 1, 15-20 cm and 50-55 cm.

The core is highly fractured by drilling.

SMEAR SLIDE SUMMARY (%):

	1, 20 M
TEXTURE:	
Silt	5
Clay	95
COMPOSITION:	
Feldspar	Tr
Glass	99
Inorganic calcite	Tr
Opaques	1
Quartz	Tr

SITE 793 HOLE B CORE 84R CORED INTERVAL 1384.5-1394.2 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

TIME-ROCK UNIT: B

PALEOMAGNETICS: ?

PHYS. PROPERTIES: ρ=29.0; =2.32

CHEMISTRY: %$CaCO_3$=0.2 %$CaCO_3$=0.3

SECTION: 1, 2, CC

METERS: 0.5, 1.0

SED. STRUCTURES: TS, XRF TS

SAMPLES: *

LITHOLOGIC DESCRIPTION

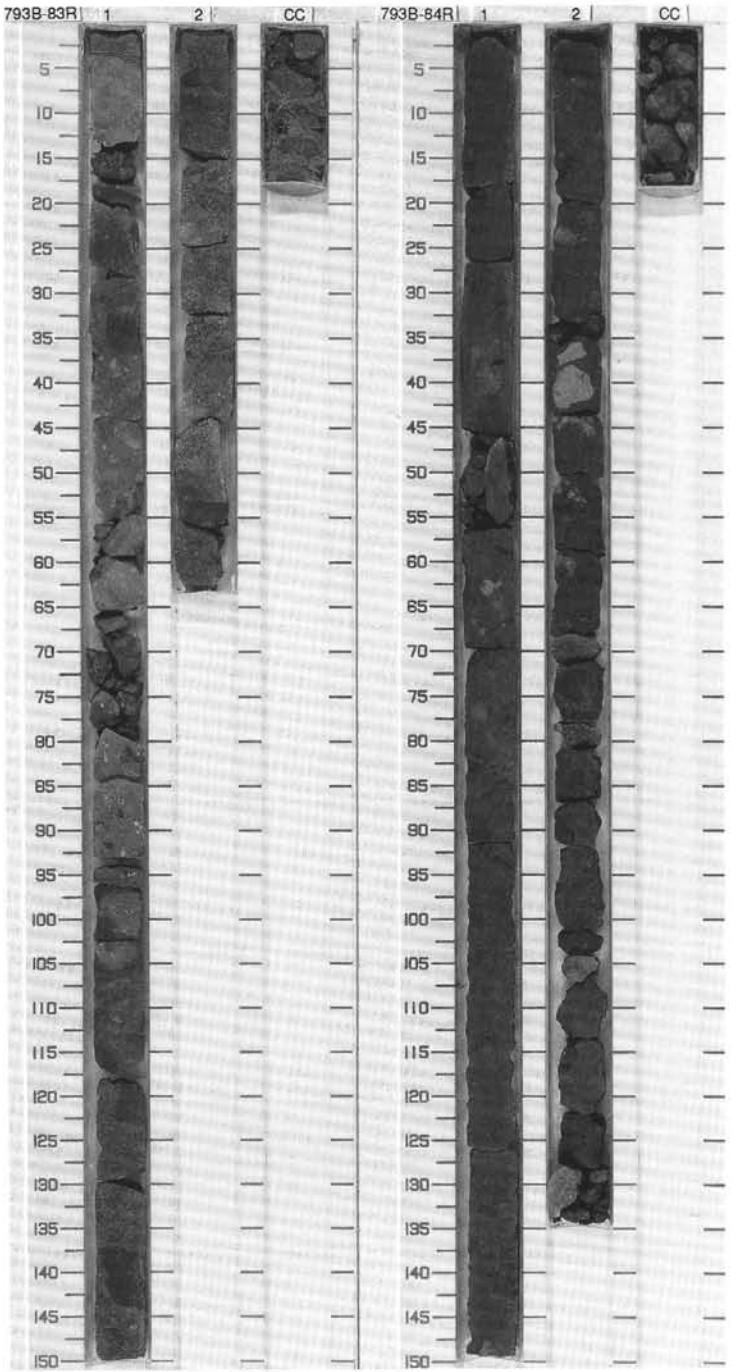
VOLCANIC BRECCIA AND VOLCANIC MICROBRECCIA

Major lithology: The core consists entirely of grayish green (5G 5/2), very poorly sorted VOLCANIC BRECCIA and VOLCANIC MICROBRECCIA. All clasts are angular. Clasts in Sections 1 and 2 are as large as 4 and 15 cm in diameter, respectively. Clasts are predominantly vesicular, plagioclase-rich andesites with smectite in t e vesicles and with zoned plagioclase. The larger clasts are olive black (5Y 2/1).

Section 1 is moderately fractured by drilling. Section 2 is slightly fractured.

SMEAR SLIDE SUMMARY (%):

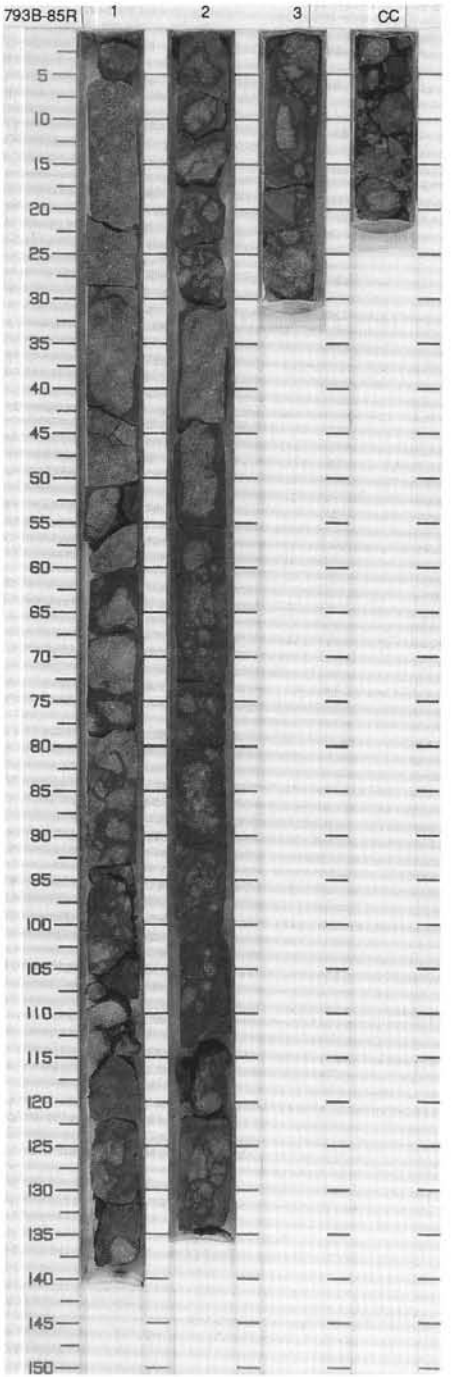
	1, 20 M
TEXTURE:	
Silt	70
Clay	30
COMPOSITION:	
Clay	30
Feldspar	1
Glass	62
Opaques	2
Quartz	1

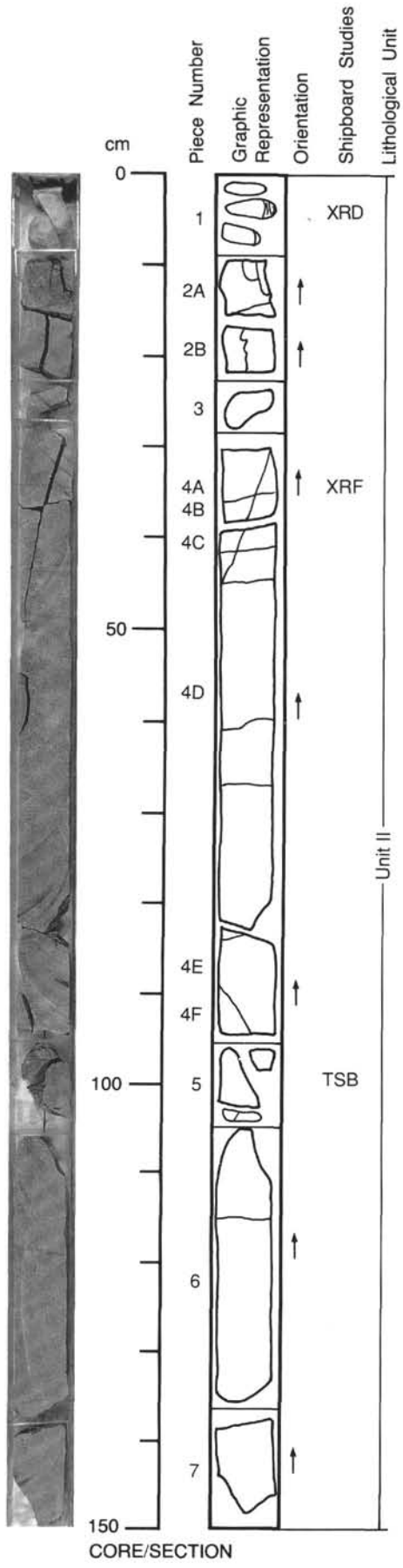


SITE 793 HOLE B CORE 85R CORED INTERVAL 1394.2-1403.9 mbsf

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
					?	●Φ=24.0 ●ρ=2.46 ×CaCO3 ●=0.3 ●Φ=29.0 ●ρ=2.55		1	0.5 1.0				TS	VOLCANIC BRECCIA and VOLCANIC MICROBRECCIA Major lithology: The core consists entirely of grayish green (5G 5/2), very poorly sorted VOLCANIC BRECCIA and VOLCANIC MICROBRECCIA. All clasts are angular. Clasts in Sections 1, 2 and 3 are as large as12, 30 and 9 cm in diameter, respectively. There is no muddy matrix, only sand-and granule-sized grains of volcanic rock. Clasts are predominantly vesicular, highly porphyritic andesites with phenocrysts of plagioclase (predominant), clinopyroxene and orthopyroxene. The larger vesicles are filled with smectite. The more altered class have flattened vesicles. A few clasts appear to be welded andesitic tuffs. The larger clasts are olive black (5Y 2/1). Most of Section 1 is moderately fractured by drilling, and Section 2 is highly fractured.
								2				◇	XRF TS	
								3				◇		
								CC				◇		

126 793B 91R NO RECOVERY



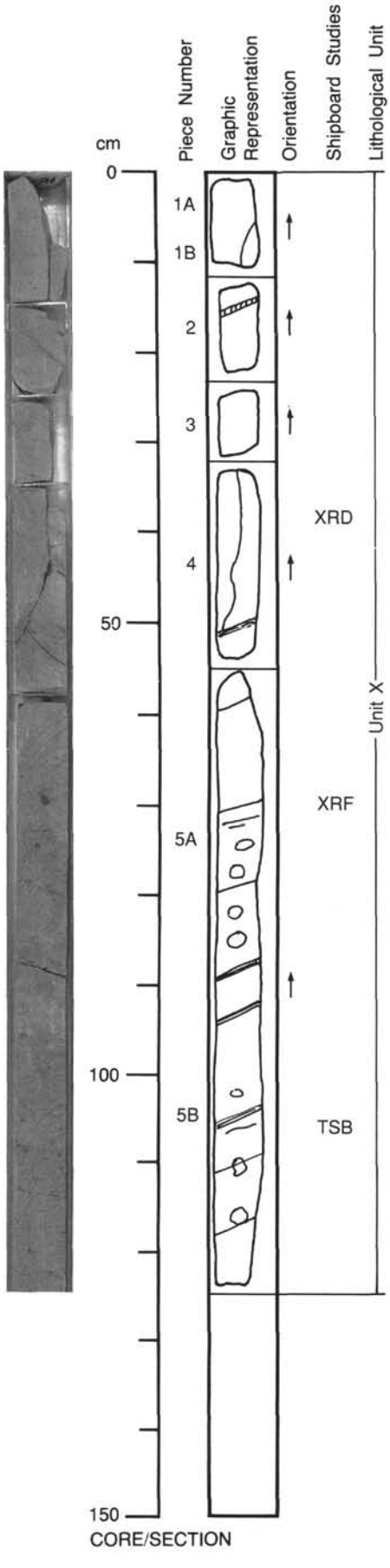


126-793B-1R-1

UNIT II: DIABASE

Pieces 1-7

CONTACTS: Upper baked; lower chilled.
PHENOCRYSTS: In glomeroporphyritic clots and at lower chilled margin.
Olivine - 5-7%; 1-3 mm; subhedral; altered to smectite.
Clinopyroxene - 2-15%; 2-6 mm; euhedral; twinned, with exsolution lamellae.
Orthopyroxene - 1%; 1-2 mm; sometimes rounded.
GROUNDMASS: Plagioclase (41%, 0.1-0.5 mm); clinopyroxene (18%, 0.1-0.5 mm); orthopyroxene (<1%, 0.1 mm); opaque (4%, 0.05-0.5 mm); glass (26%); vesicles (8%).
VESICLES: 8%; 0.1 mm; equant; random.
Miaroles: In bands and inclusions.
COLOR: Gray.
STRUCTURE: Sill.
ALTERATION: Smectite.
VEINS/FRACTURES: 1%; 5-10 mm; subhorizontal; roughly at 10 cm spacing.

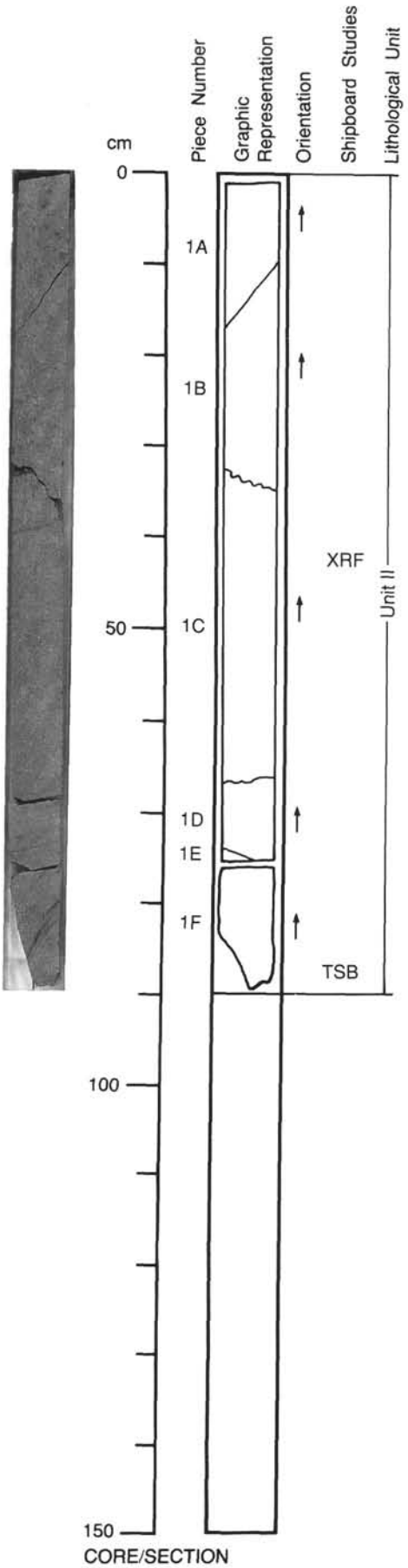


126-793B-1R-2

UNIT II: DIABASE

Pieces 1-5

CONTACTS: Upper baked; lower chilled.
PHENOCRYSTS: In glomeroporphyritic clots, and at lower chilled margin.
Olivine - 5-7%; 1-3 mm; subhedral; altered to smectite
Clinopyroxene - 2-15%; 2-6 mm; euhedral; twinned, with exsolution lamellae.
Orthopyroxene - 1%; 1-2 mm; sometimes rounded.
GROUNDMASS: Plagioclase (41%, 0.1-0.5 mm); clinopyroxene (18%, 0.1-0.5 mm); orthopyroxene (<1%, 0.1 mm); opaque (4%, 0.05-0.5 mm); glass (26%); vesicles (8%).
VESICLES: 8%; 0.1 mm; equant; random.
Miaroles: In bands and inclusions
COLOR: Gray.
STRUCTURE: Sill.
ALTERATION: Smectite.
VEINS/FRACTURES: 1%; 5-10 mm; subhorizontal; roughly at 10 cm spacing.

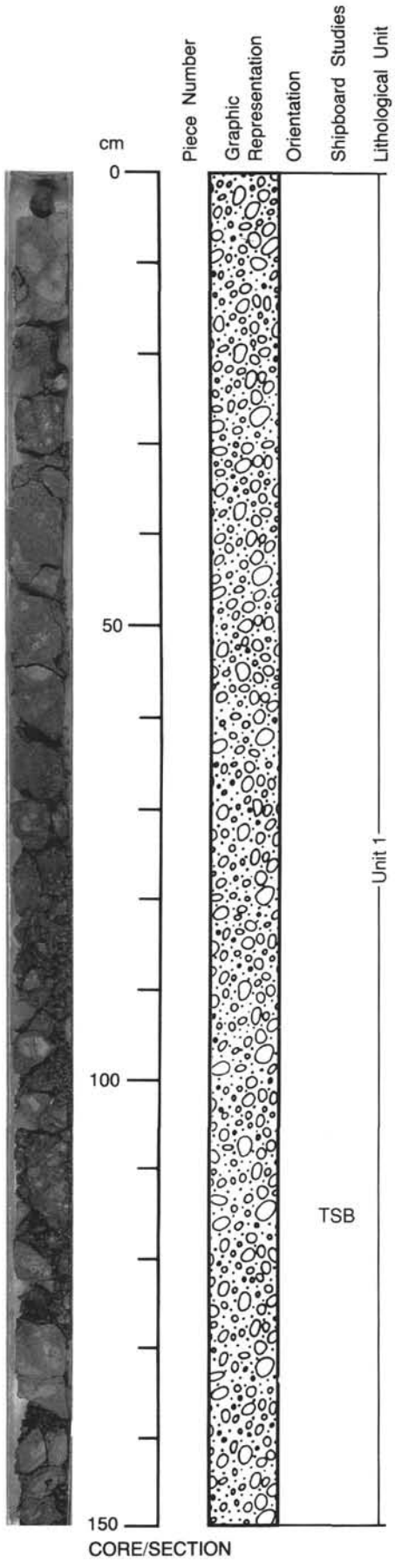


126-793B-1R-3

UNIT II: DIABASE

Pieces 1A-F

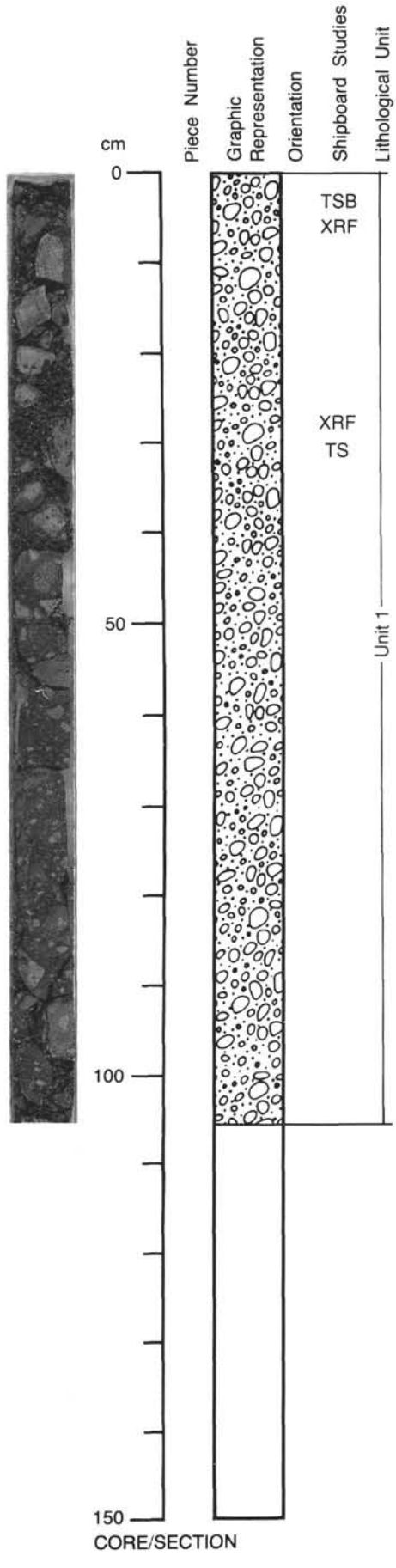
CONTACTS: Upper baked; lower chilled.
PHENOCRYSTS: In glomeroporphyritic clots, and at lower chilled margin.
Olivine - 5-7%; 1-3 mm; subhedral; altered to smectite.
Clinopyroxene - 2-15%; 2-6 mm; euhedral; twinned, with exsolution lamellae.
Orthopyroxene - 1%; 1-2 mm; sometimes rounded.
GROUNDMASS: Plagioclase (41%, 0.1-0.5 mm); clinopyroxene (18%, 0.1-0.5 mm); orthopyroxene (<1%, 0.1 mm); opaque (4%, 0.05-0.5 mm); glass (26%); vesicles (8%).
VESICLES: 8%; 0.1 mm; equant; random.
Miaroles: In bands and inclusions.
COLOR: Gray.
STRUCTURE: Sill.
ALTERATION: Smectite.
VEINS/FRACTURES: 1%; 5-10 mm; subhorizontal; roughly at 10 cm spacing.



126-793B-86R-1

UNIT 1: VERY FRACTURED VOLCANIC BRECCIA

CONTACTS: Clasts of andesite lava.
PHENOCRYSTS: Clasts of volcanic breccia with angular fragments of altered glass-clinopyroxene crystals up to 5-6 mm. Vesicles filled with smectites, quartz and/or calcite.
Plagioclase - 5-10%; 0.5-1.0 mm; euhedral.
Clinopyroxene - 5-20%; 0.5-2.0 mm; euhedral.
Orthopyroxene - 1-5%; 0.5-2.0 mm; euhedral.
GROUNDMASS: Fine-grained with tiny (<0.1 mm) plagioclase laths.
VESICLES: 2-5%; rounded; mostly filled with clays or with smectite lining.
COLOR: Greenish gray.
ALTERATION: Groundmass altered to clay and orthopyroxene altered to hematite and iron oxides. Plagioclase and clinopyroxene are generally fresh.
ADDITIONAL COMMENTS: Very fractured volcanic breccia with clasts as large as 11 cm. Matrix appears deformed and there are some mineral-filled fractures. Could be a fault zone. Rounded clasts of clinopyroxene-plagioclase-altered olivine or orthopyroxene vesicles filled with smectites, quartz and/or calcite. Perhaps chilled fragments of the same composition (pillow fragments). Some clasts look like hyaloclastites.



126-793B-86R-2

UNIT 1: VERY FRACTURED VOLCANIC BRECCIA

CONTACTS: Clasts of andesite lava.

PHENOCRYSTS: Clasts of volcanic breccia with angular fragments of altere glass-clinopyroxene crystals up to 5-6 mm. Vesicles filled with smectites, quartz and/or calcite.
Plagioclase - 5-10%; 0.5-1.0 mm; euhedral.
Clinopyroxene - 5-20%; 0.5-2.0 mm; euhedral.
Orthopyroxene - 1-5%; 0.5-2.0 mm; euhedral.

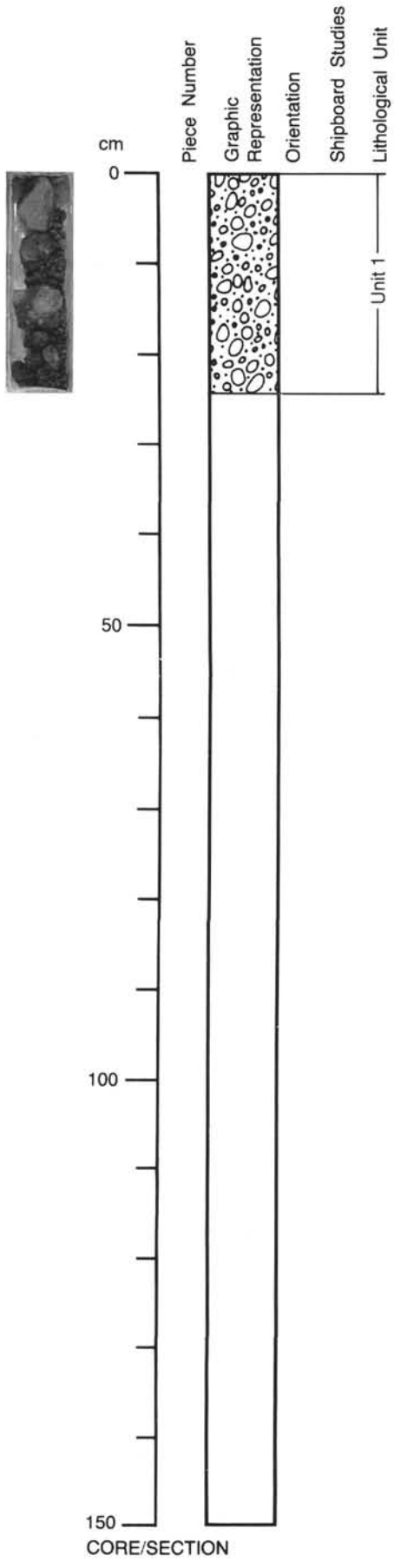
GROUNDMASS: Fine-grained with tiny (<0.1 mm) plagioclase laths.

VESICLES: 2-5%; rounded; mostly filled with clays or with smectite lining.

COLOR: Greenish gray.

ALTERATION: Groundmass altered to clay, and orthopyroxene altered to hematite and iron oxides. Plagioclase and clinopyroxene are generally fresh.

ADDITIONAL COMMENTS: Very fractured volcanic breccia with clasts as large as 6 cm. Matrix appears deformed and there are some mineral-filled fractures. Could be a fault zone. Rounded clasts of clinopyroxene- plagioclase-altered olivine or orthopyroxene vesicles filled with smectites, quartz and/or calcite. Perhaps chilled fragments of the same composition (pillow fragments). Some clasts look like hyaloclastites.



126-793B-86R-CC

UNIT 1: VERY FRACTURED VOLCANIC BRECCIA

CONTACTS: Clasts of andesite lava.

PHENOCRYSTS: Clasts of volcanic breccia with angular fragments of altered glass-clinopyroxene crystals up to 5-6 mm. Vesicles filled with smectites, quartz and/or calcite.
Plagioclase - 5-10%; 0.5-1.0 mm; euhedral.
Clinopyroxene - 5-20%; 0.5-2.0 mm; euhedral.
Orthopyroxene - 1-5%; 0.5-2.0 mm; euhedral.

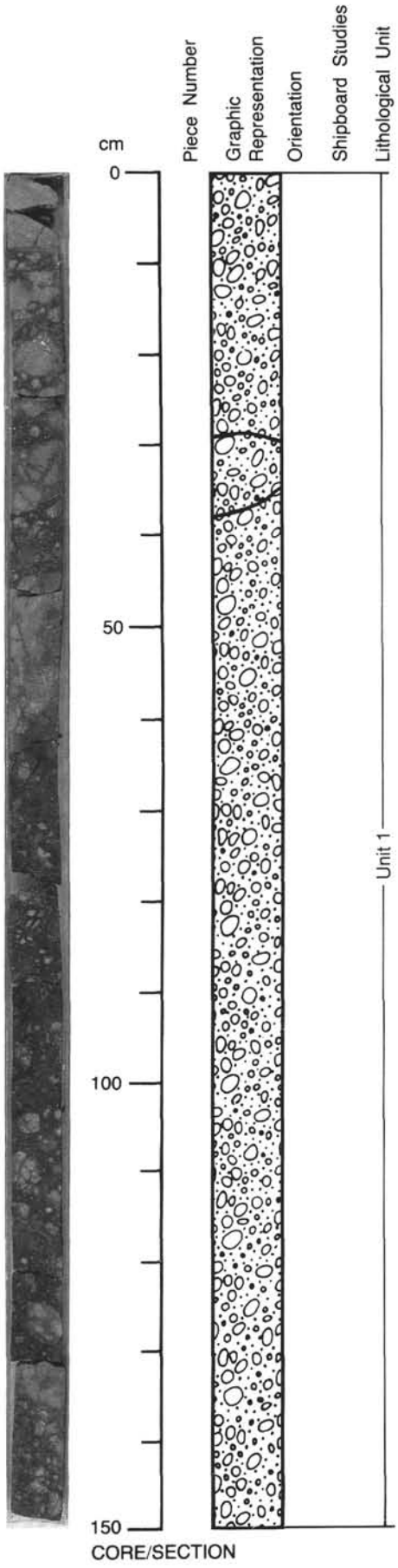
GROUNDMASS: Fine-grained with tiny (<0.1 mm) plagioclase laths.

VESICLES: 2-5%; rounded; mostly filled with clays or with smectite lining.

COLOR: Greenish gray.

ALTERATION: Groundmass altered to clay, and orthopyroxene altered to hematite and iron oxides. Plagioclase and clinopyroxene are generally fresh.

ADDITIONAL COMMENTS: Very fractured volcanic breccia with clasts as large as 5 cm. Matrix appears deformed and there are some mineral-filled fractures. Could be a fault zone. Rounded clasts of clinopyroxene- plagioclase-altered olivine or orthopyroxene vesicles filled with smectites, quartz and/or calcite. Perhaps chilled fragments of the same composition (pillow fragments). Some clasts look like hyaloclastites.



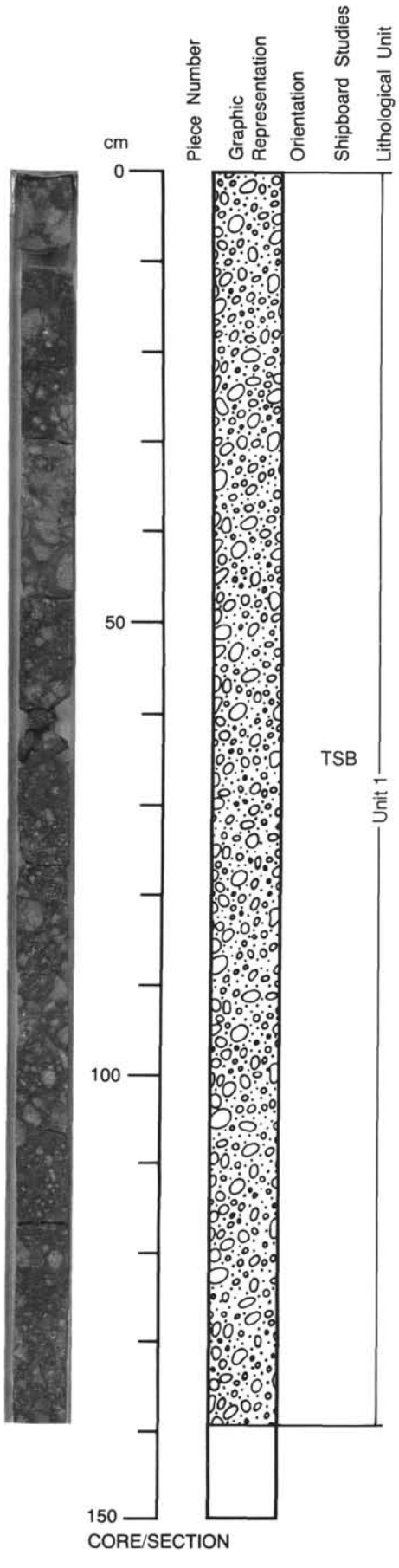
126-793B-87R-1

UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Orthopyroxene-clinopyroxene-plagioclase andesite with vesicles filled with smectites.

GROUNDMASS: Angular clasts of the same rocks with opaque minerals looking like chalcopyrite. The groundmass of the smaller clasts is altered to blue smectites. Cement is a chemical percipitate (native?). Silicified. Native copper is in the cement or at the border of the clasts.

ADDITIONAL COMMENTS: Very poorly sorted, angular volcanic breccia with clasts from granule to 10 cm and 5% porosity filled in with pale green and clear mineral cements (heulandite-clinoptilolite). Clasts are oligomictic, 2 pyroxene andesite. The cement contains rare crystals of native copper. Some clasts include altered olivine or orthopyroxene with smectites-opaque minerals (magnetite or ilmenite). The main difference that exists between the clasts is the abundance of vesicles in the groundmass. These vesicles are filled with smectites, perhaps zeolites.



126-793B-87R-2

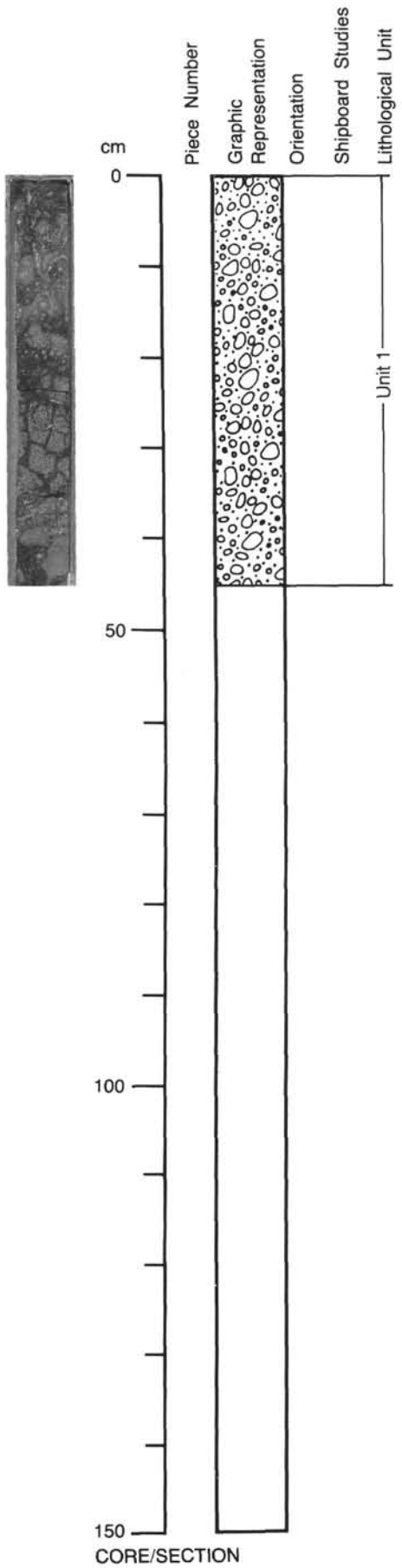
UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Orthopyroxene-clinopyroxene-plagioclase andesite with vesicles filled with smectites.

GROUNDMASS: Angular clasts of the same rocks with opaque minerals looking like chalcopyrite. The groundmass of the smaller clasts is altered to blue smectites. Cement is a chemical percipitate (native?). Silicified. Native copper is in the cement or at the border of the clasts.

VESICLES: "Vug" filled with heulandite/clinoptilolite (mixture).

ADDITIONAL COMMENTS: Very poorly sorted, angular volcanic breccia with clasts from granule to 6 cm and 5% porosity filled in with pale green and clear mineral cements (heulandite-clinoptilolite). Clasts are oligomictic, 2 pyroxene andesite. The cement contains rare crystals of native copper. Some clasts include altered olivine or orthopyroxene with smectites-opaque minerals (magnetite or ilmenite). The main difference that exists between the clasts is the abundance of vesicles in the groundmass. These vesicles are filled with smectites, perhaps zeolites.



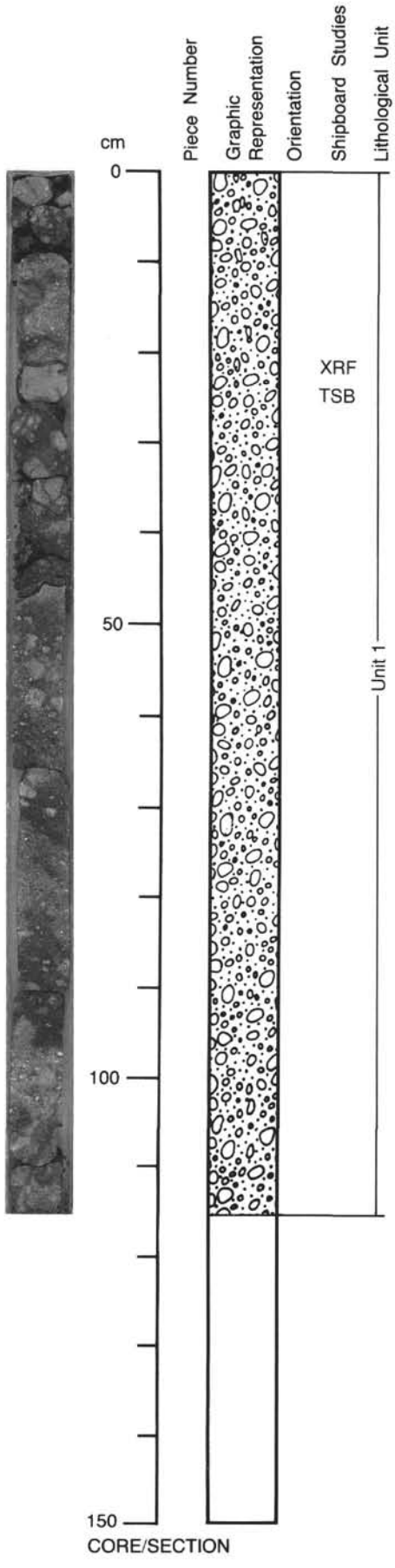
126-793B-87R-3

UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Orthopyroxene-clinopyroxene-plagioclase andesite with vesicles filled with smectites.

GROUNDMASS: Angular clasts of the same rocks with opaque minerals looking like chalcopyrite. The groundmass of the smaller clasts is altered to blue smectites. Cement is a chemical percipitate (native?). Silicified. Native copper is in the cement or at the border of the clasts.

ADDITIONAL COMMENTS: Very poorly sorted, angular volcanic breccia with clasts from granule to 12 cm and 5% porosity filled in with pale green and clear mineral cements (heulandite-clinoptilolite). Clasts are oligomictic, 2 pyroxene andesite. The cement contains rare crystals of native copper. Some clasts include altered olivine or orthopyroxene with smectites-opaque minerals (magnetite or ilmenite). The main difference that exists between the clasts is the abundance of vesicles in the groundmass. These vesicles are filled with smectites, perhaps zeolites.



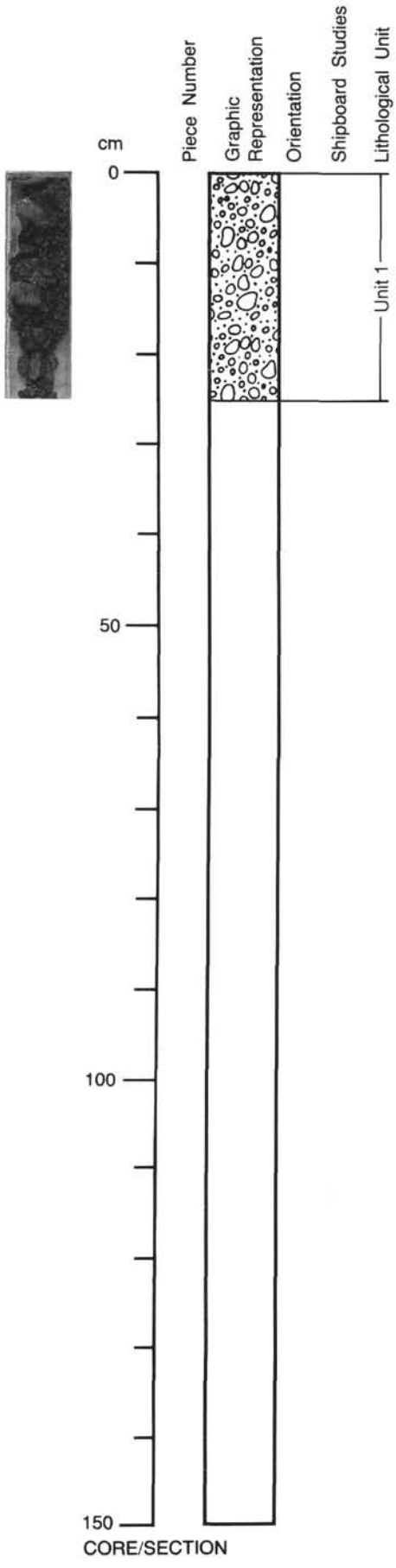
126-793B-87R-4

UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Orthopyroxene-clinopyroxene-plagioclase andesite with vesicles filled with smectites.

GROUNDMASS: Angular clasts of the same rocks with opaque minerals looking like chalcopyrite. The groundmass of the smaller clasts is altered to blue smectites. Cement is a chemical percipitate (native?). Silicified. Native copper is in the cement or at the border of the clasts.

ADDITIONAL COMMENTS: Very poorly sorted, angular volcanic breccia with clasts from granule to 10 cm and 5% porosity filled in with pale green and clear mineral cements (heulandite-clinoptilolite). Clasts are oligomictic, 2 pyroxene andesite. The cement contains rare crystals of native copper. Little pore-filling cement and more sandy matrix than 126-793B-87R-1. Some clasts include altered olivine or orthopyroxene with smectites-opaque minerals (magnetite or ilmenite). The main difference that exists between the clasts is the abundance of vesicles in the groundmass. These vesicles are filled with smectites, perhaps zeolites.



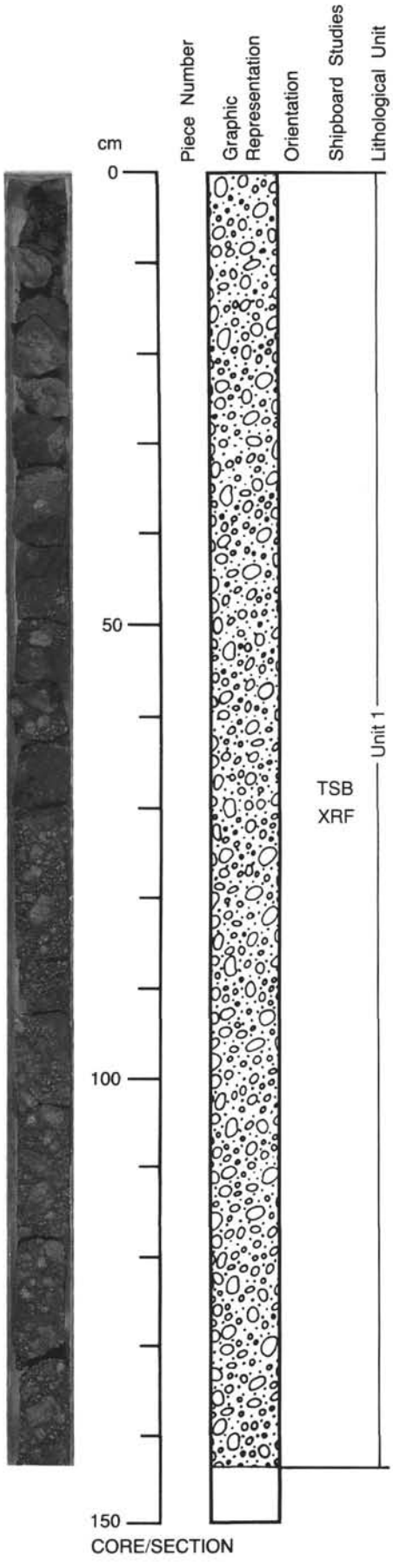
126-793B-87R-CC

UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Orthopyroxene-clinopyroxene-plagioclase andesite with vesicles filled with smectites.

GROUNDMASS: Angular clasts of the same rocks with opaque minerals looking like chalcopyrite. The groundmass of the smaller clasts is altered to blue smectites. Cement is a chemical percipitate (native?). Silicified. Native copper is in the cement or at the border of the clasts.

ADDITIONAL COMMENTS: Drilling breccia. Very poorly sorted, angular volcanic breccia with clasts from granule to 10 cm and 5% porosity filled in with pale green and clear mineral cements (heulandite-clinoptilolite). Clasts are oligomictic, 2 pyroxene andesite. The cement contains rare crystals of native copper. Some clasts include altered olivine or orthopyroxene with smectites-opaque minerals (magnetite or ilmenite). The main difference that exists between the clasts is the abundance of vesicles in the groundmass. These vesicles are filled with smectites, perhaps zeolites.



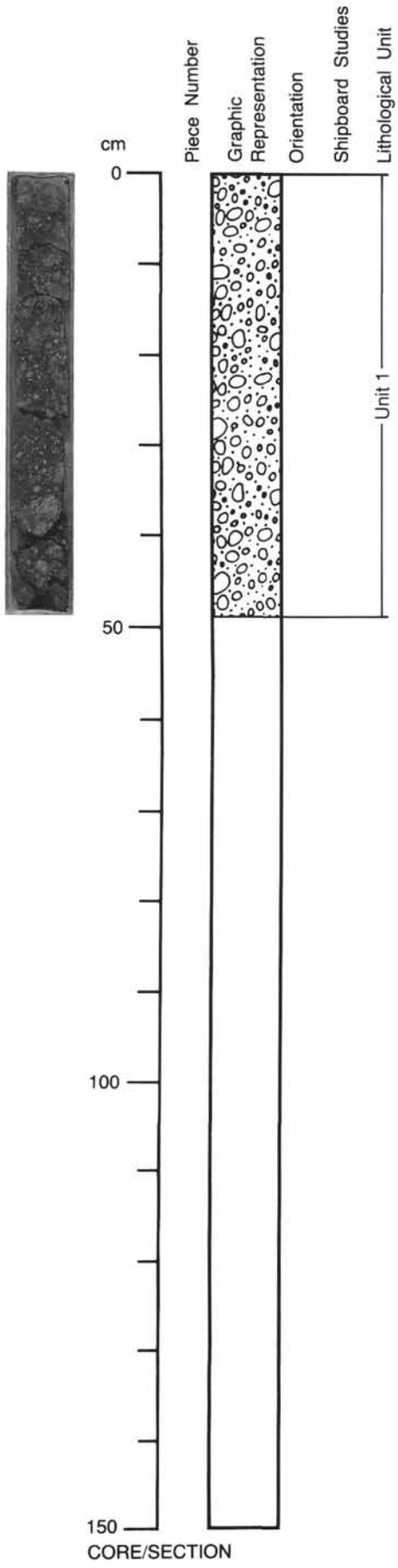
126-793B-88R-1

UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Intersertal-porphyritic andesite with clinopyroxene and above all orthopyroxene and plagioclase.

VESICLES: Vesicular orthopyroxene-plagioclase andesite. The vesicles are filled with zeolites, smectites and copper. Some vesicles are flattened and filled with smectite. One clast contains a vesicle filled with zeolites and native copper. Some clasts contain altered orthopyroxene in smectites.

ADDITIONAL COMMENTS: 1-57 cm: Volcanic breccia with clasts as large as 6 cm. Matrix is a crystal-shard tuff. The shards are altered glass with smectite and chlorite; 57 to 143 cm: Volcanic Breccia with clasts up to ~8 cm. Average diameter of 10 largest clasts is ~6 cm. Matrix is composed of granules and fine pebbles of the same material and small amounts of mineral cement. Clasts are vesicular lava. Some vesicles are filled with white zeolite and flecks of native copper. Clasts have chilled margins.



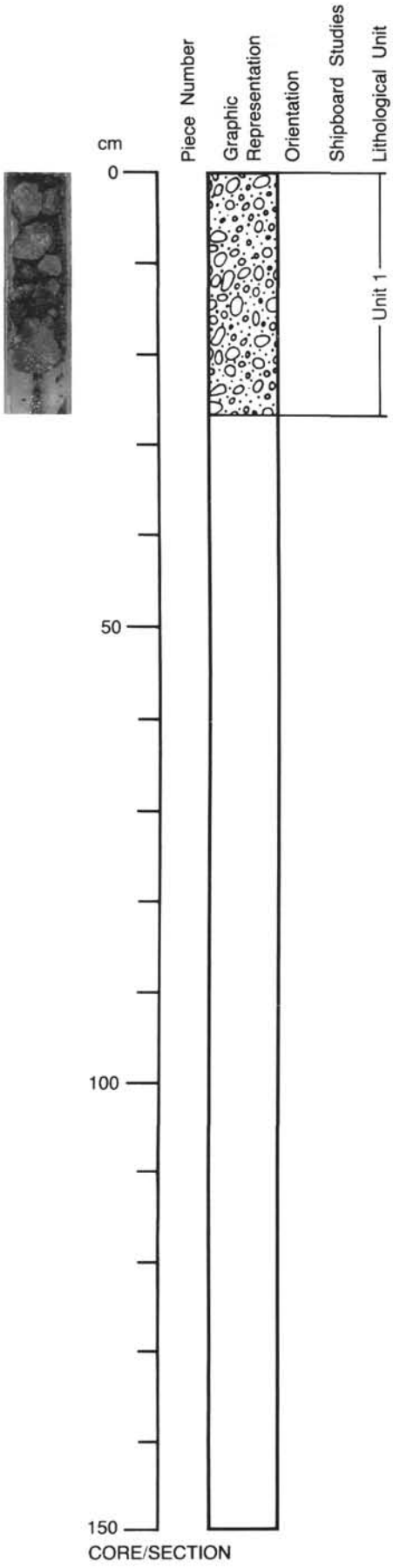
126-793B-88R-2

UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Intersertal-porphyritic andesite with clinopyroxene and above all orthopyroxene and plagioclase.

VESICLES: Vesicular orthopyroxene-plagioclase andesite. The vesicles are filled with zeolites, smectites and copper. Some vesicles are flattened and filled with smectite. One clast contains a vesicle filled with zeolites and native copper. Some clasts contain altered orthopyroxene in smectites.

ADDITIONAL COMMENTS: Volcanic breccia with clasts to ~6 cm. Average diameter of 10 largest clasts is ~4 cm. Matrix is composed of granules and fine pebbles of the same material and small amounts of mineral cement. Clasts are vesicular lava. Some vesicles are filled with white zeolite and flecks of native copper. Clasts have chilled margins.



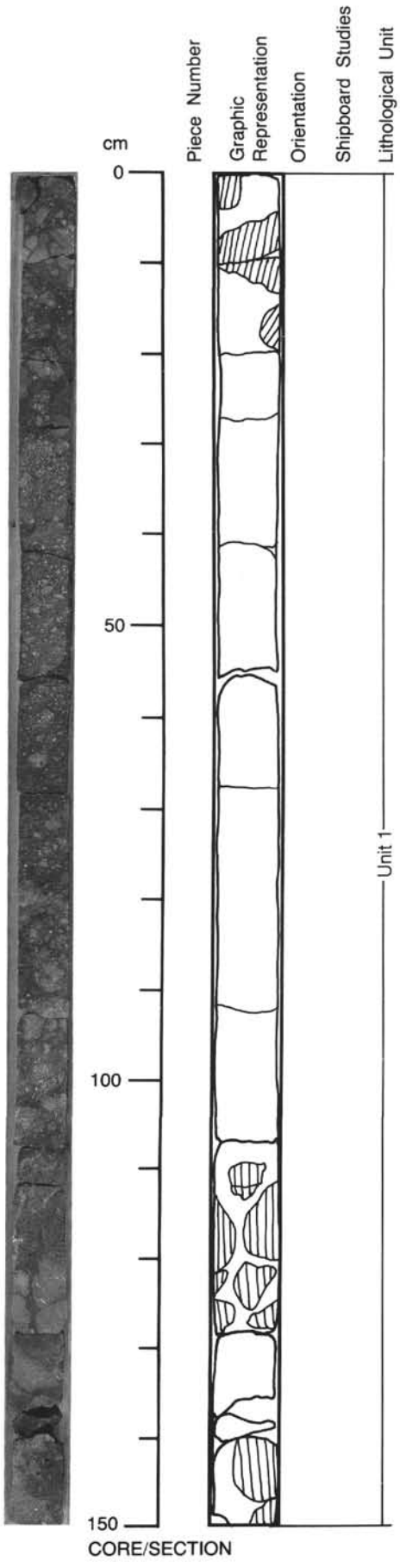
126-793B-88R-CC

UNIT 1: VOLCANIC BRECCIA

PHENOCRYSTS: Intersertal-porphyritic andesite with clinopyroxene and above all orthopyroxene and plagioclase.

VESICLES: Vesicular orthopyroxene-plagioclase andesite. The vesicles are filled with zeolites, smectites and copper. Some vesicles are flattened and filled with smectite. One clast contains a vesicle filled with zeolites and native copper. Some clasts contain altered orthopyroxene in smectites.

ADDITIONAL COMMENTS: Volcanic breccia with clasts up to ~8 cm. Average diameter of 10 largest clasts is ~6 cm. Matrix is composed of granules and fine pebbles of the same material and small amount of mineral cement. Clasts are vesicular lava. Some vesicles are filled with white zeolite and flecks of native copper. Clasts have chilled margins.

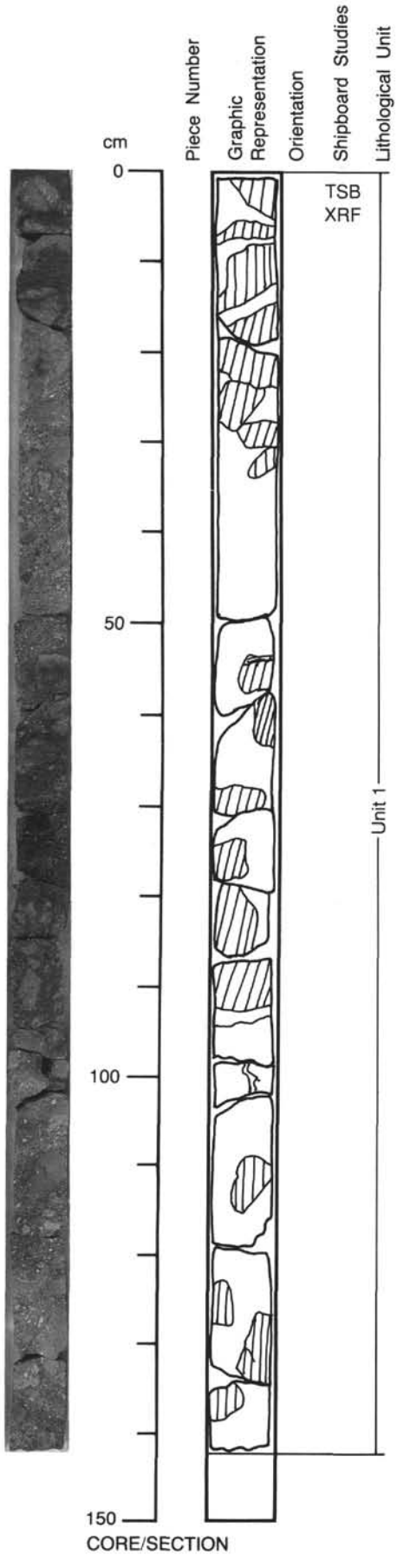


126-793B-89R-1

UNIT 1: BASALTIC ANDESITE

Pieces clasts

CONTACTS: Chilled margins are common at the edge of clasts, often paler in color (more altered) with a finer-grained texture. Margins are truncated by matrix. Possible pillow-talus breccia deposit.
PHENOCRYSTS: Virtually aphyric, with less than 2% phenocrysts.
GROUNDMASS: Commonly trachytic texture, flow aligned plagioclase microphenocrysts diverging around vesicles and crystal clots.
VESICLES: Vesiculation is around 5%. Vesicles range between 1-10 mm and between spherical/rounded and elongate/almond-shaped. Vesicles filled (0-100%) with various minerals. These are dominantly gypsum, some zeolites, and smectite.
ALTERATION: Phenocrysts are in varying states of alteration:
Clinopyroxene - 95%, fresh, some celadonite - smectite.
Orthopyroxene - 60%, fresh - celadonite - smectite - crystobalite(?).
Plagioclase - 70%, fresh - smectite.
VEINS/FRACTURES: Gypsum veins are present, crossing the matrix.
ADDITIONAL COMMENTS: Breccia matrix: angular shards of altered glass, fresh crystals, and basalt fragments.



126-793B-89R-2

UNIT 1: BASALTIC ANDESITE

Pieces clasts

CONTACTS: Chilled margins are common at the edge of clasts, often paler in color (more altered) with a finer-grained texture. Margins are truncated by matrix. Possible pillow-talus breccia deposit.

PHENOCRYSTS: 20% clinopyroxene and orthopyroxene, clinopyroxene up to 7 mm in length.

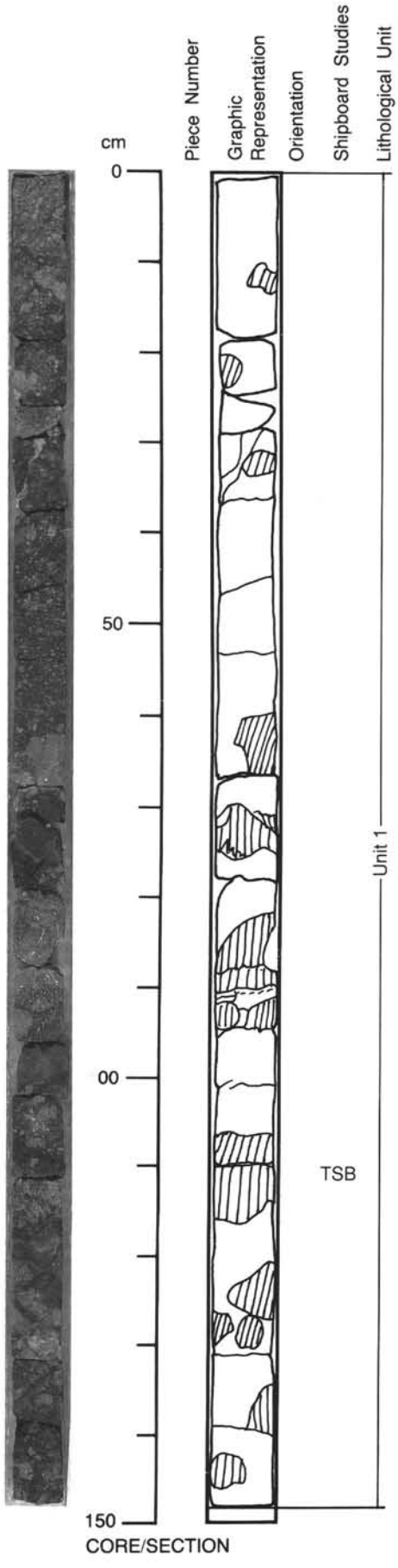
GROUNDMASS: Commonly trachytic texture, flow aligned plagioclase microphenocrysts diverging around vesicles and crystal clots.

VESICLES: Vesiculation is around 5%. Vesicles range between 1-10 mm and between spherical/rounded and elongate/almond-shaped. Vesicles filled (0-100%) with various minerals. These are dominantly gypsum, some zeolites, and smectite.

ALTERATION: Phenocrysts are in varying states of alteration:
Clinopyroxene - 95%, fresh, some celadonite - smectite.
Orthopyroxene- 60%, fresh - celadonite - smectite - crystobalite(?).
Plagioclase -70%, fresh - smectite.

VEINS/FRACTURES: Gypsum veins are present, crossing the matrix.

ADDITIONAL COMMENTS: Breccia matrix: Angular shards of altered glass, fresh crystals, and basalt fragments.



126-793B-89R-3

UNIT 1: BASALTIC ANDESITE

Pieces clasts

CONTACTS: Chilled margins are common at the edge of clasts, often paler in color (more altered) with a finer-grained texture. Margins are truncated by matrix. Possible pillow-talus breccia deposit.

PHENOCRYSTS: 15-25% crystals, The proportions are orthopyroxene 55%, clinopyroxene 43%, and plagioclase 2%.

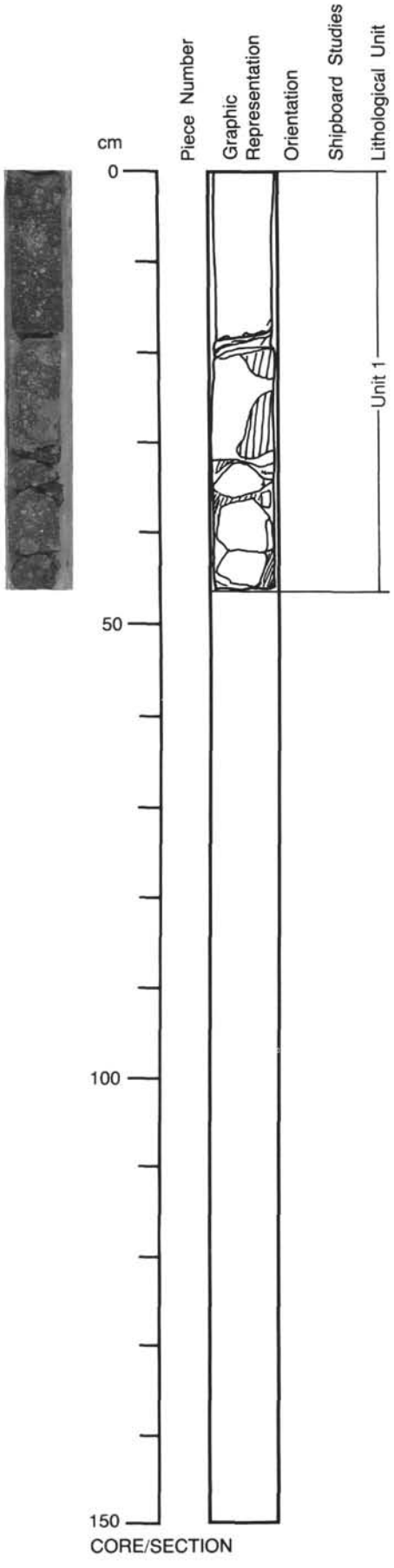
GROUNDMASS: Commonly trachytic texture, flow aligned plagioclase microphenocrysts diverging around vesicles and crystal clots.

VESICLES: Vesiculation is around 5%. Vesicles range between 1-10 mm and between spherical/rounded and elongate/almond-shaped. Vesicles filled (0-100%) with various minerals. These are dominantly gypsum, some zeolites, and smectite.

ALTERATION: Phenocrysts are in varying states of alteration:
Clinopyroxene - 95%, fresh, some celadonite - smectite.
Orthopyroxene- 60%, fresh - celadonite - smectite - crystobalite(?).
Plagioclase -70%, fresh - smectite.

VEINS/FRACTURES: Gypsum veins are present, crossing the matrix.

ADDITIONAL COMMENTS: Breccia matrix: angular shards of altered glass, fresh crystals, and basalt fragments.



126-793B-89R-4

UNIT 1: BASALTIC ANDESITE

Pieces clasts

CONTACTS: Chilled margins are common at the edge of clasts, often paler in color (more altered) with a finer-grained texture. Margins are truncated by matrix. Possible pillow-talus breccia deposit.

PHENOCRYSTS: 15-25% crystals. The proportions are orthopyroxene 55%, clinopyroxene 40%, plagioclase 5%.

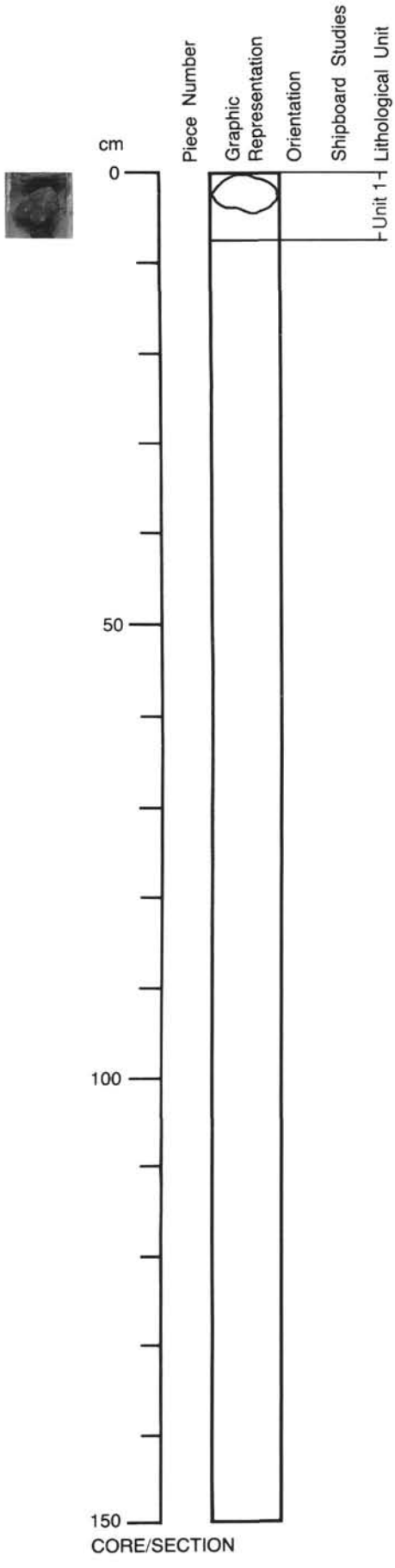
GROUNDMASS: Commonly trachytic texture, flow aligned plagioclase microphenocrysts diverging around vesicles and crystal clots.

VESICLES: Vesiculation is around 5%. Vesicles range between 1-10 mm and between spherical/rounded and elongate/almond-shaped. Vesicles filled (0-100%) with various minerals. These are dominantly gypsum, some zeolites, and smectite.

ALTERATION: Phenocrysts are in varying states of alteration:
Clinopyroxene - 95%, fresh, some celadonite - smectite.
Orthopyroxene- 60%, fresh - celadonite - smectite - crystobalite(?).
Plagioclase -70%, fresh - smectite.

VEINS/FRACTURES: Gypsum veins are present, crossing the matrix.

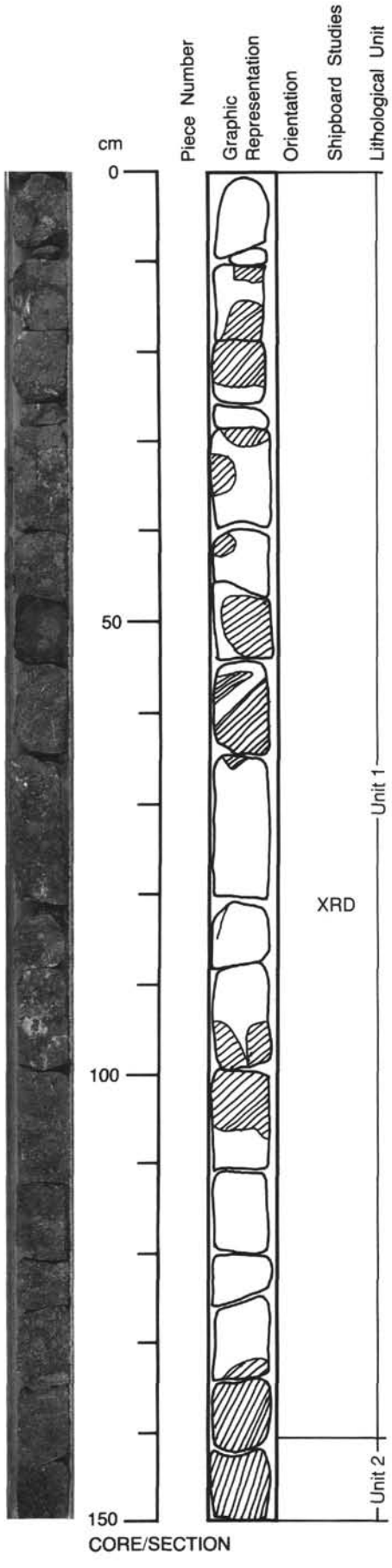
ADDITIONAL COMMENTS: Breccia matrix: angular shards of altered glass, fresh crystals, and basalt fragments.



126-793B-90R-CC

UNIT 1: IGNEOUS ROCKS

COLOR: 54R 3/1, 2.5Y 5/2, 2.5Y 4/2. Matrix 1064 3/2 to 56 2/1.
ADDITIONAL COMMENTS: Very irregular shaped volcanic clast with some "attached" medium-to coarse crystal-vitric matrix, clast is mottled.

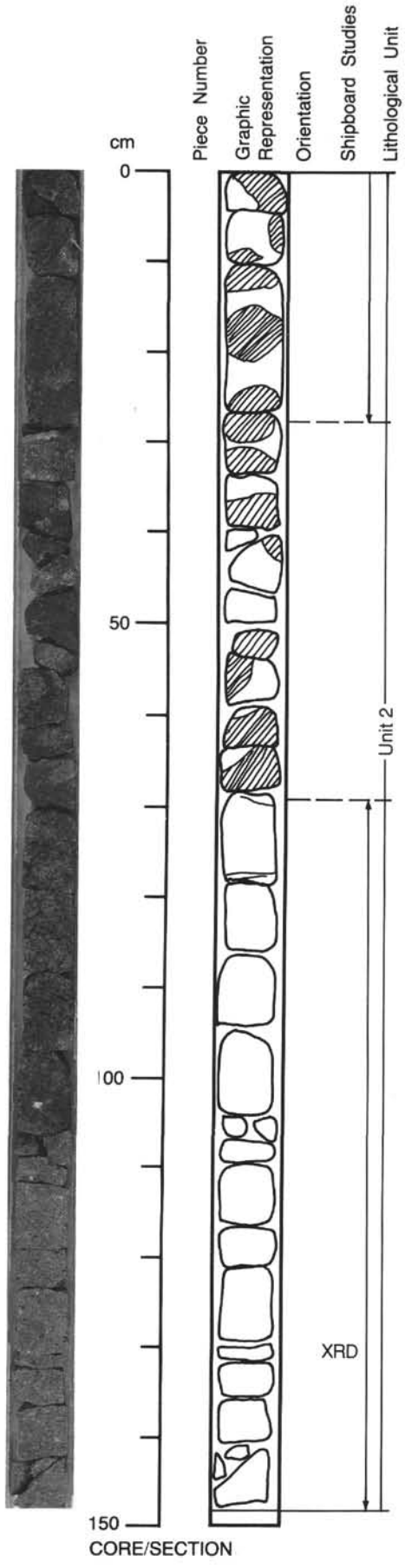


126-793B-92R-1

UNIT 2: VOLCANIC BRECCIA (0-140 CM); PLAGIOCLASE-BASALTIC ANDESITE (140-150 CM)

Pieces N/A

CONTACTS: Not observed.
PHENOCRYSTS: Clinopyroxene and orthopyroxene phenocrysts.
GROUNDMASS: Sand to cobble-size clasts.
VESICLES: Vesicles are filled with zeolites and smectites; vesicles are flattened.
COLOR: 5G 3/2 matrix with dark gray and gray/light gray clasts (0-140 cm).
STRUCTURE: Massive.
ALTERATION: No alteration.
VEINS/FRACTURES: *No veins/fractures.*
ADDITIONAL COMMENTS: Zeolite cements; some of the clasts have chilled margins; orthopyroxene crystals up to 5-6 mm; clinopyroxene crystals as large as 2-3 mm; native copper in the matrix with smectites and zeolites.

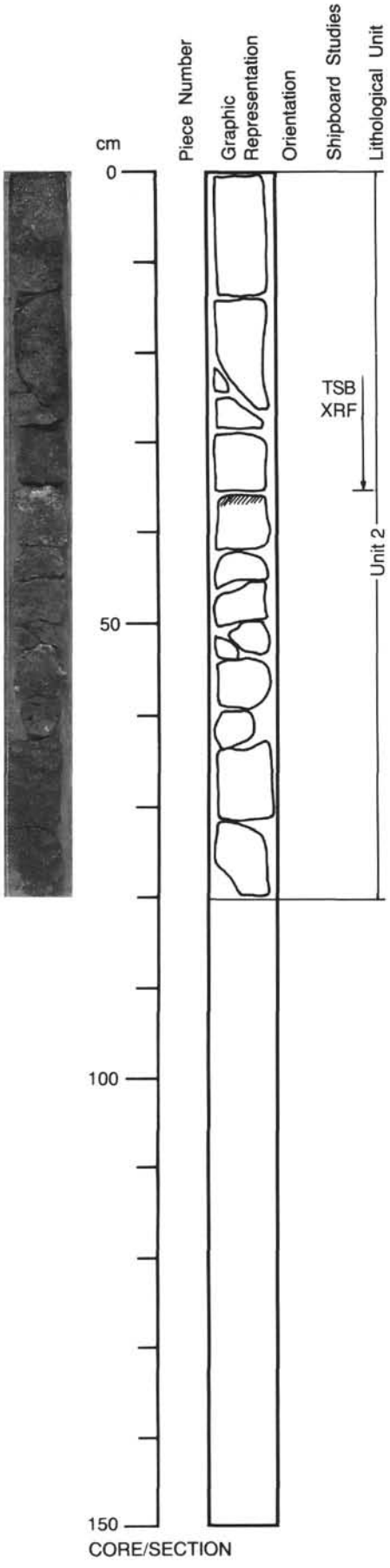


126-793B-92R-2

UNIT 2: VOLCANIC BRECCIA (28-70 CM); VOLCANIC LAVA (0-28,70-150 CM)

Pieces N/A

CONTACTS: Not observed.
PHENOCRYSTS: Clinopyroxene and orthopyroxene phenocrysts.
GROUNDMASS: Clasts up to 4 cm diameter at 53-60 cm; clinopyroxene up to 5-15 mm at 7-150 cm.
VESICLES: Stretched at 70-90,130-150 cm, equant vesicles at 90-130 cm; 1-3 mm in diameter.
COLOR: (5G 3/2) matrix with dark gray (5Y 4/1) clasts (28-70 cm); black? (5Y 2/1) at 0-28, 70-150 cm.
STRUCTURE: Laminated cement at base of flow at 28 cm.
ALTERATION: Orthopyroxene is more altered to smectite at 70-150 cm.
VEINS/FRACTURES: Not observed.
ADDITIONAL COMMENTS: Cavities are filled with zeolite cement (28-70 cm); no chilled margin (70-150 cm); orthopyroxene and clinopyroxene are fresh; large vug with zeolite and native copper at 101 cm.

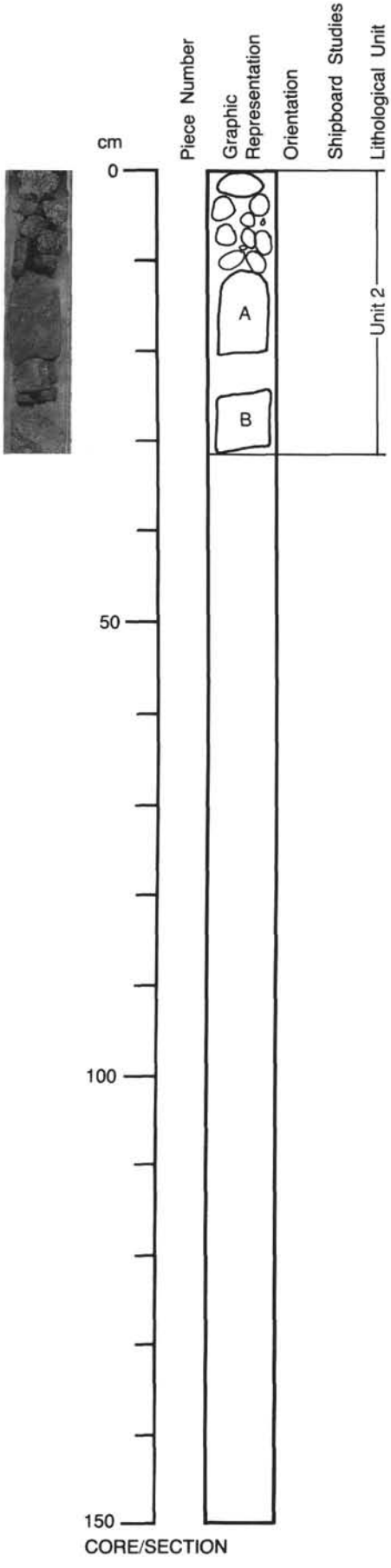


126-793B-92R-3

UNIT 2: VOLCANIC BRECCIA (35-80 CM); ANDESITE (0-35 CM)

Pieces N/A

CONTACTS: Not observed.
PHENOCRYSTS: Clinopyroxene and orthopyroxene phenocrysts.
GROUNDMASS: Clasts up to 6 cm size.
VESICLES: Flat to elongated vesicles filled with smectites and zeolites at 0-35 cm; 1-5 cm and ~0.02 mm diameter vesicles.
COLOR: Black? (5Y 2/1) at 0-35 cm; (5G 3/2) matrix with black? (5Y 2/1) clasts at 35-80 cm.
STRUCTURE: None observed.
ALTERATION: Not observed.
VEINS/FRACTURES: None observed.
ADDITIONAL COMMENTS: No evidence of chilled margin; zeolite cemented zone at 35-37 cm; clinopyroexe-orthopyroxene-plagioclase porphyritic basicandesite at 0-35 cm.

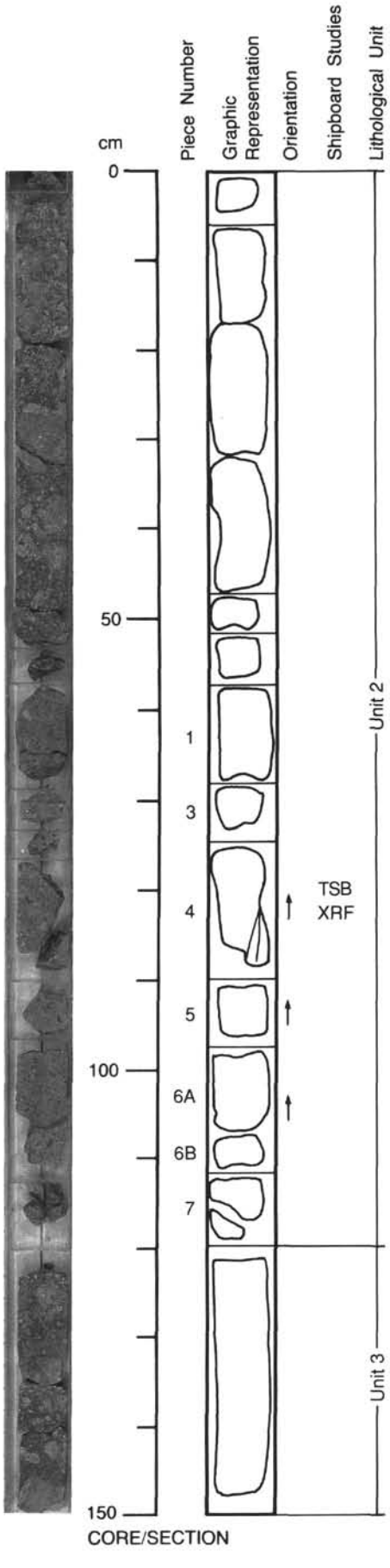


126-793B-92R-CC

UNIT 2: VOLCANIC BRECCIA/LAVA

Pieces N/A

CONTACTS: Not observed.
PHENOCRYSTS: Clinopyroxene and orthopyroxene phenocrysts.
GROUNDMASS: Clasts.
VESICLES: Not observed.
COLOR: Mainly black? (5Y 2/1).
STRUCTURE: None observed.
ALTERATION: Not observed.
VEINS/FRACTURES: None observed.
ADDITIONAL COMMENTS: Clinopyroxene>orthopyroxene>plagioclase; large piece (a) is solid lava; piece (b) is a lava clast in the matrix.

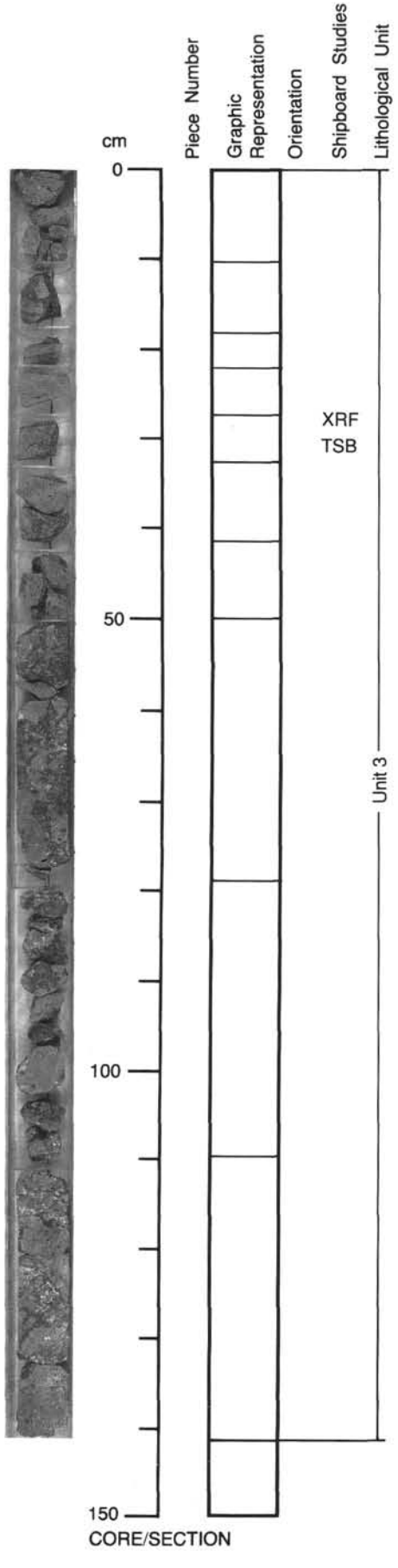


126-793B-93R-1

UNIT 2: VOLCANIC BRECCIA

Pieces N/A

CONTACTS: Not observed.
PHENOCRYSTS: Clinopyroxene and orthopyroxene phenocrysts; some Plagioclase microphenocrysts.
GROUNDMASS: Fine grained.
VESICLES: Open to completely filled with smectite; bands of flattened vesicles; rounded and elongated vesicles filled with smectites and zeolites in the altered groundmass.
COLOR: (5GY 3/2) matrix with gray (N5) clasts, pebbles and cobbles.
STRUCTURE: Not observed.
ALTERATION: Altered shards of glass; groundmass altered; hexagonal smectite pseudomorphs after orthopyroxene and olivine; orthopyroxene altered to smectites.
VEINS/FRACTURES: None observed.
ADDITIONAL COMMENTS: Angular clasts; matrix is composed of mm size angular shards of glass or rocks/crystals; cement is partly vesicular filled with zeolites and smectites.

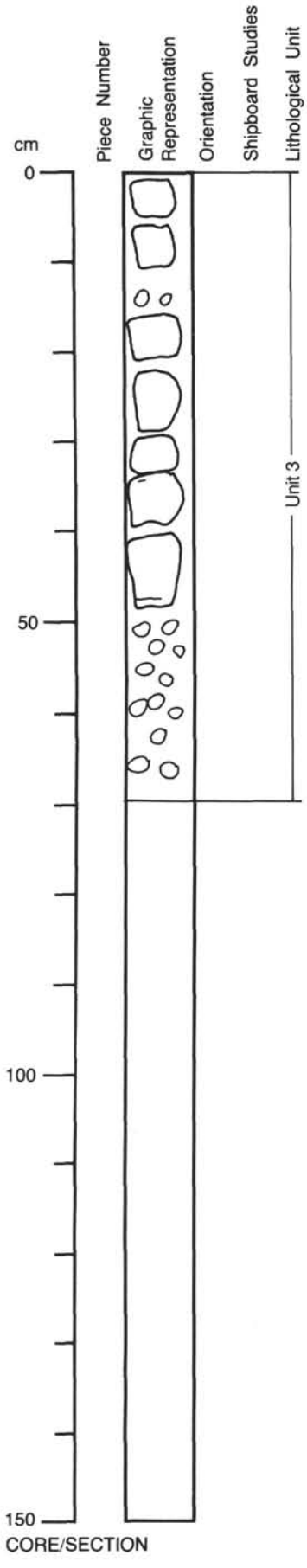


126-793B-93R-2

UNIT 3: VOLCANIC BRECCIA/LAVA

Pieces N/A

CONTACTS: Not observed.
PHENOCRYSTS: Clinopyroxene and orthopyroxene phenocrysts.
GROUNDMASS: Felsicmicrolites.
VESICLES: 1-2 mm diameter, elongate vesicles at 0-42 cm.
COLOR: Dark gray (N4) clasts (0-42 cm); greenish gray (5GY 6/1) clasts (42-142 cm).
STRUCTURE: Not observed.
ALTERATION: Altered clasts; phenocrysts fresh.
VEINS/FRACTURES: Fractured clasts cemented by zeolite.
ADDITIONAL COMMENTS: Most clasts are sparsely phyric from 0-100 cm; color contrast in clasts probably cooling or alteration feature.

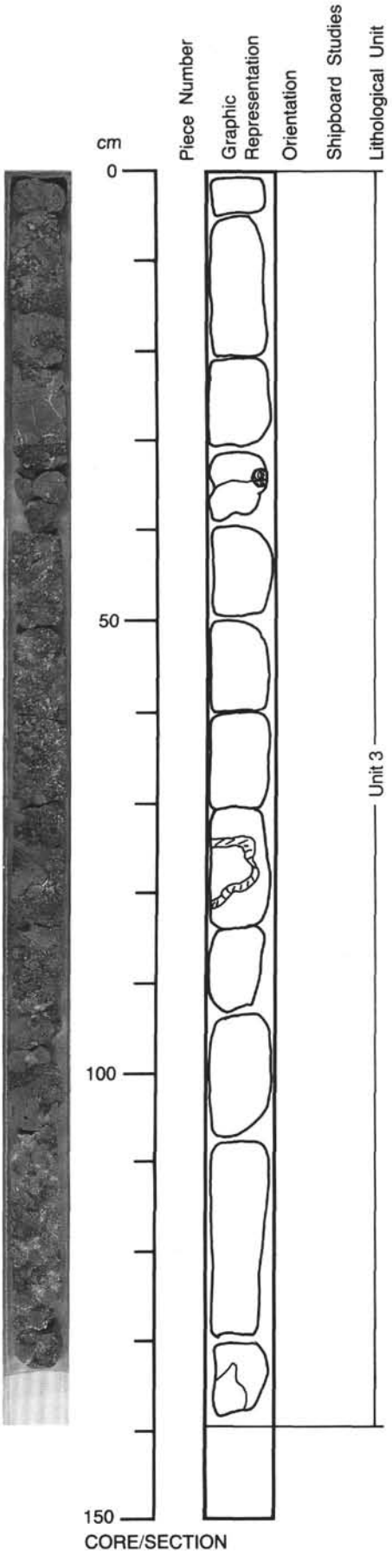


126-793B-93R-3

UNIT 3: VOLCANIC BRECCIA AND ANDESITE

Pieces N/A

CONTACTS: Not observed.
PHENOCRYSTS: Clinopyroxene and orthopyroxene phenocrysts.
GROUNDMASS: Clasts 0.5 to 3 mm in size.
VESICLES: Vesicles are flattened and filled with smectites.
COLOR: Dark greenish gray (5GY 4/1) and very dark gray (N3) clasts.
STRUCTURE: Not observed.
ALTERATION: Angular shards of altered glass; altered orthopyroxene
VEINS/FRACTURES: Veins in the lower part of the section are filled with zeolites.
ADDITIONAL COMMENTS: Porphyritic. Clinopyroxene>Orthopyroxene-Plagioclase andesite; Clinopyroxene is fresh: clasts from 33-43 cm have lobate contours with lighter rims indicating chilled margins.

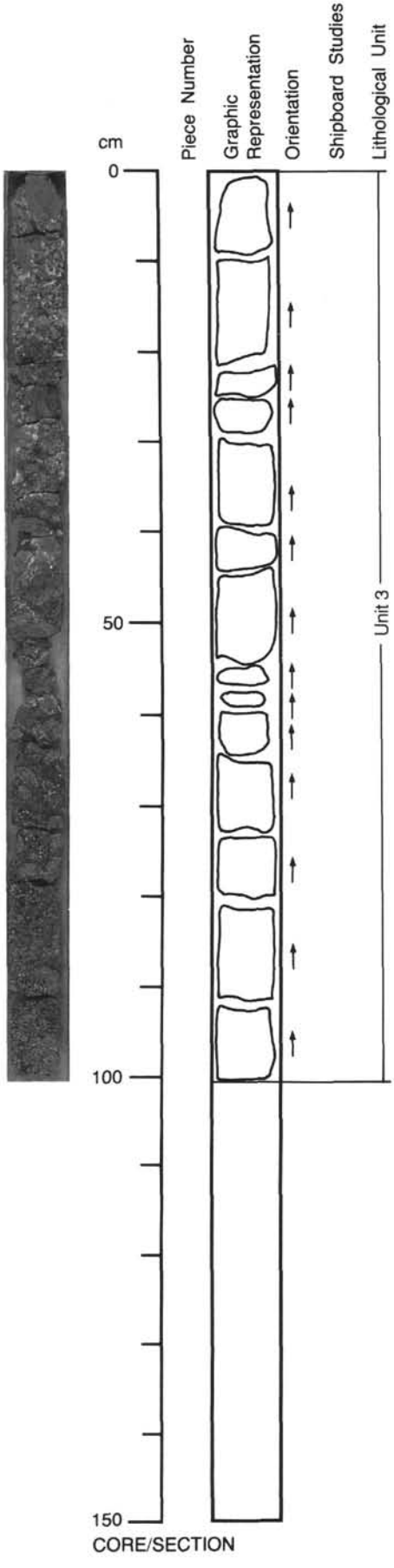


126-793B-94R-1

UNIT 3: VOLCANIC BRECCIA AND LAVA

Pieces N/A

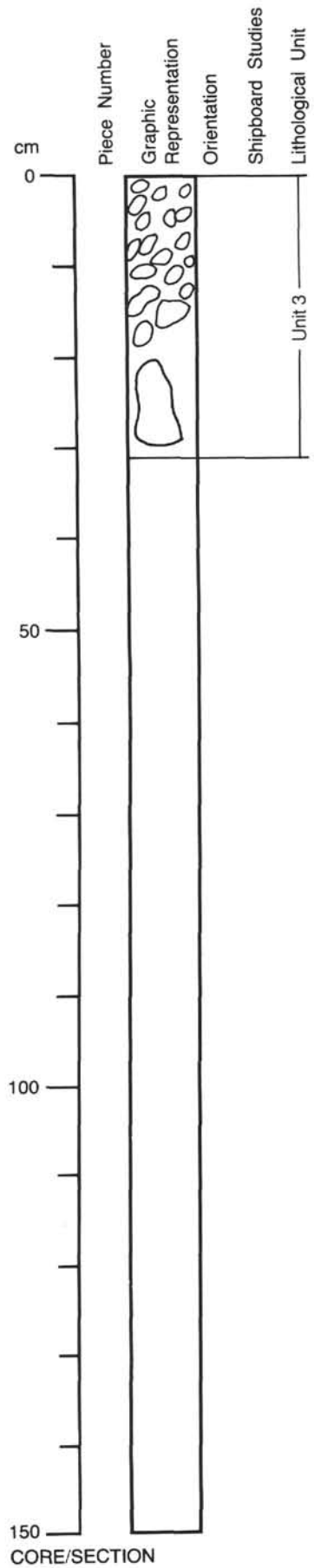
CONTACTS: Not observed.
PHENOCRYSTS: *Clinopyroxene and orthopyroxene phenocrysts.*
GROUNDMASS: Trachytic alignment of Plagioclase; chilled margins of glass (devitrified); many small feldspar laths partly siliceous.
VESICLES: Spherical, elongate vesicles filled with zeolites, smectites and gypsum; vesicles are elongated along the margins, rounded in the interior.
COLOR: Gray (N5) to dark greenish gray (5G 4/1) to pale gray/green clasts.
STRUCTURE: Broken pillows.
ALTERATION: Some altered orthopyroxene and glass.
VEINS/FRACTURES: Radial pillow-style fractures within clasts; some gypsum and zeolite veins.
ADDITIONAL COMMENTS: Clasts are all with chilled margins; native copper; zeolite cement; Clinopyroxene>Plagioclase; sparsely phyric (less than 5%).



126-793B-94R-2

UNIT 3: PILLOW-BRECCIA WITH HYALOCLASTIC MATRIX

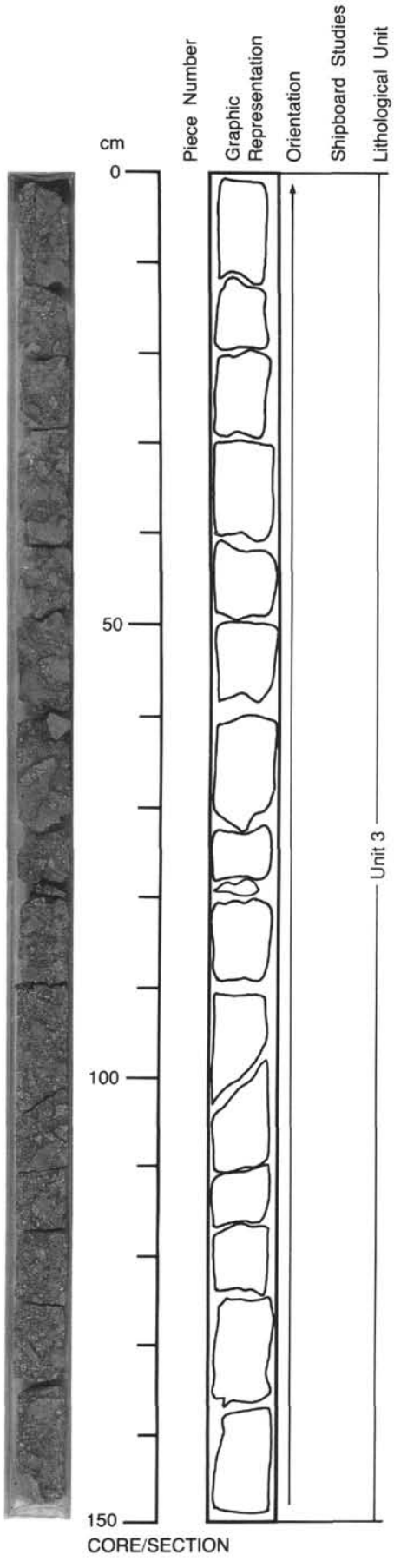
CONTACTS: None.
PHENOCRYSTS: All fresh, some orthopyroxene alteration.
Plagioclase - < 1%; 0.5 - 1.0 mm.
Clinopyroxene - 1%; 0.5 - 1.0 mm.
Orthopyroxene - 1%; 1.0 mm.
GROUNDMASS: Trachyitic alignment of plagioclase in groundmass. Original vitrophyric texture? Devitrified glass.
VESICLES: Spherical, rounded at chilled margins; filled with smectite.
COLOR: Pale gray - green.
STRUCTURE: Broken pillows in a shard-glass and lava fragment matrix. Very poorly sorted, clasts 0.5 - 10.0 cm.
ALTERATION: Smectite replaces orthopyroxene. Glass devitrified.
ADDITIONAL COMMENTS: Clast-lava type: sparse-phyric basaltic-andesite to andesite.



126-793B-94R-CC

UNIT 3: PILLOW-BRECCIA WITH HYALOCLASTIC MATRIX

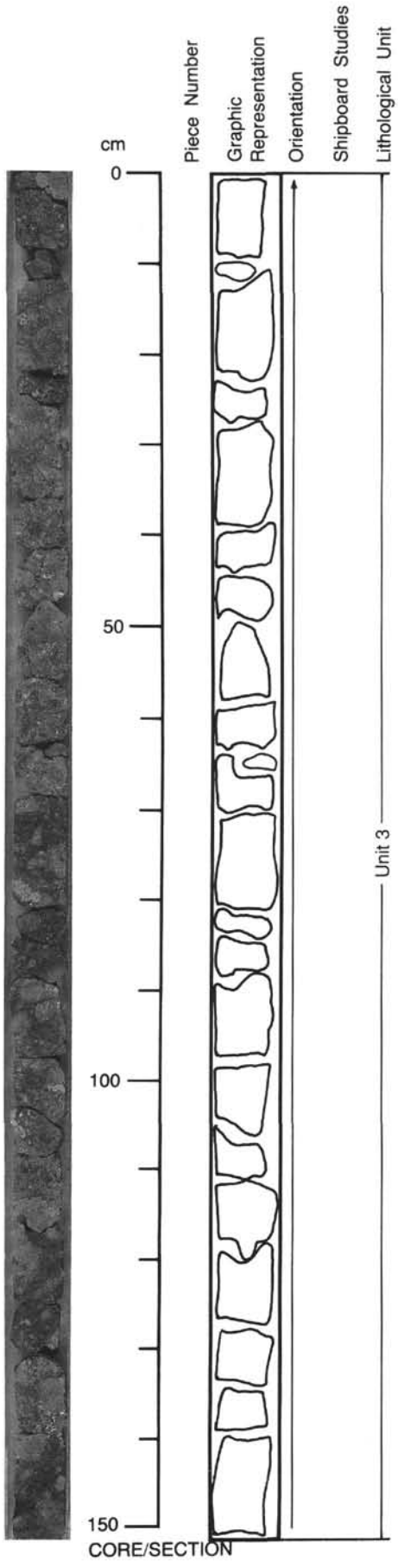
CONTACTS: None.
PHENOCRYSTS: All fresh, some orthopyroxene alteration.
Plagioclase - < 1%; 0.5 - 1.0 mm.
Clinopyroxene - 1%; 0.5 - 1.0 mm.
Orthopyroxene - 1%; 1.0 mm.
GROUNDMASS: Trachyitic alignment of plagioclase in groundmass. Original vitrophyric texture? Devitrified glass.
VESICLES: Spherical, rounded at chilled margins; filled with smectite.
COLOR: Pale gray - green.
STRUCTURE: Broken pillows in a shard-glass and lava fragment matrix. Very poorly sorted, clasts 0.5 - 10.0 cm.
ALTERATION: Smectite replaces orthopyroxene. Glass devitrified.
ADDITIONAL COMMENTS: *Clast-lava type: sparse-phyric basaltic-andesite to andesite.*



126-793B-95R-1

UNIT 3: PILLOW-BRECCIA WITH HYALOCLASTIC MATRIX

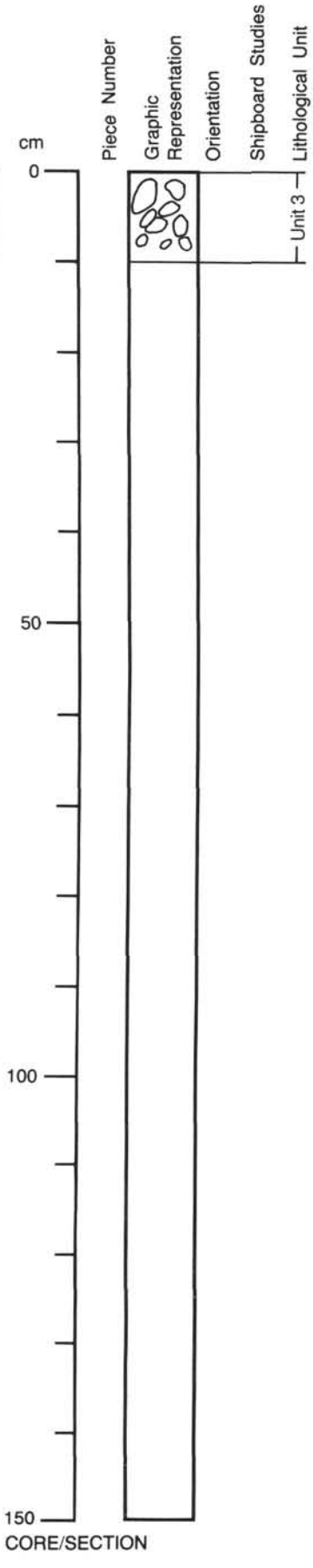
CONTACTS: None.
PHENOCRYSTS: All fresh, some orthopyroxene alteration.
Plagioclase - < 1%; 0.5 - 1.0 mm.
Clinopyroxene - 1%; 0.5 - 1.0 mm.
Orthopyroxene - 1%; 1.0 mm.
GROUNDMASS: Trachyitic alignment of plagioclase in groundmass. Original vitrophyric texture? Devitrified glass.
VESICLES: Spherical, rounded at chilled margins; filled with smectite.
COLOR: Pale gray - green.
STRUCTURE: Broken pillows in a shard-glass and lava fragment matrix. Very poorly sorted, clasts 0.5 - 10.0 cm.
ALTERATION: Smectite replaces orthopyroxene. Glass devitrified.
ADDITIONAL COMMENTS: Clast-lava type: sparse-phyric basaltic-andesite to andesite.



126-793B-95R-2

UNIT 3: PILLOW-BRECCIA WITH HYALOCLASTIC MATRIX

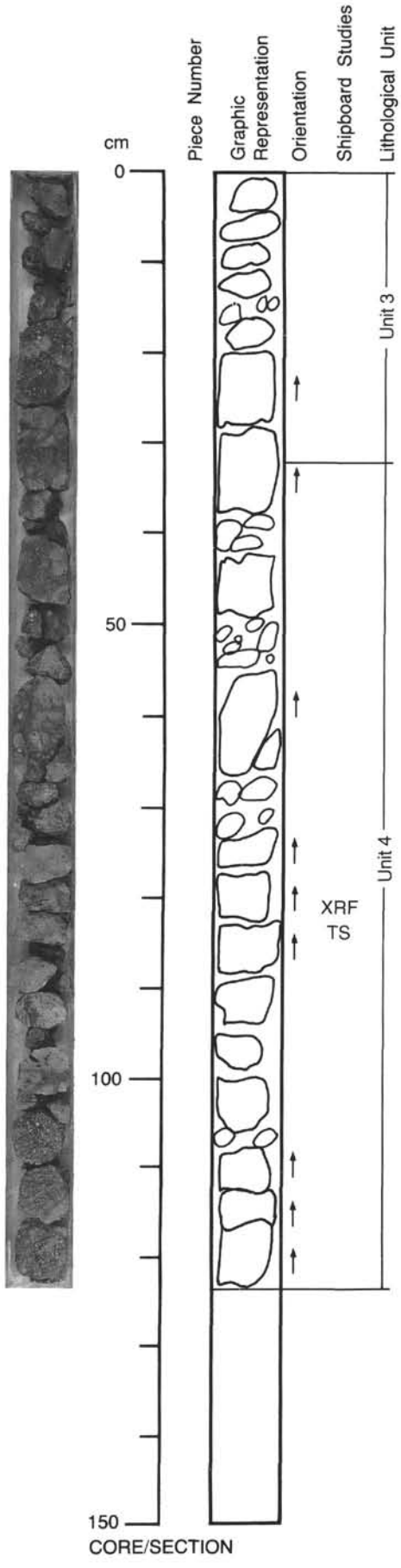
CONTACTS: None.
PHENOCRYSTS: All fresh, some orthopyroxene alteration.
Plagioclase - < 1%; 0.5 - 1.0 mm.
Clinopyroxene - 1%; 0.5 - 1.0 mm.
Orthopyroxene - 1%; 1.0 mm.
GROUNDMASS: Trachyitic alignment of plagioclase in groundmass. Original vitrophyric texture? Devitrified glass.
VESICLES: Spherical, rounded at chilled margins; filled with smectite.
COLOR: Pale gray - green.
STRUCTURE: Broken pillows in a shard-glass and lava fragment matrix. Very poorly sorted, clasts 0.5 - 10.0 cm.
ALTERATION: Smectite replaces orthopyroxene. Glass devitrified.
ADDITIONAL COMMENTS: Clast-lava type: sparse-phyric basaltic-andesite to andesite. In interval 30 - 50 cm, 25% of the clasts are very porphyritic basaltic andesite.



126-793B-95R-CC

UNIT 3: PILLOW-BRECCIA WITH HYALOCLASTIC MATRIX

CONTACTS: None.
PHENOCRYSTS: All fresh, some orthopyroxene alteration.
Plagioclase - < 1%; 0.5 - 1.0 mm.
Clinopyroxene - 1%; 0.5 - 1.0 mm.
Orthopyroxene - 1%; 1.0 mm.
GROUNDMASS: Trachyitic alignment of plagioclase in groundmass. Original vitrophyric texture? Devitrified glass.
VESICLES: Spherical, rounded at chilled margins; filled with smectite.
COLOR: Pale gray - green.
STRUCTURE: Broken pillows in a shard-glass and lava fragment matrix. Very poorly sorted, clasts 0.5 - 10.0 cm.
ALTERATION: Smectite replaces orthopyroxene. Glass devitrified.
ADDITIONAL COMMENTS: Clast-lava type: sparse-phyric basaltic-andesite to andesite.



126-793B-96R-1

UNIT 3: PILLOW-BRECCIA WITH HYALOCLASTIC MATRIX

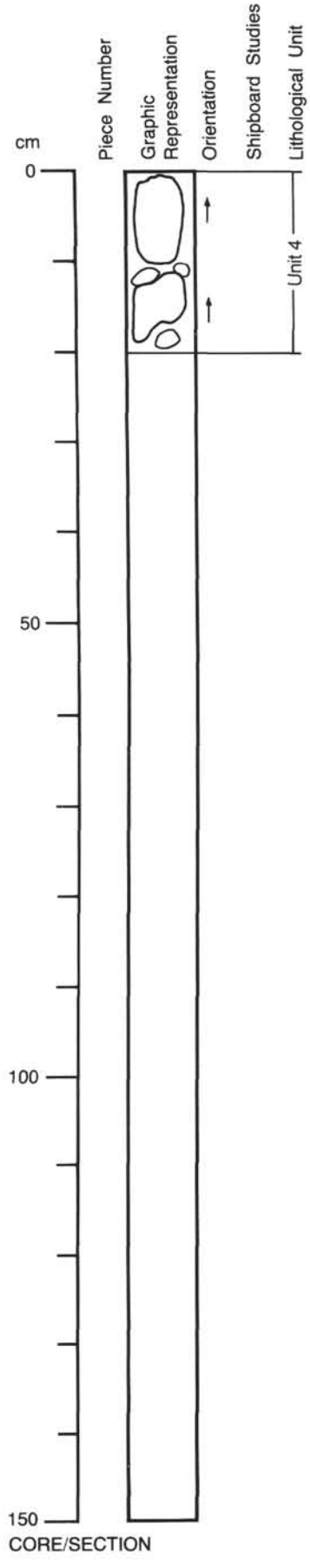
CONTACTS: None.
PHENOCRYSTS: All fresh, some orthopyroxene alteration.
Plagioclase - < 1%; 0.5 - 1.0 mm.
Clinopyroxene - 1%; 0.5 - 1.0 mm.
Orthopyroxene - 1%; 1.0 mm.
GROUNDMASS: Trachyitic alignment of plagioclase in groundmass. Original vitrophyric texture? Devitrified glass.
VESICLES: Spherical, rounded at chilled margins; filled with smectite.
COLOR: Pale gray - green.
STRUCTURE: Broken pillows in a shard-glass and lava fragment matrix. Very poorly sorted, clasts 0.5 - 10.0 cm.
ALTERATION: Smectite replaces orthopyroxene. Glass devitrified.
ADDITIONAL COMMENTS: Clast-lava type: sparse-phyric basaltic-andesite to andesite.

UNIT 4: PORPHYRITIC BASALTIC ANDESITE

CONTACTS: None.
PHENOCRYSTS:
Plagioclase - < 1%; 0.5 - 2.0 mm; euhedral.
Clinopyroxene - 5%; 1.0 - 5.0 mm; euhedral.
Orthopyroxene - 5%; 1.0 - 5.0 mm; euhedral.
GROUNDMASS: Aligned plagioclase microphenocrysts. Trachyitic texture.
VESICLES: Elongate, almond-shaped; vesicles are empty, 1-4 mm.
COLOR: Medium bluish gray, 5B 5/1.
STRUCTURE: None.
ALTERATION: Orthopyroxene altered at margins and along cleavages to smectite and celadonite - filled fractures.
ADDITIONAL COMMENTS: Above description applies to interval from 33 cm to 95 cm.

UNIT 4: APHYRIC BASALTIC-ANDESITE

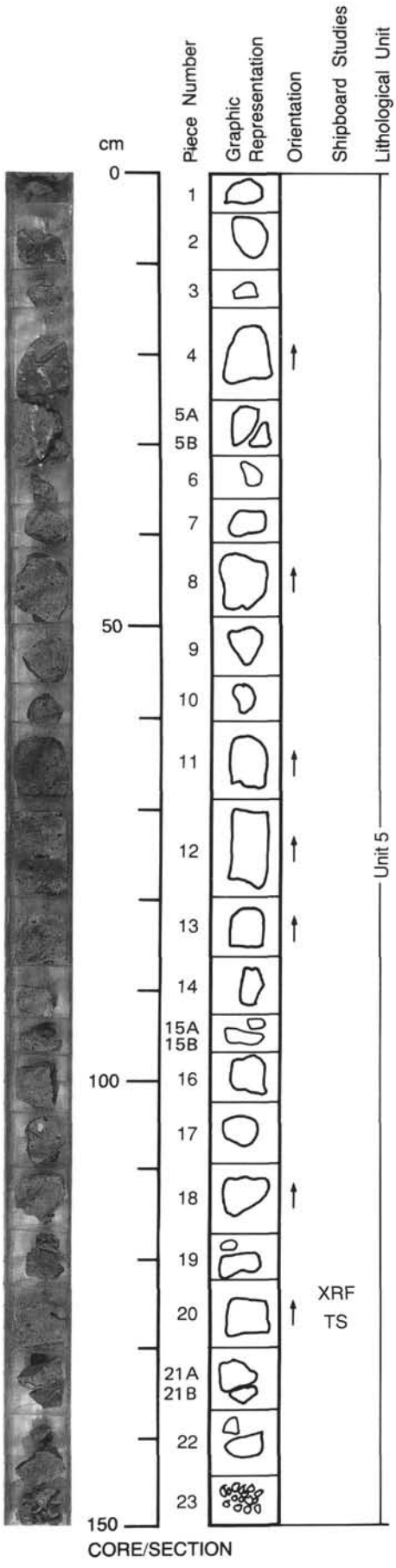
CONTACTS: None.
PHENOCRYSTS: No phenocrysts present.
GROUNDMASS: Aligned plagioclase microphenocrysts, trachyitic texture.
VESICLES: 8%; Up to 1.0 cm; elongate; vesicles are empty.
COLOR: Medium bluish-gray.
STRUCTURE: None.
ALTERATION: Orthopyroxene altered at margins and along cleavages to smectite and celadonite - filled fractures.
ADDITIONAL COMMENTS: Above description applies to clast at 100 cm.



126-793B-96R-CC

UNIT 4: PILLOW BRECCIA WITH HYALOCLASTIC MATRIX

CONTACTS: None.
PHENOCRYSTS: All fresh, some orthopyroxene alteration.
Plagioclase - < 1%; 0.5 - 1.0 mm.
Orthopyroxene - 1%; 1.0 mm.
Clinopyroxene - 1%; 0.5 - 1.0 mm.
GROUNDMASS: Trachyitic alignment of plagioclase in groundmass. Original vitrophyric texture? Devitrified glass.
VESICLES: Spherical, rounded at chilled margins; vesicles filled with smectite.
COLOR: Pale gray-green.
STRUCTURE: Broken pillows in a shard-glass and lava fragment matrix, very poorly sorted.
ALTERATION: Smectite replacing orthopyroxene. Glass devitrified.
ADDITIONAL COMMENTS: Clast-lava type: sparse-phyric basaltic-andesite to andesite. Clasts 2-3 cm.

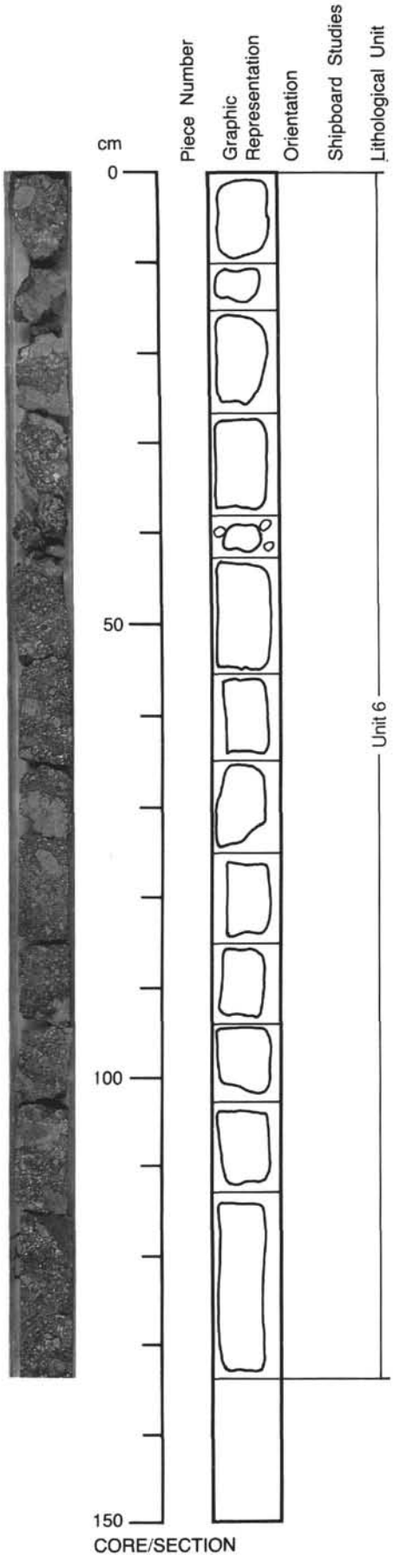


126-793B-97R-1

UNIT 5: BASALTIC ANDESITE MASSIVE LAVA

Pieces 1-23

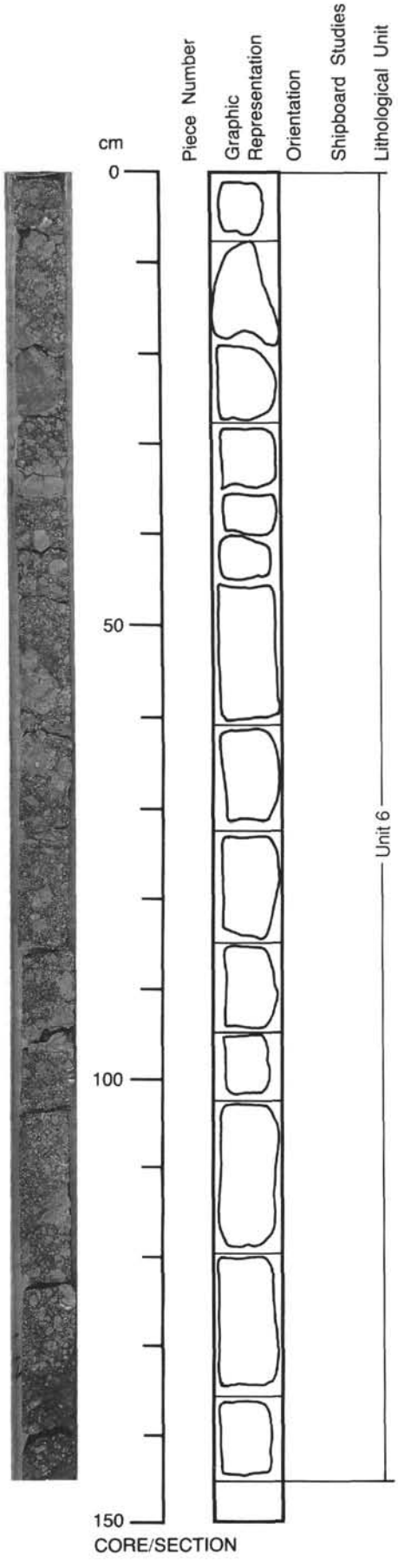
CONTACTS: None.
PHENOCRYSTS:
Clinopyroxene - 5%; 0.5 - 5.0 mm; euhedral.
Orthopyroxene - 5%; 0.5 - 5.0 mm; euhedral.
GROUNDMASS: Fine-grained with plagioclase laths.
VESICLES: 0.5-5.0 mm.; elongated; random; vesicles empty, but walls are coated with celadonite and/or zeolites.
COLOR: Medium light gray, N6.
STRUCTURE: Massive.
ALTERATION: Both orthopyroxene and clinopyroxene altered at margins and along cleavages to celadonite and smectite. Some orthopyroxene crystals completely altered.



126-793B-98R-1

UNIT 6: HYALOCLASTIC - MONOMICTIC CLASTS

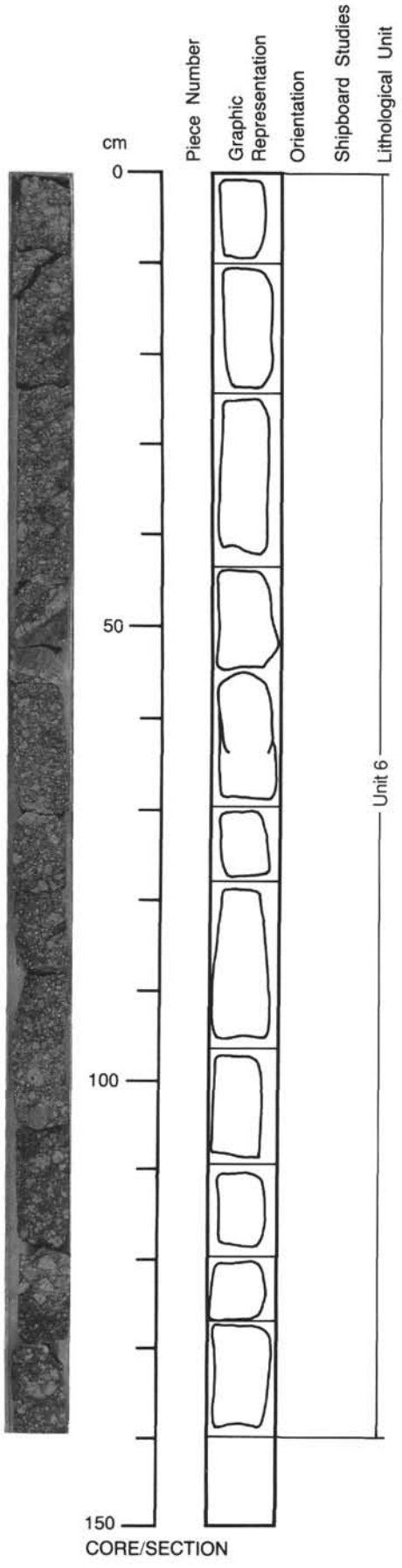
PHENOCRYSTS: Sparsely phyric clinopyroxene-andesite.
Clinopyroxene - 1%; 4.0 mm; fresh.
Plagioclase - 0.1 mm; fresh.
GROUNDMASS: Fine-grained.
VESICLES: Rounded to elongated; vesicles filled with smectite.
STRUCTURE: Chilled rim with no phenocrysts, very flattened vesicles. Groundmass invaded by smectites.
ADDITIONAL COMMENTS: Matrix: zeolites and copper. Clasts: 0.2-6.0 cm.



126-793B-98R-2

UNIT 6: MONOMICTIC HYALOCLASTITE

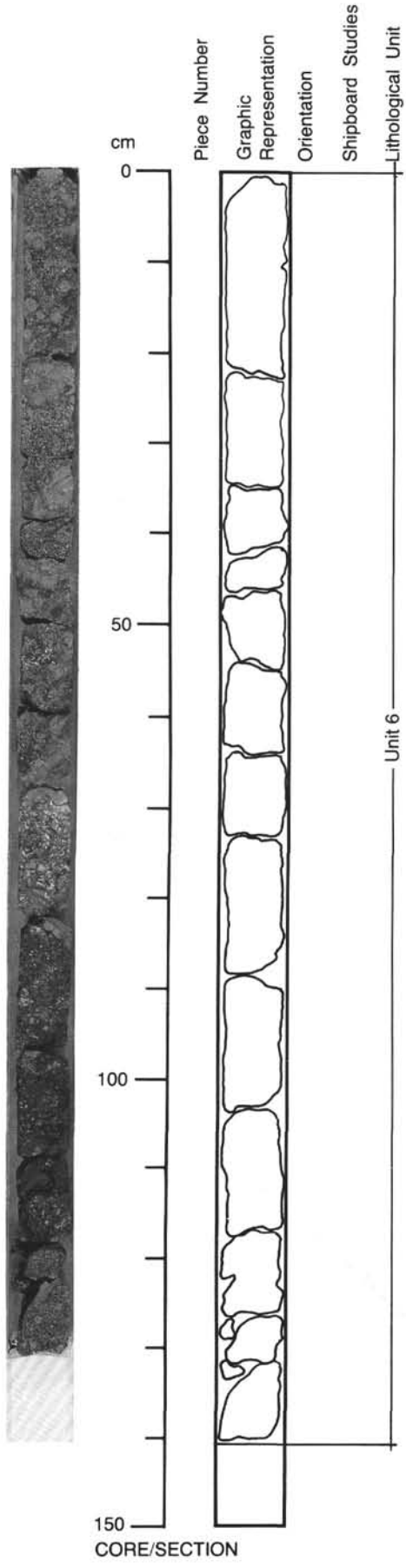
CONTACTS: None.
PHENOCRYSTS: Almost aphyric.
Clinopyroxene - < 1%.
Feldspar - 1%; 2 mm.
GROUNDMASS: Light-colored groundmass. Smectite veins in groundmass.
VESICLES: Flattened; vesicles are flattened and filled with smectites. On the chilled rims the vesicles are filled with zeolites and/or calcite.
COLOR: Light-colored groundmass.
VEINS/FRACTURES: Smectite veins in the groundmass.
ADDITIONAL COMMENTS: Matrix: zeolites and copper. Clasts: size ranges from 0.2-10 cm. All the clasts are rimmed with a chilled margin. Elongated-shaped vesicles also occur in the core of the bigger clasts. Only the smaller (0.1 mm) clasts are rounded.



126-793B-98R-3

UNIT 6: MONOMICTIC HYALOCLASTITE

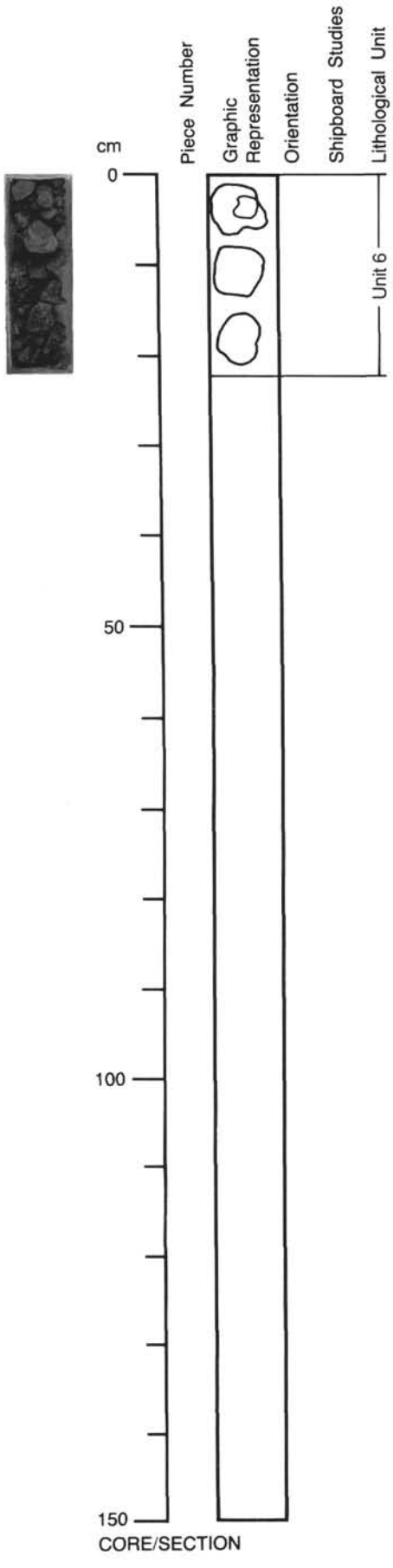
CONTACTS: None.
PHENOCRYSTS: Almost aphyric.
Clinopyroxene - < 1%.
Feldspar - 1%; 2 mm.
GROUNDMASS: Light colored groundmass. Smectite veins in groundmass.
VESICLES: Flattened.; vesicles are flattened and filled with smectites. On the chilled rims the vesicles are filled with zeolites and/or calcite.
VEINS/FRACTURES: Smectite veins in the groundmass.
ADDITIONAL COMMENTS: Matrix: zeolites and copper. Some matrix looks more ferrous and the intervals are filled with zeolites. Clasts: size ranges from 0.2-10 cm. All the clasts are rimmed with a chilled margin. Elongated-shaped vesicles also occur in the core of the biggest clasts. Only the smaller (0.1 mm) clasts are rounded. Open cracks cutting through the clasts and the matrix is filled with zeolites.



126-793B-98R-4

UNIT 6: MONOMICTIC HYALOCLASTITE

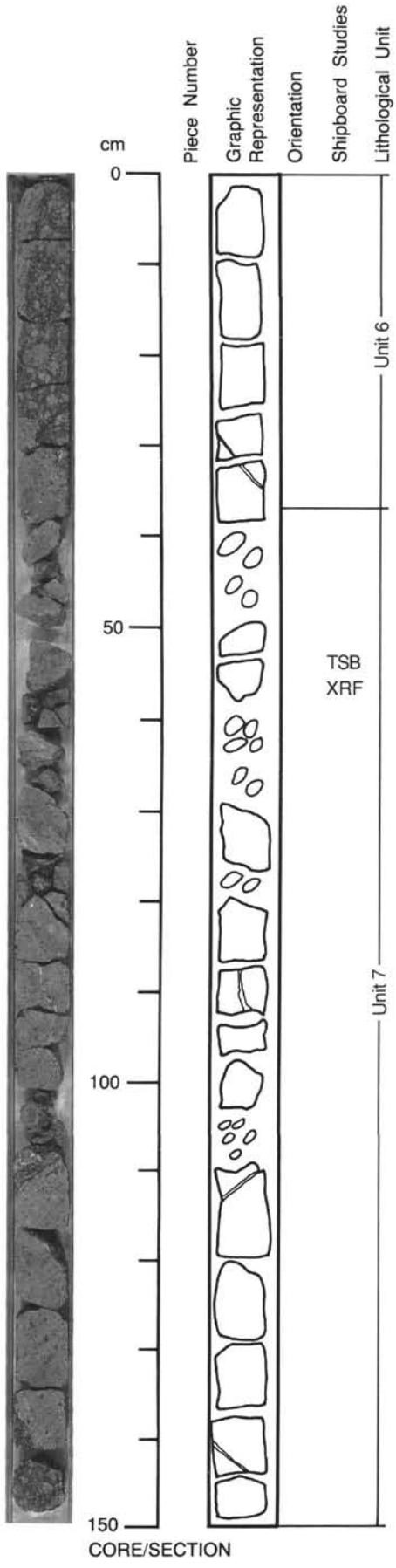
Continued from 98R Section 3.



126-793B-98R-CC

UNIT 6: HYALOCLASTITE

CONTACTS: None.
ADDITIONAL COMMENTS: Clasts: andesite with sparse phenocrysts of clinopyroxene and plagioclase. Small, rounded vesicles filled with smectites and zeolites.



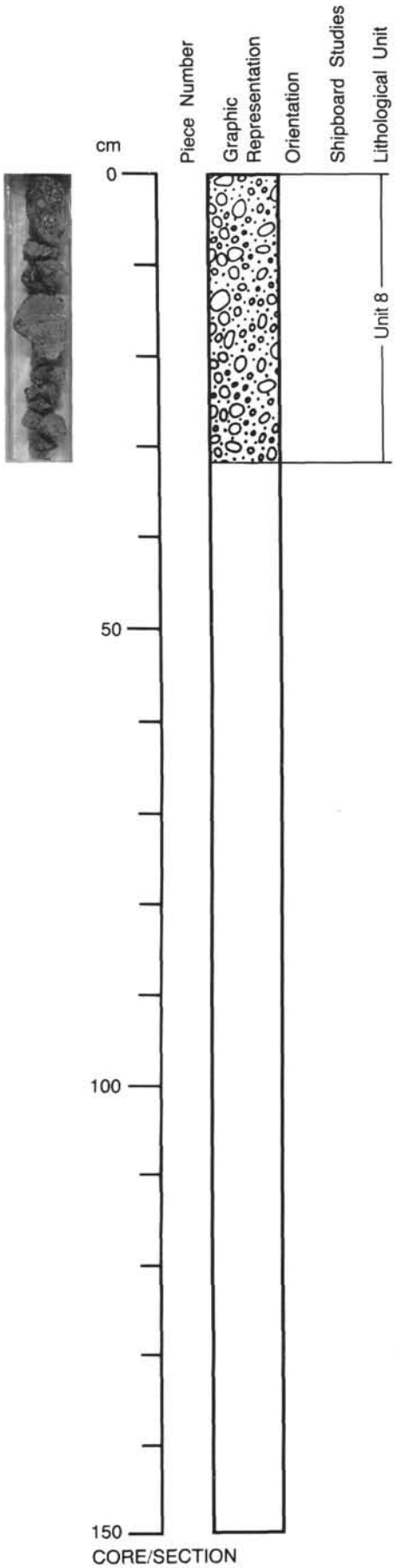
126-793B-99R-1

UNIT 6: BRECCIA

PHENOCRYSTS: Both porphyritic and aphyric clasts in zeolite and smectite cement.
Clinopyroxene - 5-10%; 1-4 mm; partially fresh.
Orthopyroxene - 3-5%; 1-2 mm; very altered.
Plagioclase - < 1%; 0.5 mm.
Olivine? - Now smectite pseudomorphs.
GROUNDMASS: Fine-grained laths.
VESICLES: Elongated; lineations of smectite-filled, elongated vesicles cross the pillows; also smectite and zeolite-filled fractures.
COLOR: Gray.
ADDITIONAL COMMENTS: Hyaloclastite texture. Isolated pyroxene crystals plus mostly nonvesicular aphyric shards.

UNIT 7: BRECCIA

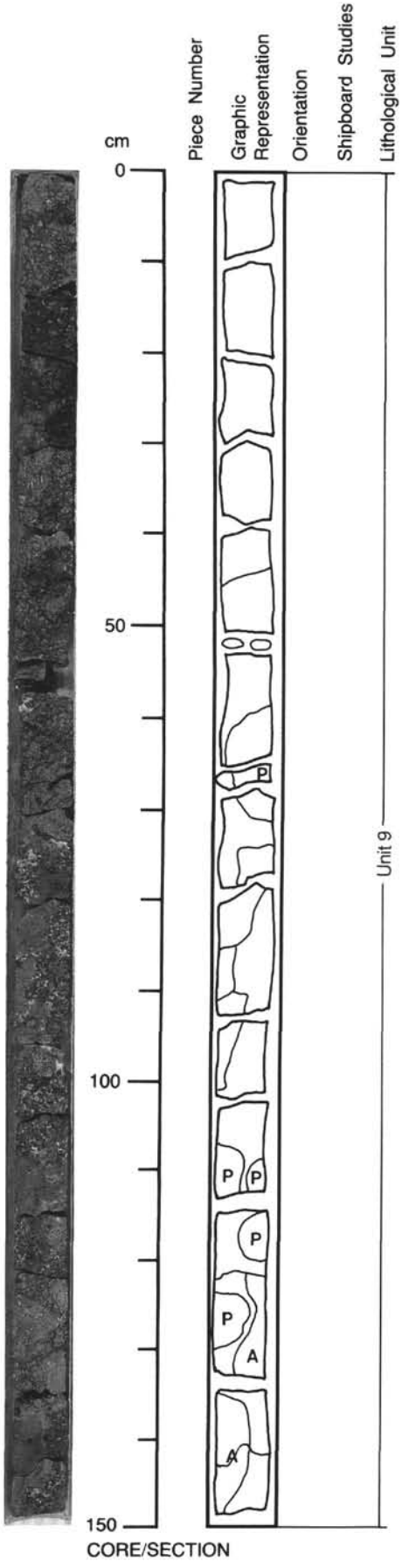
CONTACTS: Lower pillow contact missing.
PHENOCRYSTS: Both porphyritic and aphyric clasts in zeolite and smectite cement.
Clinopyroxene - 5-10%; 1-4 mm; partially fresh.
Orthopyroxene - 3-5%; 1-2 mm; very altered.
Plagioclase - < 1%; 0.5 mm.
Olivine? - Now smectite pseudomorphs.
GROUNDMASS: Fine-grained laths.
VESICLES: Elongated; lineations of smectite-filled, elongated vesicles cross the pillows; also smectite and zeolite-filled fractures (especially at 90 cm.).
COLOR: Gray.
ADDITIONAL COMMENTS: Hyaloclastite texture. Isolated pyroxene crystals plus mostly nonvesicular aphyric shards. Possibly glassy rims of pillows in lower portion of section, despite relative absence of phenocrysts.



126-793B-99R-2

UNIT 8: BRECCIA

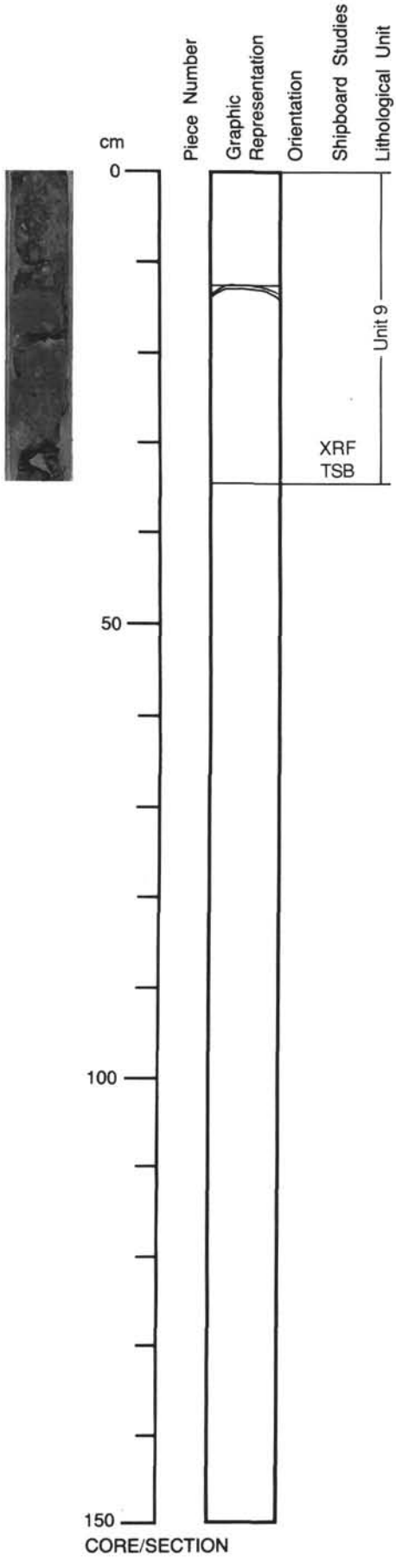
ADDITIONAL COMMENTS: Breccia: 0.5-5.0 cm clasts of clinopyroxene, orthopyroxene, and plagioclase lava.



126-793B-100R-1

UNIT 9: HETEROLITHIC BRECCIA

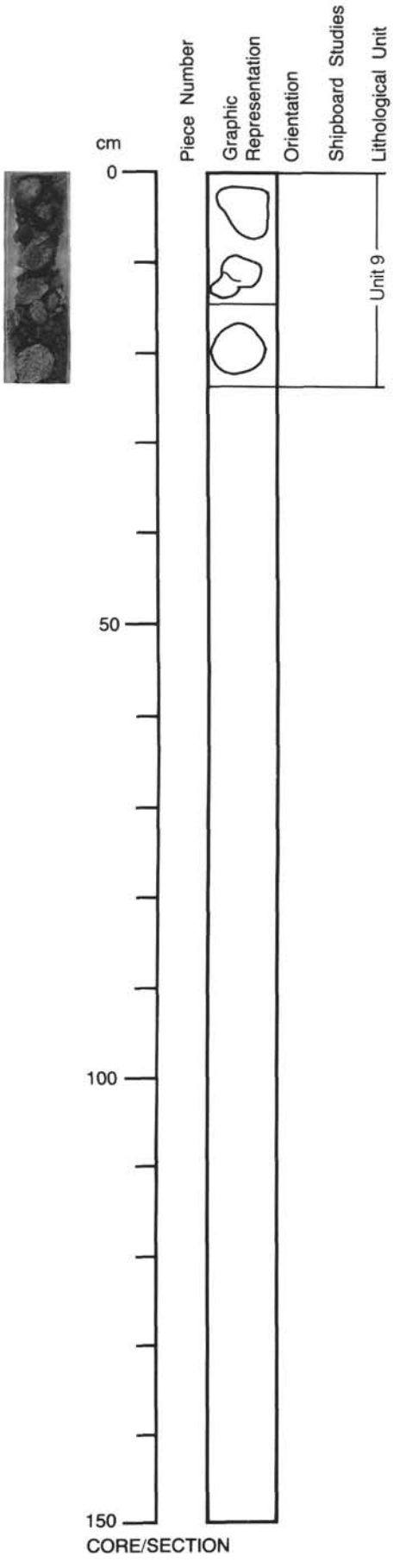
CONTACTS: Glassy rims are noticeable on the aphyric clasts.
PHENOCRYSTS: Porphyritic clasts contain plagioclase, trace; orthopyroxene, 3-8%, 0.5-2 mm; smectite pseudomorphs; clinopyroxene, 5-10%, 2-6 mm. Aphyric clasts contain plagioclase, <1%, 0.5 mm, fresh; clinopyroxene, <1%, <=4 mm, fresh; orthopyroxene, <1%, <=1 mm, smectite pseudomorphs.
GROUNDMASS: Felty feldspar laths, gray.
VESICLES: Porphyritic clasts: <5% vesicles, 0.1-0.2 mm in diameter, usually stretched. Aphyric clasts: ~5% vesicles, 1-2 mm in diameter, usually stretched, and 0.2 mm in diameter, circular; both open with smectite lining and filled with zeolite.
COLOR: See groundmass.
ALTERATION: See main comments.
ADDITIONAL COMMENTS: Clasts: 0.5-10 cm in diameter. Matrix: Altered glass shards plus clinopyroxene plus orthopyroxene crystals. Cement: zeolite, not calcite.



126-793B-100R-2

UNIT 9: HYALOCLASTITE

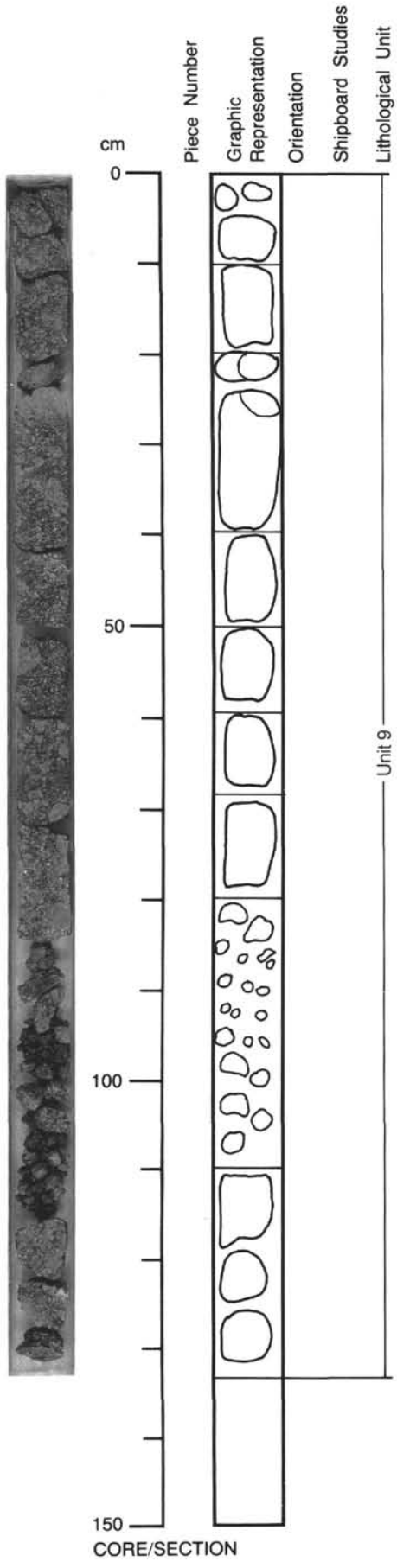
CONTACTS: Chilled lobate highly vesicular contact at about 12 cm.
PHENOCRYSTS:
Plagioclase - 1-2%; 1 mm.
Clinopyroxene - 1-2%; ~4 mm; sparsely phyric.
Orthopyroxene - 1-2%.
GROUNDMASS: The contact with the groundmass is marked by a white border.
VESICLES: 10%; up to 16 mm; elongated to rounded.; rounded vesicles up to 1 mm are filled with zeolites. Elongated partially-filled vesicles up to 16 mm.
COLOR: Light green, with a dark green-gray groundmass.
STRUCTURE: Matrix is like the previous section, only difference is more abundant crystallized zeolites.
ADDITIONAL COMMENTS: Clasts are sometimes more porphyritic (30% of phenocrysts opx=cpx, altered olivine?).



126-793B-100R-CC

UNIT 9: HYALOCLASTITE

STRUCTURE: Matrix is like the previous section (126-793B-100R-2).
ADDITIONAL COMMENTS: Clasts in top part of the pillow.



126-793B-101R-1

UNIT 9: HYALOCLASTIC-PORPHYRITIC

CLINOPYROXENE-ORTHOPYROXENE-PLAGIOCLASE BASIC ANDESITE

PHENOCRYSTS:
Clinopyroxene - 10-30%; up to 5 mm.
Orthopyroxene - 10-30%; altered to smectites.
Plagioclase - A few plagioclase phenocrysts.

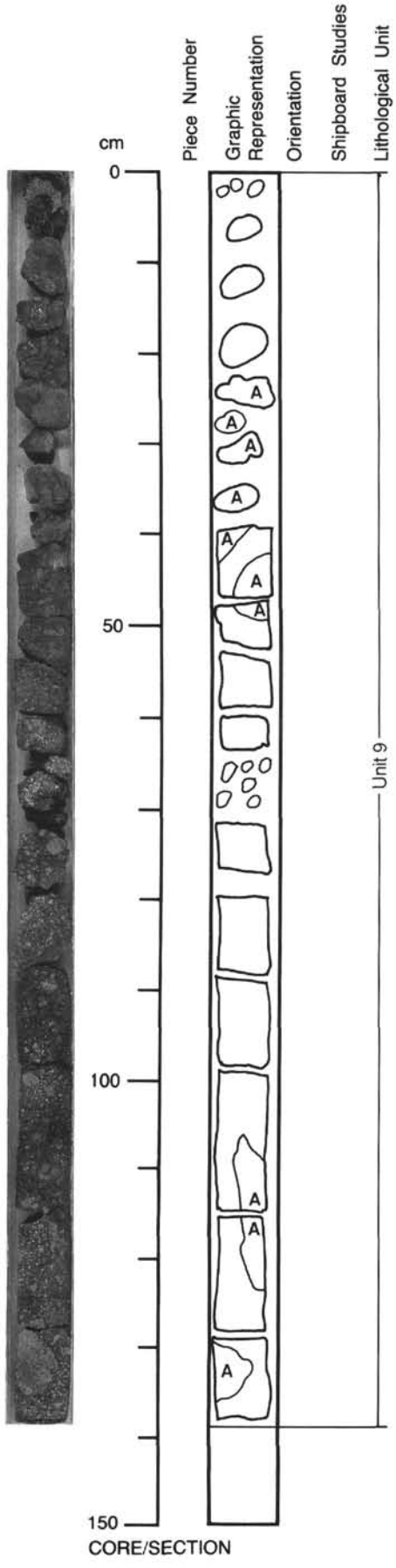
GROUNDMASS: Crystal and shards of altered glass. Crystals in the mature clinopyroxene (fresh, up to 5 mm). Shards of altered glass. Cement is composed of zeolites and smectites.

VESICLES: 1-3 mm; flattened; chilled rim with flattened vesicles filled with smectites.

COLOR: N3 to 5GY 4/1.

STRUCTURE: In some clasts the chilled margin is perfectly visible. Very fine cooling fractures filled with zeolites are perpendicular to the chilled rims. Color is greenish white. The core of the chilled clasts are richer in small plagioclase laths (0.1-0.3 mm).

ADDITIONAL COMMENTS: Clasts are 0.1 - 6.0 cm.



126-793B-102R-1

UNIT 9: HYALOCLASTITE BRECCIA/APHYRIC LAVA

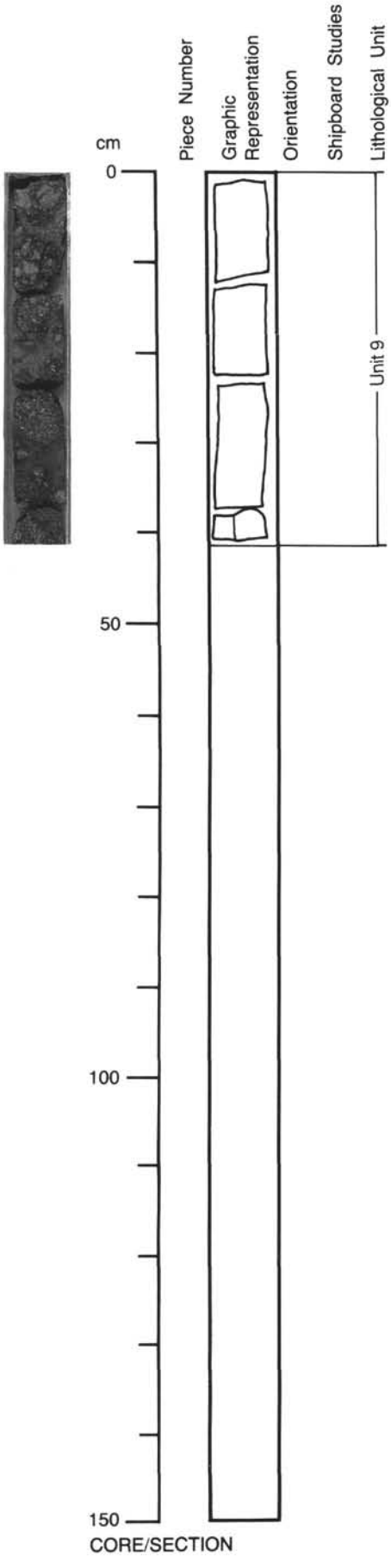
PHENOCRYSTS:
Clinopyroxene - 2-4%; 1-3 mm.
Orthopyroxene - 2-4%; 1-3 mm.

GROUNDMASS: Consists of glass shards and pyroxene crystals cemented by zeolites (heulandite-clinoptilolite); thoroughly green (smectite not chlorite). More matrix than clasts.

VESICLES: < 5%.

COLOR: Green.

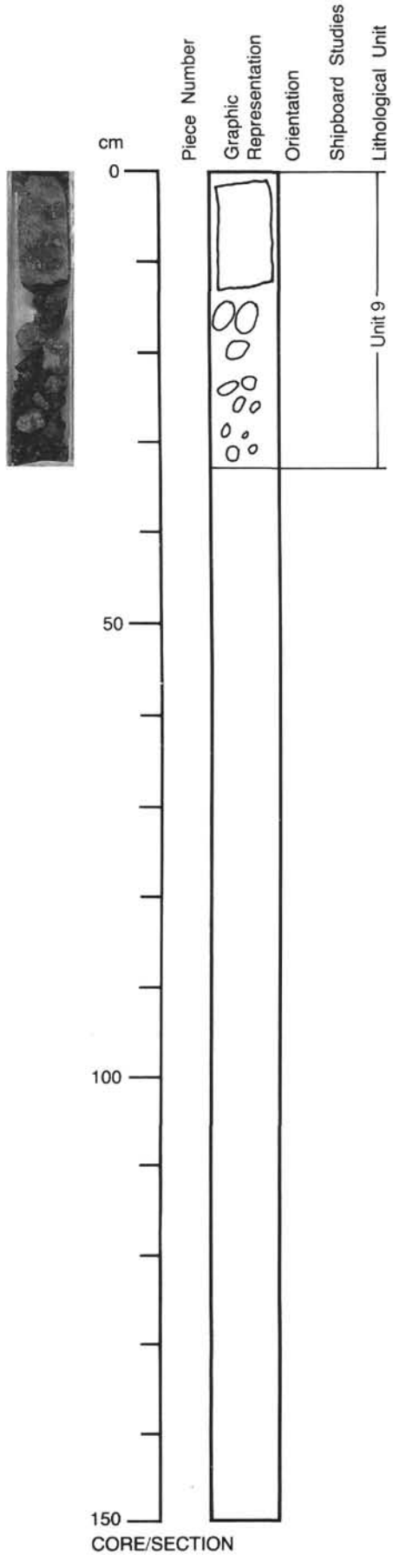
ADDITIONAL COMMENTS: Breccia: 0-20 cm. 1-2 cm clasts with mostly aphyric hyaloclastic textures. 40-140 cm, mostly (entirely?) aphyric clasts. Here the aphyric lava pieces are clearly clasts with chilled margins; clasts 0.5-7.0 cm diameter. Aphyric lava pieces: 20-40 cm. Clinopyroxene and orthopyroxene together comprise 2-4%.



126-793B-102R-2

UNIT 9: HYALOCLASTITE BRECCIA

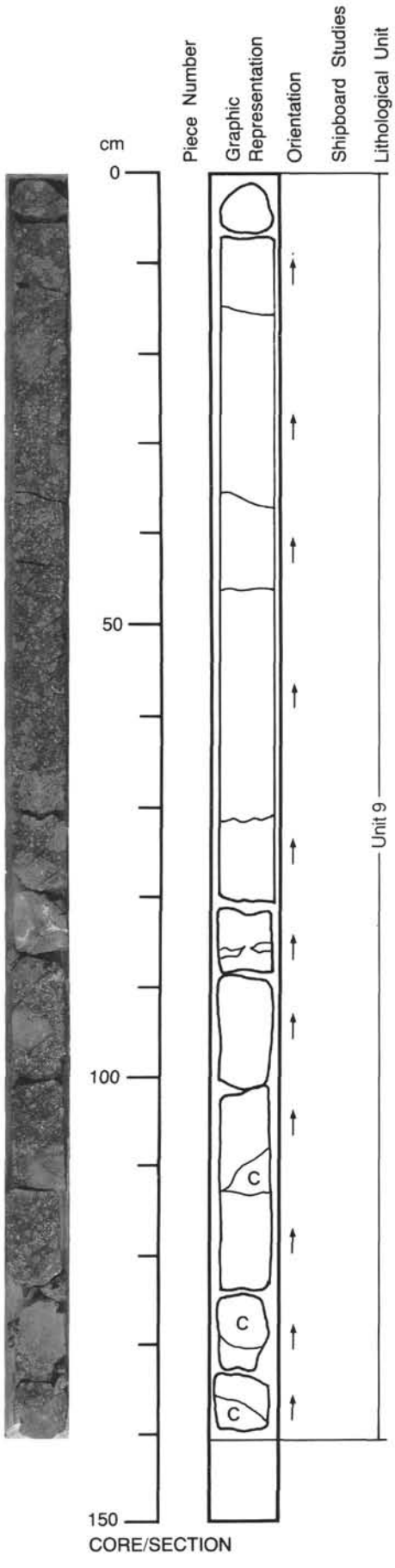
GROUNDMASS: More matrix than clasts.
ADDITIONAL COMMENTS: Mostly (entirely?) aphyric clasts; clasts 1.0-4.0 cm diameter.



126-793B-102R-CC

UNIT 9: HYALOCLASTITE BRECCIA

GROUNDMASS: Matrix consists of glass shards and pyroxene crystals cemented by zeolites (heulandite-clinoptilolite); thoroughly green (smectite not chlorite). More matrix than clasts.
COLOR: Green.
ADDITIONAL COMMENTS: Mostly (entirely?) aphyric clasts; clasts 0.5-7.0 cm diameter.



126-793B-103R-1

UNIT 9: HYALOCLASTITE

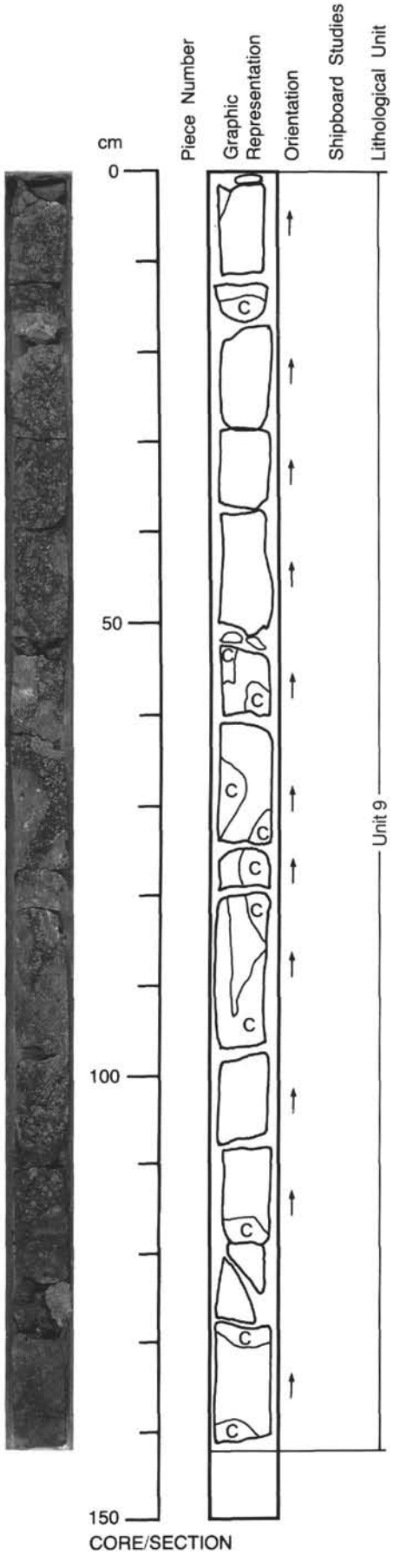
PHENOCRYSTS:
Plagioclase - 2%; 0.2-1.0 mm; euhedral, partially altered.
Clinopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.
Orthopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.

GROUNDMASS: Fined-grained. Altered glass with clinopyroxene-orthopyroxene-plagioclase crystals in zeolite cement. Glass is altered to smectite. Zeolite vein at 84 cm, 2 mm thick. Greenish black. Matrix is more abundant than clasts, but clasts increase in size and abundance downward through core 126-793B-103R.

VESICLES: 5%; round; random; filled with smectite or zeolite coating on walls.

COLOR: Medium light gray.

ALTERATION: All phenocrysts are partially altered to smectite (orthopyroxene, clinopyroxene) or sericite (plagioclase).



126-793B-103R-2

UNIT 9: HYALOCLASTITE

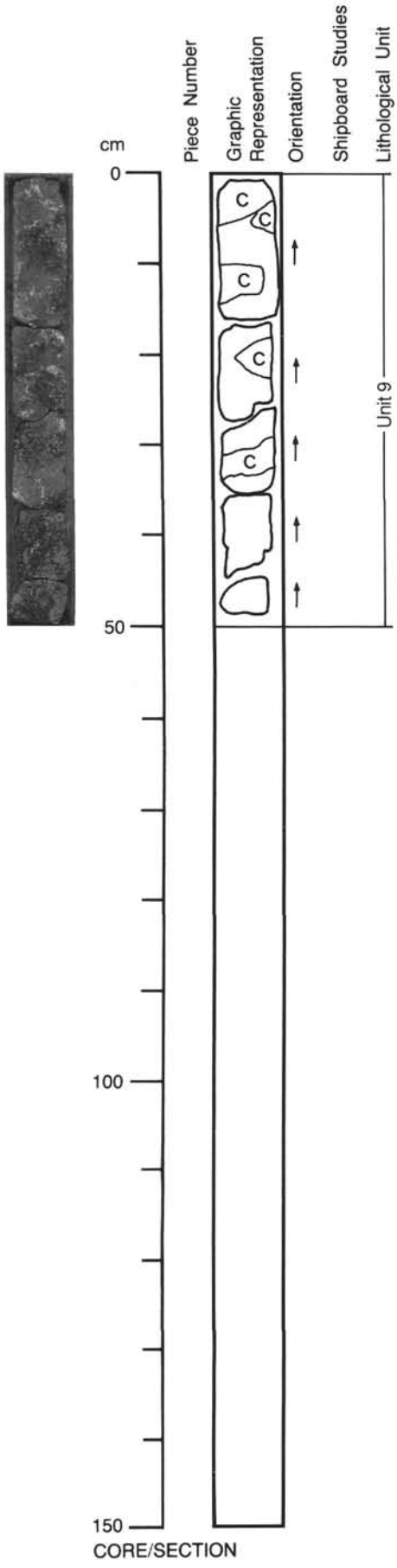
PHENOCRYSTS:
Plagioclase - 2%; 0.2-1.0 mm; euhedral, partially altered.
Clinopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.
Orthopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.

GROUNDMASS: Fined-grained. Altered glass with clinopyroxene-orthopyroxene-plagioclase crystals in zeolite cement. Glass is altered to smectite. Greenish black. Matrix is more abundant than clasts, but clasts increase in sizeand abundance downward through core 126-793B-103R.

VESICLES: 5%; round; random; filled with smectite or zeolite coating on walls.

COLOR: Medium light gray.

ALTERATION: All phenocrysts are partially altered to smectite (orthopyroxene, clinopyroxene) or sericite (plagioclase).



126-793B-103R-3

UNIT 9: HYALOCLASTITE

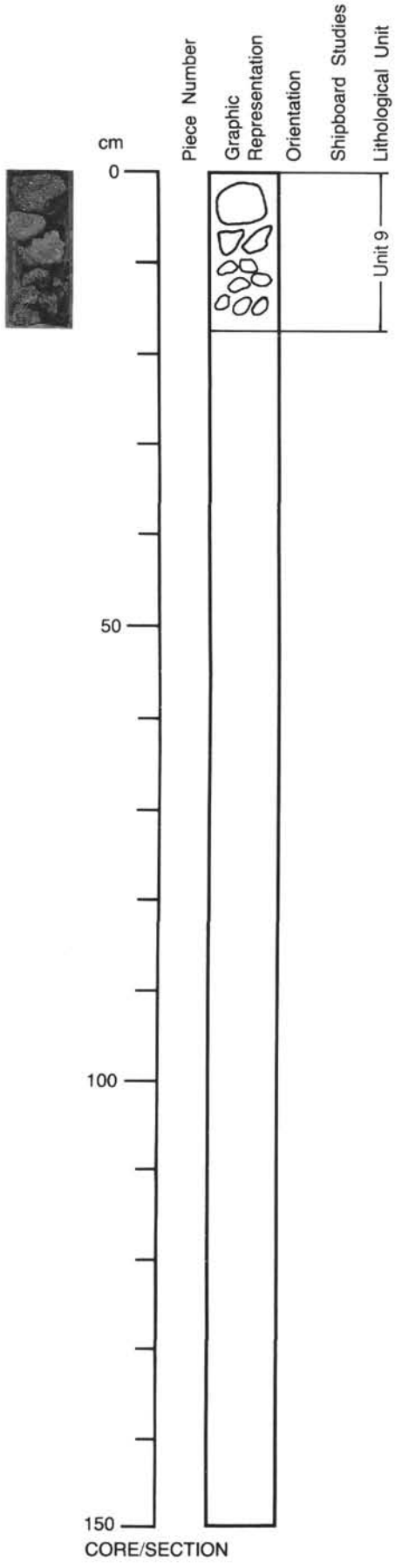
PHENOCRYSTS:
Plagioclase - 2%; 0.2-1.0 mm; euhedral, partially altered.
Clinopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.
Orthopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.

GROUNDMASS: Fined-grained. Altered glass withclinopyroxene-orthopyroxene-plagioclase crystals in zeolite cement. Glass is altered to smectite. Greenish black. Matrix is more abundant than clasts, but clasts increase in size and abundance downward through core 126-793B-103R.

VESICLES: 5%; round; random; filled with smectite or zeolite coating on walls.

COLOR: Medium light gray.

ALTERATION: All phenocrysts are partially altered to smectite (orthopyroxene, clinopyroxene) or sericite (plagioclase).



126-793B-103R-CC

UNIT 9: HYALOCLASTITE

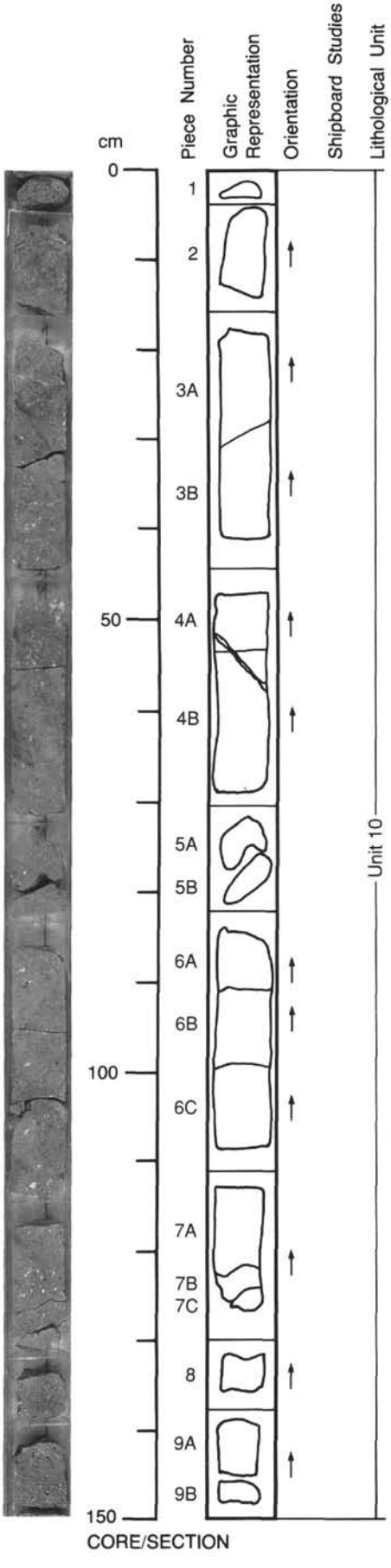
PHENOCRYSTS:
Plagioclase - 2%; 0.2-1.0 mm; euhedral, partially altered.
Clinopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.
Orthopyroxene - 2%; 0.2-2.0 mm; euhedral, partially altered.

GROUNDMASS: Fine-grained. Altered glass with clinopyroxene - orthopyroxene-plagioclase crystals in zeolite cement. Glass is altered to smectite. Greenish black. Matrix is more abundant than clasts, but clasts increase in size and abundance downward through core 126-793B-103R.

VESICLES: 5%; round; random; filled with smectite or zeolite coating on walls.

COLOR: Medium light gray.

ALTERATION: All phenocrysts are partially altered to smectite (orthopyroxene, clinopyroxene) or sericite (plagioclase).



126-793B-104R-1

UNIT 10: BASALTIC ANDESITE

Pieces 1-9

CONTACTS: Clear contact between altered glass (green) and gray chilled margin of lava in Piece 4A and 4B.

PHENOCRYSTS:

Plagioclase - 5%; 0.3-2.0 mm; euhedral.
Clinopyroxene - 10%; 0.5-8.0 mm; euhedral.
Orthopyroxene - 3%; 0.3-5.0 mm; euhedral.

GROUNDMASS: Fine-grained with plagioclase laths < 0.3 mm.

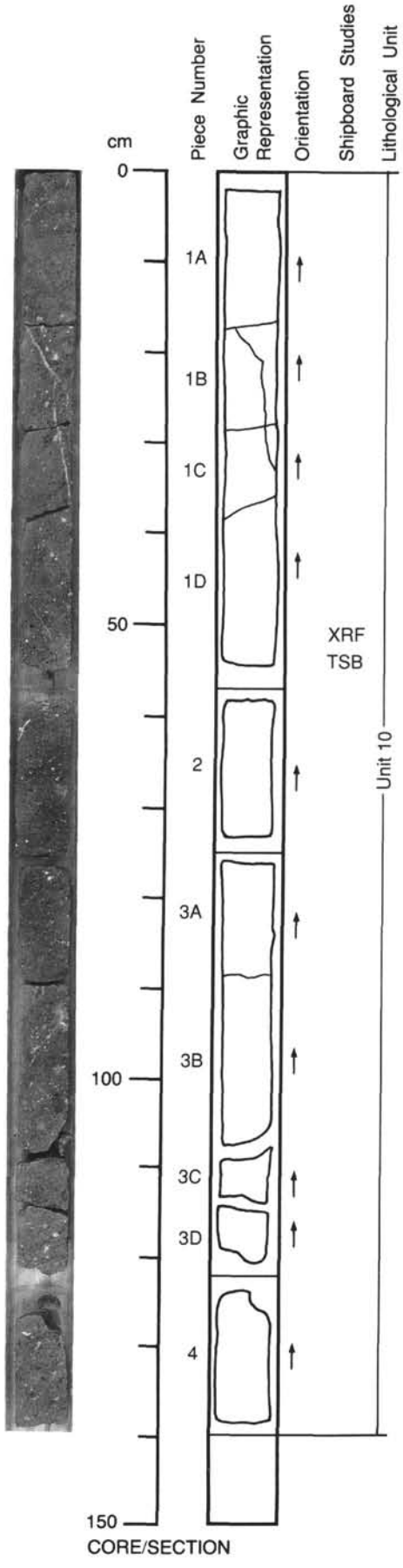
VESICLES: 5%; 0.2 - 100 mm; elongated; random; filled with clays or zeolites. Some vesicles open with secondary minerals on vesicle walls. Native copper found in a few.

COLOR: Medium bluish gray.

STRUCTURE: Massive lava with alteration along fissures.

ALTERATION: Phenocrysts are generally fresh throughout core, but within the green bands, the clinopyroxene and orthopyroxene phenocrysts are altered along margins and cleavages.

VEINS/FRACTURES: Thin (0.1-1.0 mm) white zeolite veins throughout section. Thick, 1-5 cm vein in altered zone in Pieces 2, 3, 4, and 6B.

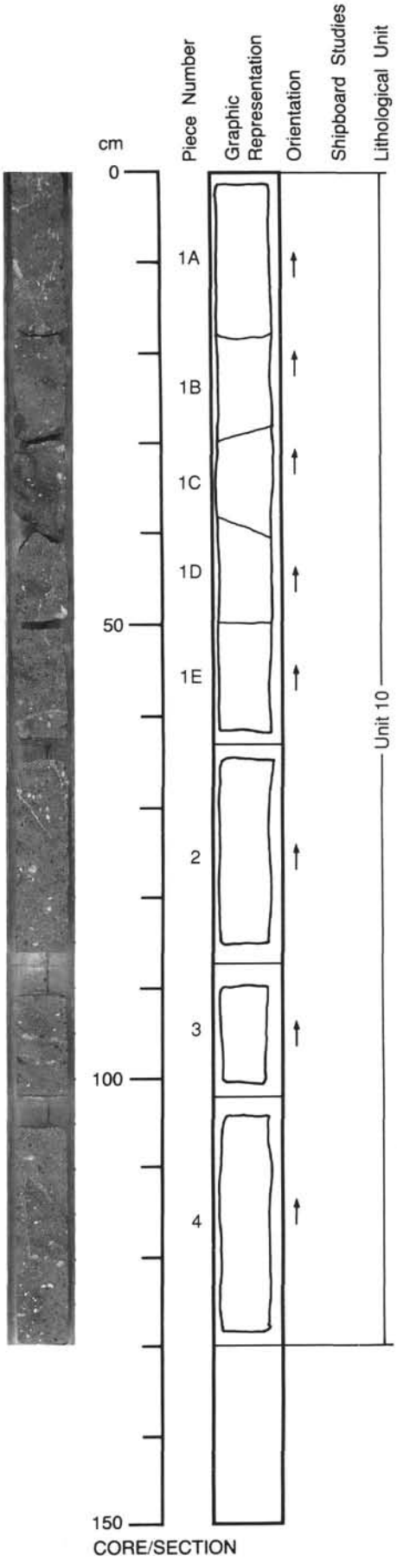


126-793B-104R-2

UNIT 10: BASALTIC ANDESITE

Pieces 1-4

PHENOCRYSTS:
Plagioclase - 5%; 0.3-2.0 mm; euhedral.
Clinopyroxene - 10%; 0.5-8.0 mm; euhedral.
Orthopyroxene - 3%; 0.3-5.0 mm; euhedral.
GROUNDMASS: Fine-grained with plagioclase laths < 0.3 mm.
VESICLES: 5%; 0.2 - 100 mm; elongated; random; filled with clays or zeolites. Some vesicles open with secondary minerals on vesicle walls. Native copper found in a few.
COLOR: Medium bluish gray.
STRUCTURE: Massive lava with alteration along fissures.
ALTERATION: Phenocrysts are generally fresh throughout core, but within the green bands, the clinopyroxene and orthopyroxene phenocrysts are altered along margins and cleavages.
VEINS/FRACTURES: Zeolite vein through Pieces 1B and 1C.



126-793B-104R-3

UNIT 10: BASALTIC ANDESITE

Pieces 1-4

PHENOCRYSTS:
Plagioclase - 5%; 0.3-2.0 mm; euhedral.
Clinopyroxene - 10%; 0.5-8.0 mm; euhedral.
Orthopyroxene - 3%; 0.3-5.0 mm; euhedral.

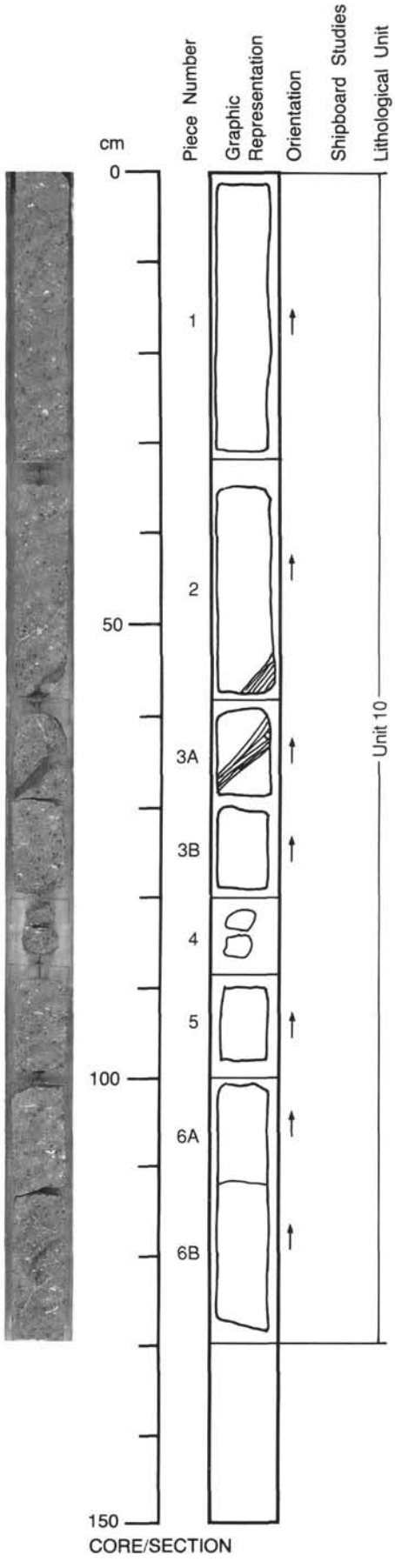
GROUNDMASS: Fine-grained with plagioclase laths < 0.3 mm.

VESICLES: 5%; 0.2 - 100 mm; elongated; random; filled with clays or zeolites. Some vesicles open with secondary minerals on vesicle walls. Native copper found in a few.

COLOR: Medium bluish gray.

STRUCTURE: Massive lava with alteration along fissures.

ALTERATION: Phenocrysts are generally fresh throughout core, but within the green bands, the clinopyroxene and orthopyroxene phenocrysts are altered along margins and cleavages.

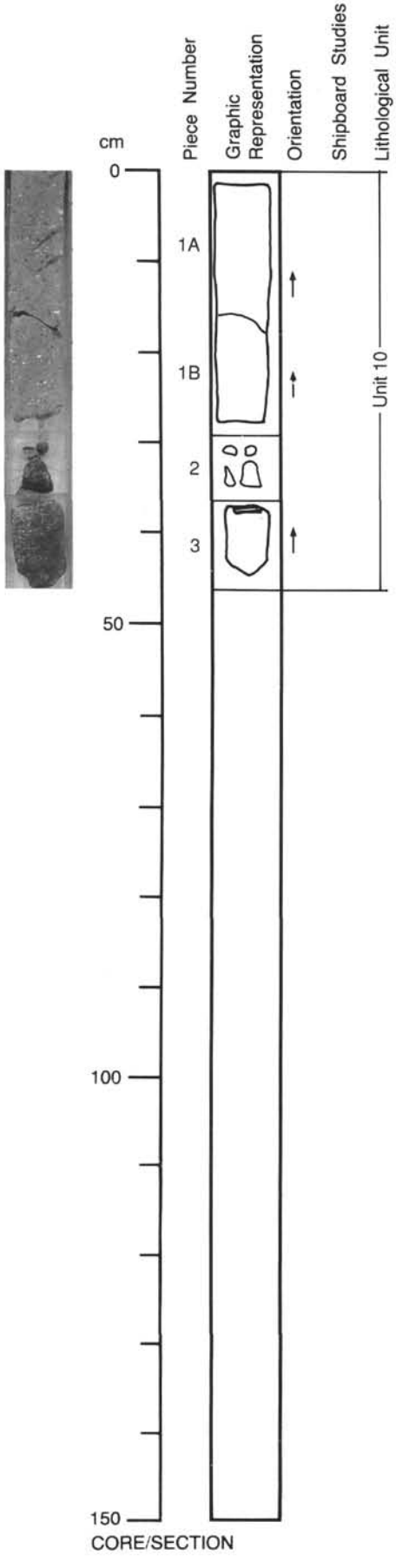


126-793B-104R-4

UNIT 10: BASALTIC ANDESITE

Pieces 1-6

PHENOCRYSTS:
Plagioclase - 5%; 0.3-2.0 mm; euhedral.
Clinopyroxene - 10%; 0.5-8.0 mm; euhedral.
Orthopyroxene - 3%; 0.3-5.0 mm; euhedral.
GROUNDMASS: Fine-grained with plagioclase laths < 0.3 mm.
VESICLES: 5%; 0.2 - 100 mm; elongated; random; filled with clays or zeolites. Some vesicles open with secondary minerals on vesicle walls. Native copper found in a few.
COLOR: Medium bluish gray.
STRUCTURE: Massive lava with alteration along fissures.
ALTERATION: Phenocrysts are generally fresh throughout core, but within the green bands, the clinopyroxene and orthopyroxene phenocrysts are altered along margins and cleavages.
ADDITIONAL COMMENTS: Green hyaloclastite band in Pieces 2 and 3A.



126-793B-104R-CC

UNIT 10: BASALTIC ANDESITE

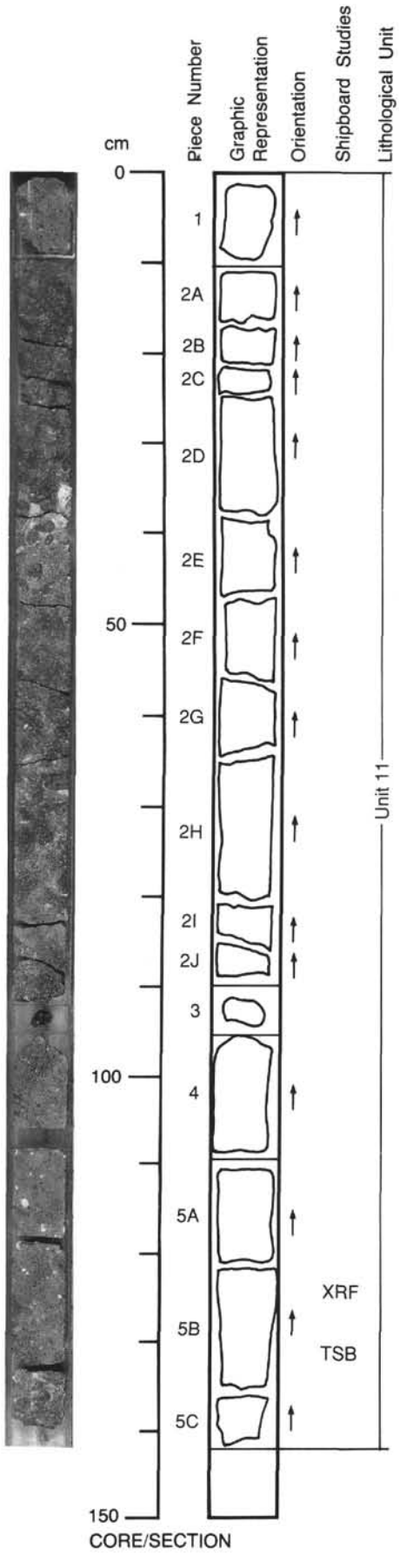
Pieces 1-2

PHENOCRYSTS:
Plagioclase - 5%; 0.3-2.0 mm; euhedral.
Clinopyroxene - 10%; 0.5-8.0 mm; euhedral.
Orthopyroxene - 3%; 0.3-5.0 mm; euhedral.
GROUNDMASS: Fine-grained with plagioclase laths < 0.3 mm.
VESICLES: 5%; 0.2 - 100 mm; elongated; random; filled with clays or zeolites. Some vesicles open with secondary minerals on vesicle walls. Native copper found in a few.
COLOR: Medium bluish gray.
STRUCTURE: Massive lava with alteration along fissures.
ALTERATION: Phenocrysts are generally fresh throughout core, but within the green bands, the clinopyroxene and orthopyroxene phenocrysts are altered along margins and cleavages.
ADDITIONAL COMMENTS: Glassy margin at bottom of Piece 2.

UNIT 10: MONOMICTITE HYALOCLASTITE BRECCIA

Piece 3

CONTACTS: Glassy margin at top of Piece 3 which is the contact to the basaltic andesite.
PHENOCRYSTS: Plagioclase phyric basic andesite.
GROUNDMASS: Chilled glassy shards, clinopyroxene, altered orthopyroxene crystals. Zeolite and smectite cement.
ADDITIONAL COMMENTS: Volcanic clastics 35%, chilled glassy shards 50%, cement 20%.



126-793B-105R-1

UNIT 11: BASALTIC ANDESITE PILLOW LAVAS

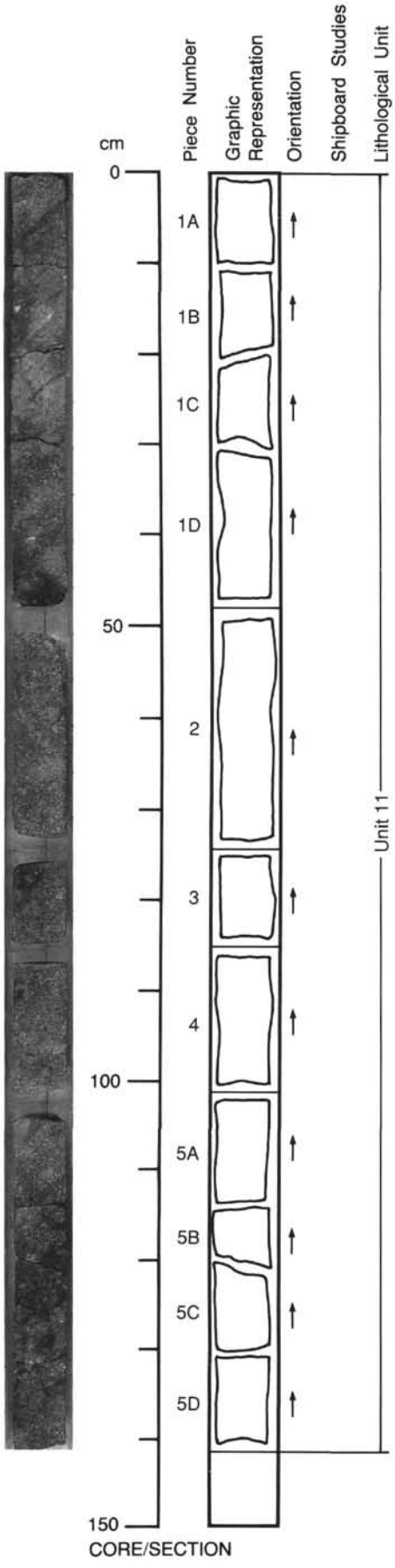
Pieces 1, 4-5B

CONTACTS: Chilled, darker glassy margins mark pillow rims.
PHENOCRYSTS:
Plagioclase - 5%; 1-3 mm; euhedral.
Clinopyroxene - 8%; 2-10 mm; euhedral.
Orthopyroxene - 5%; 1-3 mm; euhedral.
GROUNDMASS: Fine-grained, non-aligned laths of plagioclase.
VESICLES: < 1%; spherical to tabular; sporadic; filled with radiating, white zeolite (heulandite-clinoptilolite). Some vesicles remain open.
COLOR: Medium bluish gray.
ALTERATION: Orthopyroxene rims are altered to smectite.
ADDITIONAL COMMENTS: Stellate/spherulitic arrangement of clinopyroxene, often nucleated around orthopyroxene pseudomorphs.

UNIT 11: HYALOCLASTITE BRECCIA

Pieces 2, 5C

PHENOCRYSTS:
Orthopyroxene - 5%; 1-2 mm.
Clinopyroxene - 10%; 2-5 mm.
GROUNDMASS: Altered glass shards, 1-10 mm pyroxene crystals.
VESICLES: 2-4 cm; sparse; zeolite and native copper in vesicles.
COLOR: Greenish black.
ADDITIONAL COMMENTS: Highly altered clasts of porphyritic andesite.

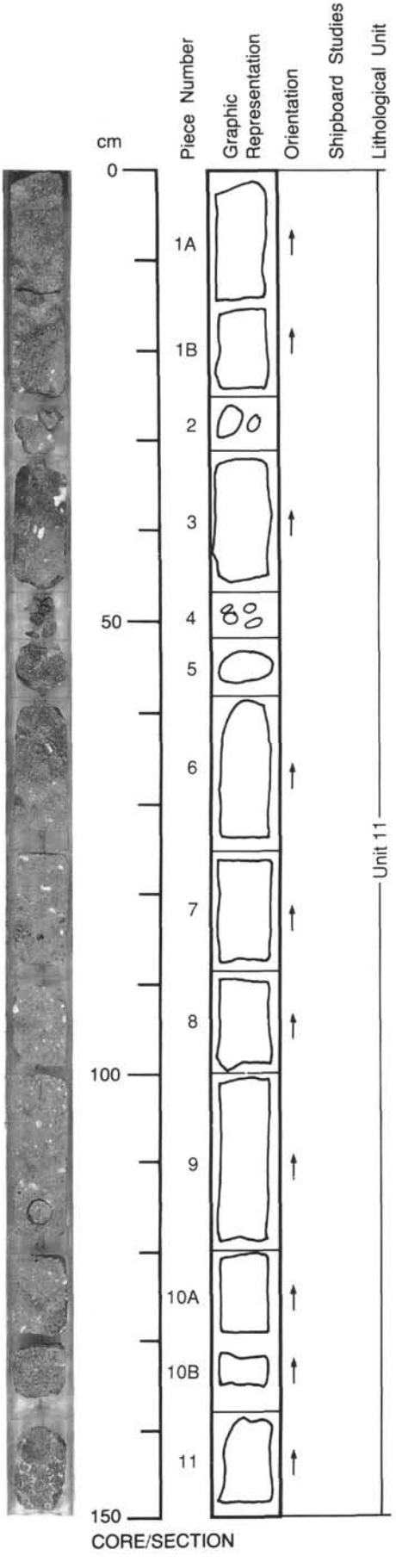


126-793B-105R-2

UNIT 11: HYALOCLASTITE BRECCIA

Pieces 1-5

PHENOCRYSTS: Clasts: porphyritic basaltic andesite, 5-20 cm diameter.
Orthopyroxene - 5%; 0.5 - 3.0 mm; euhedral.
Clinopyroxene - 10-15%; 2-6 mm; euhedral, stellate clusters.
Plagioclase - 2%; 0.5-1.0 mm; euhedral.
GROUNDMASS: Felty feldspar.
VESICLES: < 5%; elongate; filled with white and orange zeolite and native copper.
COLOR: Medium bluish gray.
ADDITIONAL COMMENTS: Matrix: hyaloclastite mixture of altered glass shards (1-10mm), pyroxene crystals, and zeolite+smectite cement.



126-793B-105R-3

UNIT 11: HYALOCLASTITE BRECCIA

Piece 1A

PHENOCRYSTS: Clasts: porphyritic basaltic andesite.
Orthopyroxene - 5%; 0.5 - 3.0 mm; euhedral.
Clinopyroxene - 10-15%; 2-6 mm; euhedral, stellate clusters.
Plagioclase - 2%; 0.5-1.0 mm; euhedral.
GROUNDMASS: Felty feldspar.
VESICLES: < 5%; elongate; filled with white and orange zeolite and native copper.
COLOR: Medium bluish gray.
ADDITIONAL COMMENTS: Matrix: hyaloclastite mixture of altered glass shards (1-10 mm), pyroxene crystals, and zeolite+smectite cement.

UNIT 11: PILLOW LAVA

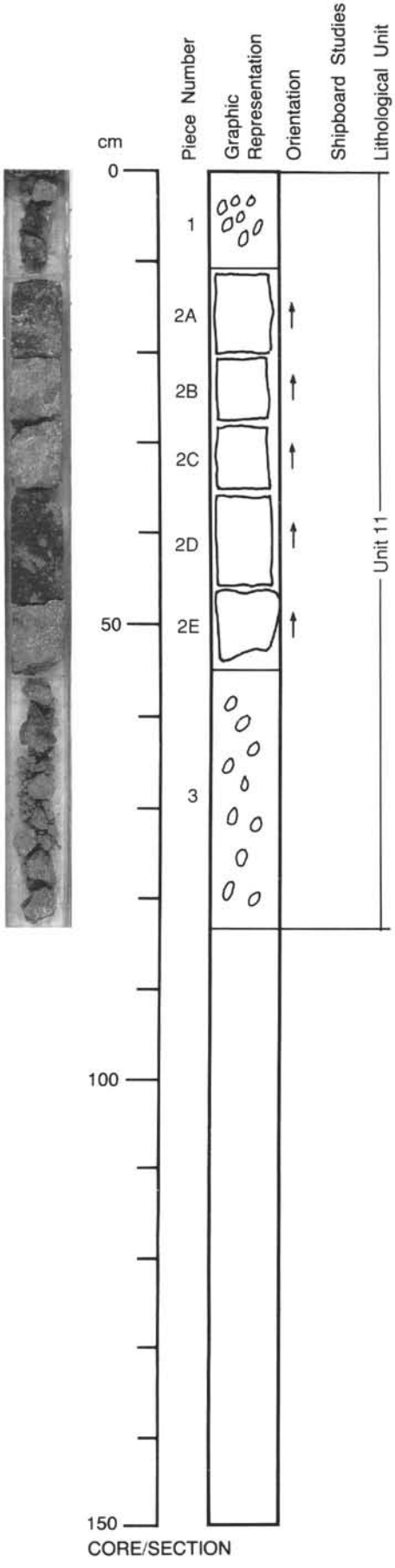
Pieces 1B-10A

CONTACTS: Chilled margins at both pillows (see comments).
PHENOCRYSTS: Amygdules 2-20 mm diameter, filled with zeolite and native copper.
Stellate clinopyroxene clusters.
Orthopyroxene - 5%; 0.5 - 3.0 mm;euhedral.
Clinopyroxene - 10-15%; 2-6 mm; euhedral, stellate clusters.
Plagioclase - 2%; 0.5-1.0 mm; euhedral.
ADDITIONAL COMMENTS: Piece 1 to 3 and Piece 6 to 10G are separate pillows with chilled margins.

UNIT 11: HYALOCLASTITE BRECCIA

Pieces 10B and 11

PHENOCRYSTS:
Orthopyroxene - 5%; 0.5 mm; altered.
Clinopyroxene - 10%; 1-5 mm; serrate occasionally.
Plagioclase - 10%; 0.5 mm; euhedral, fresh
GROUNDMASS: Trachytic feldspar. Matrix: glass shards, 1-4 mm, plus pyroxene and feldspar crystals with orange zeolite cement.
VESICLES: < 2%; filled with smectite.
COLOR: Greenish black.
ADDITIONAL COMMENTS: Clasts about 4 cm in diameter.

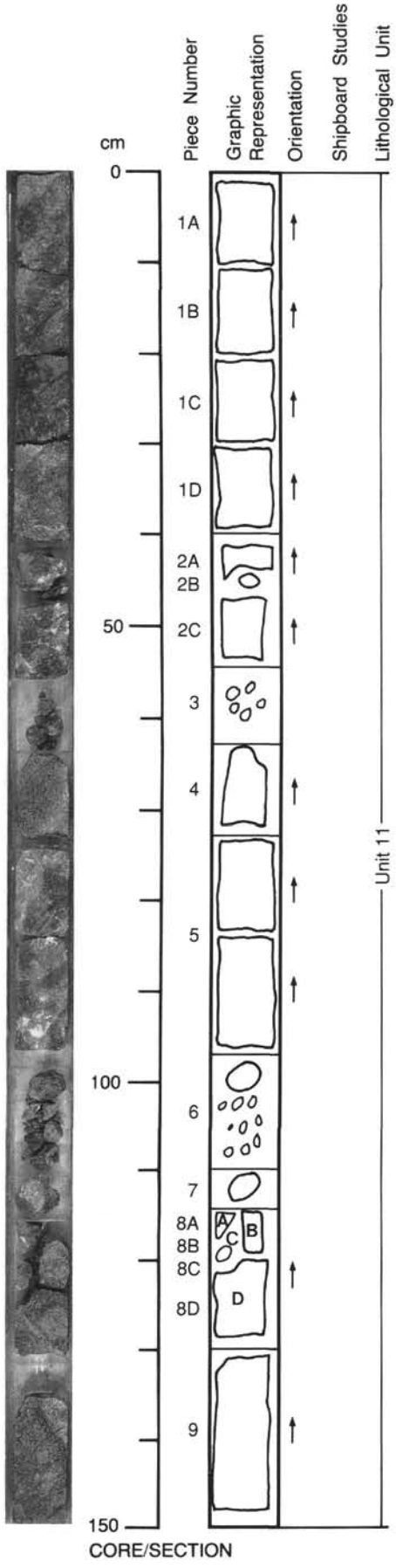


126-793B-105R-4

UNIT 11: HYALOCLASTITE BRECCIA

Pieces 1-3

PHENOCRYSTS:
Plagioclase - 10%; 0.5 mm; euhedral, fresh.
Clinopyroxene - 10%; 1-5 mm; serrate occasionally.
Orthopyroxene - 5%; 0.5 mm; altered.
GROUNDMASS: Trachytic feldspar. Matrix: glass shards, 1-4 mm, plus pyroxene and feldspar crystals with orange zeolite cement.
VESICLES: < 2%; filled with smectite.
COLOR: Greenish black.
ADDITIONAL COMMENTS: Clasts about 4 cm in diameter.



126-793B-106R-1

UNIT 11: HYALOCLASTITE BRECCIA

Pieces 1-9

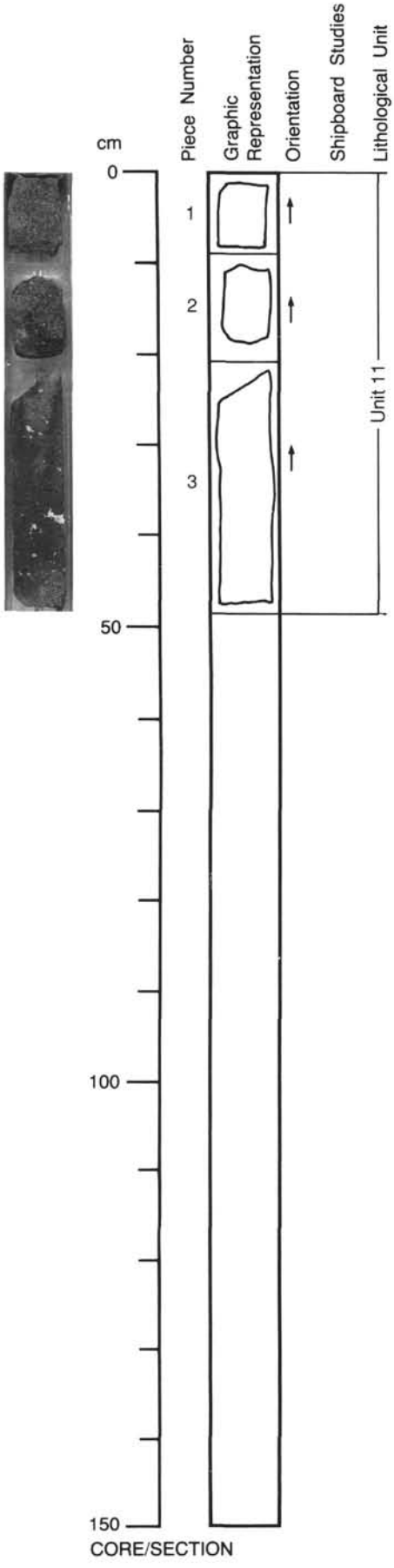
PHENOCRYSTS:
Plagioclase - 10%; 0.5-1.0 mm; euhedral, fresh.
Clinopyroxene - 10%; 1.0 mm; euhedral, fresh.
Orthopyroxene - 2%; 0.5 mm; altered, fresh.

GROUNDMASS: Intersertal? Matrix: hyaloclastite, altered glass shards, 1-3 mm. Cement is zeolite. Smectite in interstices up to 1 cm in diameter.

VESICLES: 1-2 mm diameter; elongate; filled with smectite, zeolite, and native copper.

COLOR: Greenish gray.

ADDITIONAL COMMENTS: Clasts 1 - 10 cm in diameter.



126-793B-106R-2

UNIT 11: HYALOCLASTITE BRECCIA

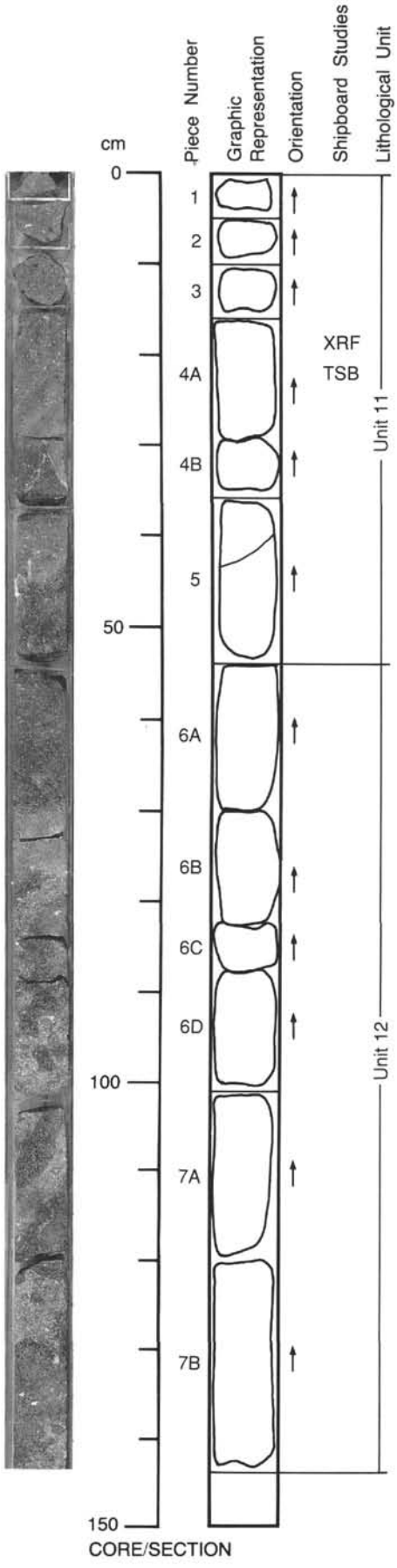
Pieces 1-2

PHENOCRYSTS:
Plagioclase - 10%; 0.5-1.0 mm; euhedral, fresh.
Clinopyroxene - 10%; 1.0 mm; euhedral, fresh.
Orthopyroxene - 2%; 0.5 mm; altered, fresh.
GROUNDMASS: Intersertal? Matrix: hyaloclastite, altered glass shards, 1-3 mm. Cement is zeolite. Smectite in interstices up to 1 cm in diameter.
VESICLES: 1-2 mm diameter; elongate; filled with smectite, zeolite, and native copper.
COLOR: Greenish gray.
ADDITIONAL COMMENTS: Clasts 1 - 10 cm in diameter.

UNIT 11: PORPHYRITIC ANDESITE LAVA

Piece 3

CONTACTS: No contacts observed.
PHENOCRYSTS:
Plagioclase - 8%; 0.5-2.0 mm; euhedral, fresh.
Clinopyroxene - 12%; 1.0-5.0 mm; euhedral, fresh.
Orthopyroxene - 10%; 1.0-3.0 mm; euhedral, fresh.
GROUNDMASS: Intersertal plagioclase and clinopyroxene.
VESICLES: < 5%; 0.2 - 0.3 mm; vesicles are open, lined with smectite, or filled with zeolite (no native copper).
ADDITIONAL COMMENTS: Very fresh.



126-793B-107R-1

UNIT 11: CLINOPYROXENE-ORTHOPYROXENE-PLAGIOCLASE PHYRIC ANDESITE

Pieces 1-4

PHENOCRYSTS:
Plagioclase - 20%; 3.0 mm; euhedral, fresh.
Clinopyroxene - 10%; ~ 4.0 mm; euhedral, fresh.
Orthopyroxene - 5%; ~ 4.0 mm; euhedral. Partially altered to smectite, clustered with clinopyroxene.
GROUNDMASS: Fine-grained.
VESICLES: ~ 10%; circular, sometime elongate; partly filled with smectites.

UNIT 11: HYALOCLASTITE BRECCIA

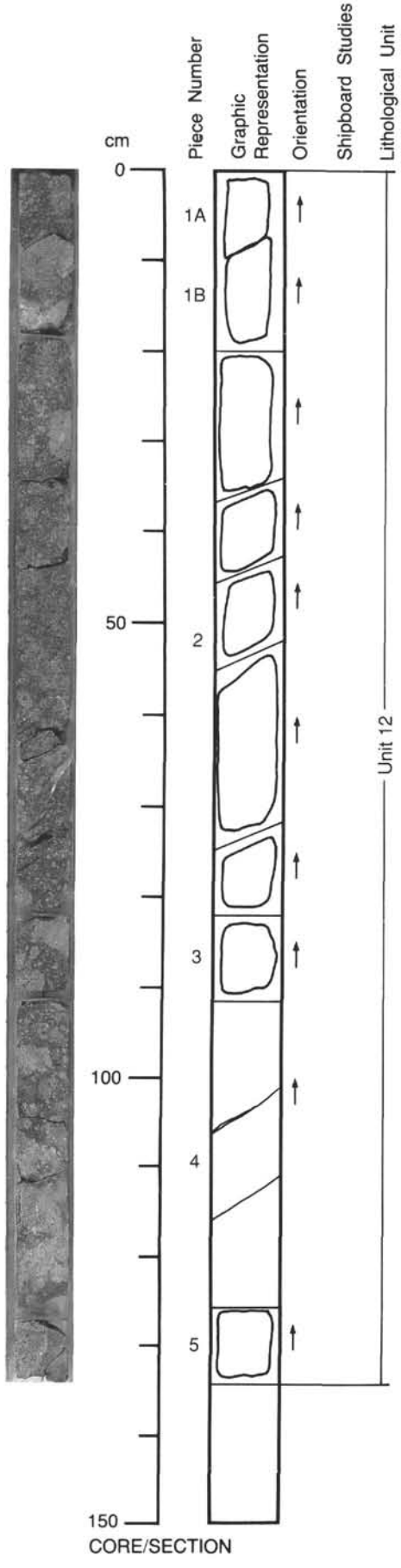
Piece 5

CONTACTS: Chilled contact at top of Piece 5 with andesite lava above. This contact is marked by a chilled rim, rich in flattened vesicles and filled with zeolites and smectites.
VESICLES: 30%; flattened vesicles filled with zeolites and smectites.
VEINS/FRACTURES: Vertical fractures filled with zeolites.

UNIT 12: ANDESITIC BRECCIA

Pieces 6-7

PHENOCRYSTS: Clasts from 0.5-7.0 cm. These clasts are formed of clinopyroxene, orthopyroxene, plagioclase andesite similar to Pieces 1-4. Chilled rims very rich in vesicles that are filled with zeolites and smectites.
Plagioclase - 20%; 3.0 mm; euhedral, fresh.
Clinopyroxene - 10%; ~ 4.0 mm; euhedral, fresh.
Orthopyroxene - 5%; ~ 4.0 mm; euhedral, fresh.
GROUNDMASS: Chilled glass shards with clinopyroxene crystals from 0.1 up to 6.0 mm. Cement is zeolite and smectite.
VESICLES: Filled with zeolites and smectites.

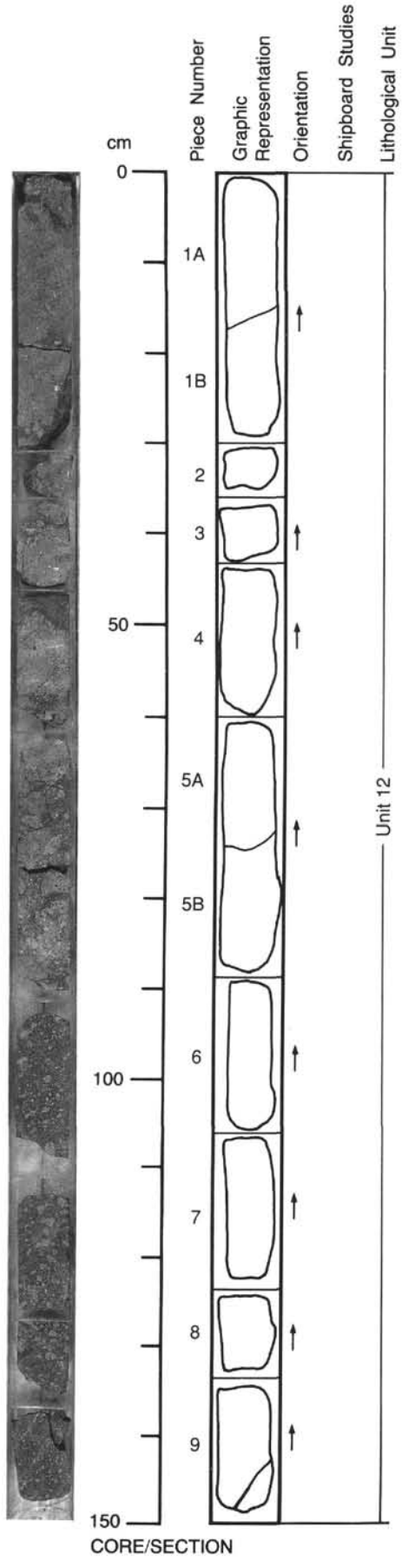


126-793B-107R-2

UNIT 12: ANDESITIC BRECCIA WITH HYALOCLASTITE MATRIX

Pieces 1-5

PHENOCRYSTS: Clasts 0.5 - 6.0 cm. Chilled rims of andesite.
Plagioclase - 5%; Up to 1.0 mm; euhedral, fresh.
Clinopyroxene - 10%; 4.0 mm; euhedral, fresh.
Orthopyroxene - 5%; 4.0 mm; euhedral, altered to smectites.
GROUNDMASS: Matrix: Dark green glassy shards, 0.2-1.0 mm. Zeolite and smectite cement. Plagioclase present.
VESICLES: ~ 10%; 3.0 mm; flattened or rounded; filled with zeolites and smectites.
COLOR: Dark green.
VEINS/FRACTURES: 70%; cracks and veins filled with smectites.

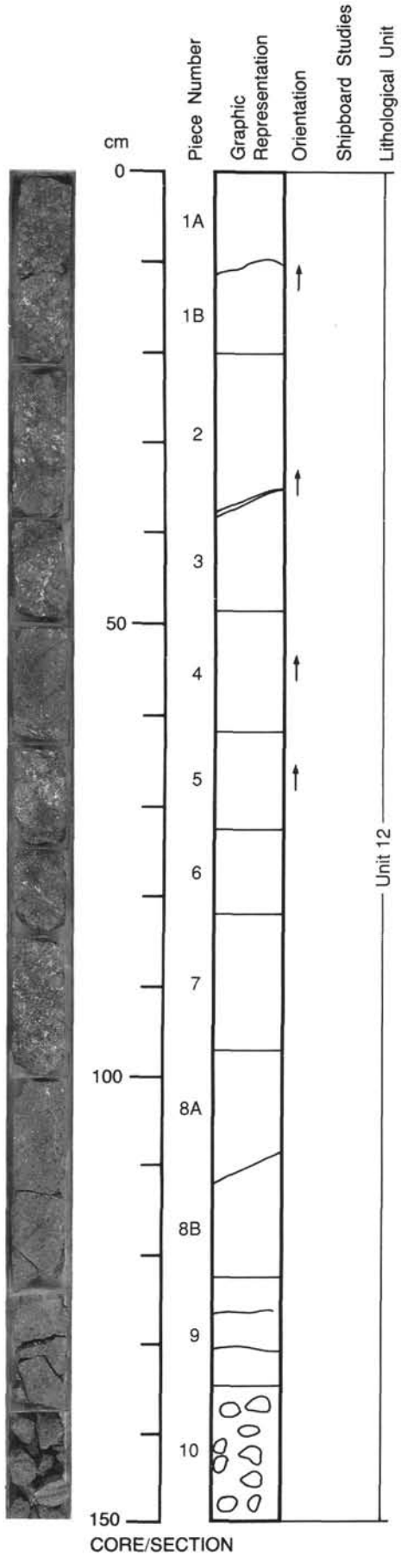


126-793B-107R-3

UNIT 12: BRECCIA WITH CRYSTAL TUFF MATRIX

Pieces 1-9

PHENOCRYSTS: Clasts increase in size (2-20 cm) down section in Pieces 1-5 ("minipillow"). In Pieces 6-9, clasts are smaller (0.5-2.0 cm). In Pieces 6-9 the clasts have inclusions rich in smectites.
Plagioclase - 5%; ~ 2.0 mm; euhedral.
Clinopyroxene - ~ 10%; 3.00 mm; euhedral, fresh.
Orthopyroxene - 5%; ~ 10.0 mm; euhedral, altered in smectites.
GROUNDMASS: Gray, with small plagioclase laths. Matrix: Crystal tuff, glassy shards and clinopyroxene-plagioclase crystals. Cement is smectite.
VESICLES: ~ 12%; flattened or rounded; filled with zeolites and smectites.
COLOR: Gray.
ADDITIONAL COMMENTS: Inclusions composed of smectite mantled by clinopyroxene.



126-793B-107R-4

UNIT 12: CLINOPYROXENE-ORTHOPYROXENE ANDESITE

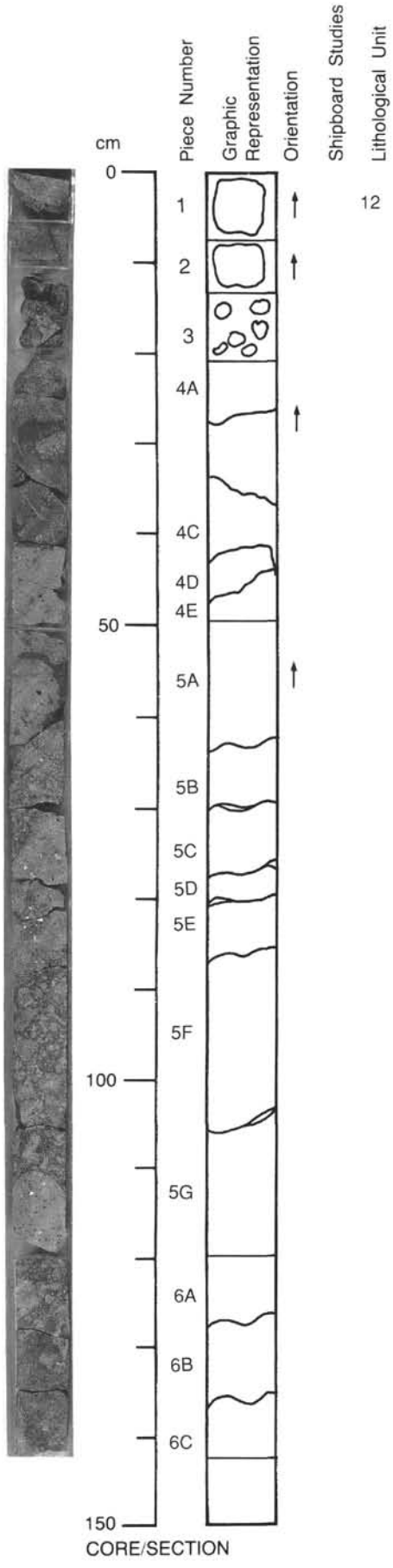
Pieces 1-3, 5-7

PHENOCRYSTS: Clasts size ranges from 0.5-7.0 cm. These clasts are chilled.
Plagioclase - 5%; ~ 1.0 mm; euhedral.
Clinopyroxene - 10%; Up to 5.0 mm; euhedral.
Orthopyroxene - 8%; Up to 7.0 mm; euhedral, altered to smectites, often clustered with clinopyroxene.
GROUNDMASS: Cement is composed of zeolites and smectites. Matrix is composed of glass shards altered to smectites.

UNIT 12: CLINOPYROXENE-ORTHOPYROXENE ANDESITE

Pieces 4, 8 - 10

PHENOCRYSTS: "Big clasts" of clinopyroxene-orthopyroxene andesite.
Plagioclase - 5%; ~ 1.0 mm; euhedral.
Clinopyroxene - 10%; Up to 5.0 mm; euhedral.
Orthopyroxene - 8%; Up to 7.0 mm; euhedral, altered to smectites, often clustered with clinopyroxene.
GROUNDMASS: Microcrystalline with tiny feldspar microlites. Cement is composed of zeolites and smectites.
VESICLES: 15%; Up to 4.0 mm; rounded or slightly flattened; filled with zeolites and/or smectites. Copper is present in the vesicles.



126-793B-108R-1

UNIT 12: BRECCIA

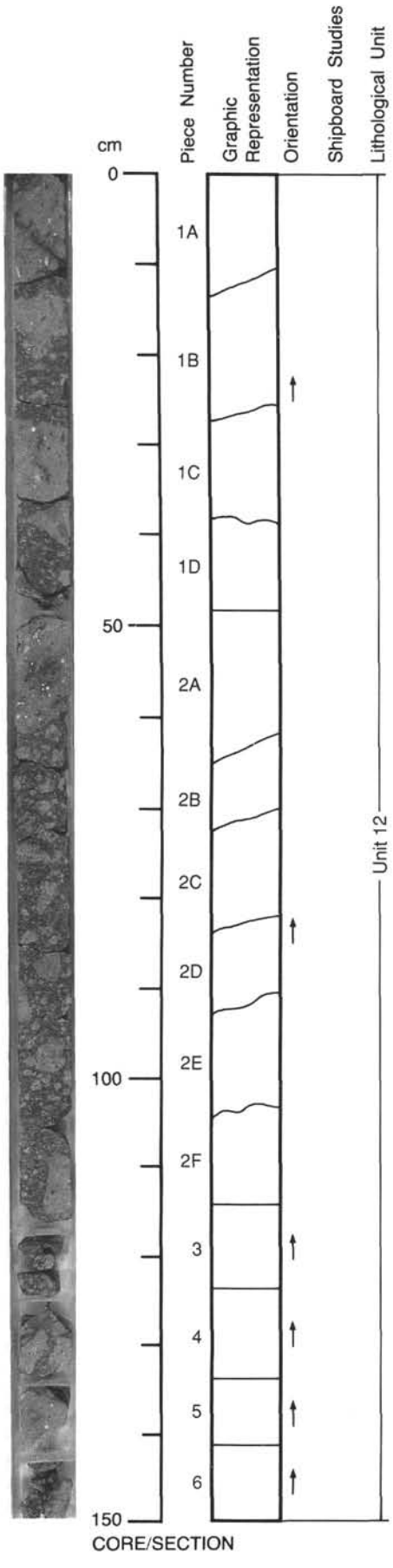
Pieces 1-4, 5(A, D, E)

PHENOCRYSTS: "Pillows" chilled against the matrix.
Plagioclase - 3%; Up to 1.0 mm; euhedral.
Clinopyroxene - 10%; Up to 5.0 mm; euhedral, fresh.
Orthopyroxene - 5%; Up to 3.0 mm; euhedral, altered to smectites.
GROUNDMASS: Groundmass with small feldspars (feldspars seem more abundant in the groundmass of these pieces). The matrix that is present in Pieces 4A and 4B is a tuff very similar to core 126-793B-107R-3, formed of small shards of glass. Piece 4B contains a reworked "clast" formed of a pillow-clast with its rims surrounded by fine-grained tuffs.
VESICLES: 10%; circular, slightly elongated; filled with smectites.
VEINS/FRACTURES: Veins or cracks filled with smectites.

UNIT 12: BRECCIA

Pieces 5 (B,C,F,G) - 6

PHENOCRYSTS: "Clasts" 0.5-10.0 cm, andesite, similar to Pieces 1-4.
Plagioclase - 3%; Up to 1.0 mm; euhedral.
Clinopyroxene - 10%; Up to 5.0 mm; euhedral, fresh.
Orthopyroxene - 5%; Up to 3.0 mm; euhedral, altered in smectites.
GROUNDMASS: Matrix is crystal tuff with glassy shards. The crystals are mainly clinopyroxene, similar to core 126-793B-107R.

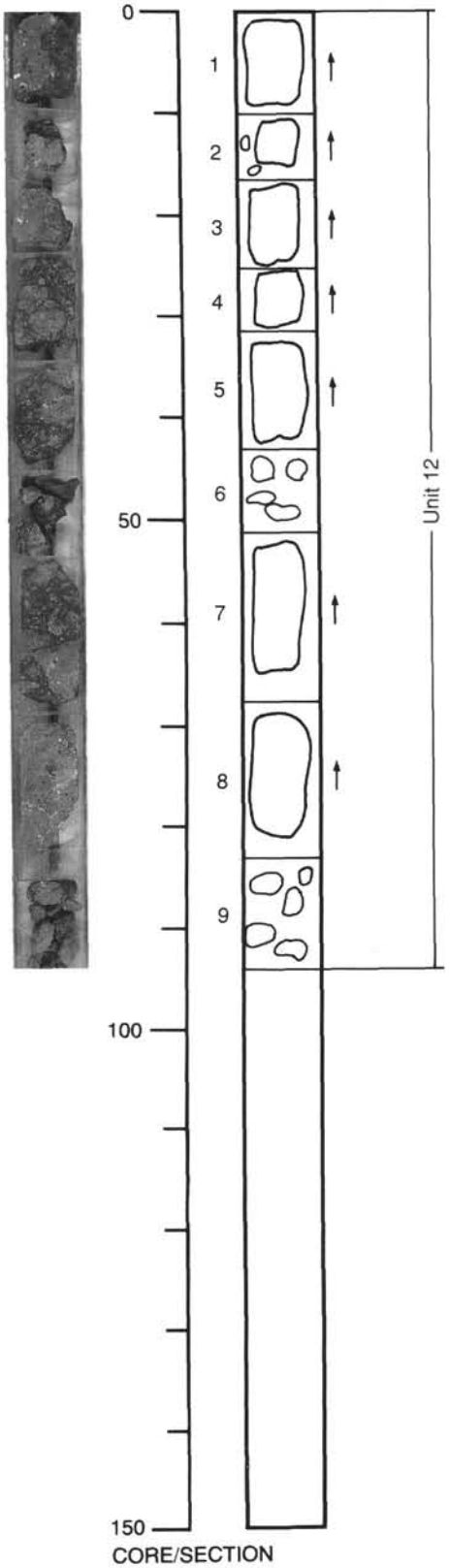


126-793B-108R-2

UNIT 12: ANDESITIC CLASTS IN A CRYSTAL TUFF MATRIX

Pieces 1-6

PHENOCRYSTS: Andesitic clasts are chilled. Similar to section 793B-108R-1.
Plagioclase - 3%; Up to 1.0 mm; euhedral.
Clinopyroxene - 10%; Up to 5.0 mm; euhedral, fresh.
Orthopyroxene - 5%; Up to 3.0 mm; euhedral, altered to smectites.
GROUNDMASS: Matrix is crystal tuff with glassy shards. The crystals are mainly clinopyroxene, similar to core 126-793B-108R.

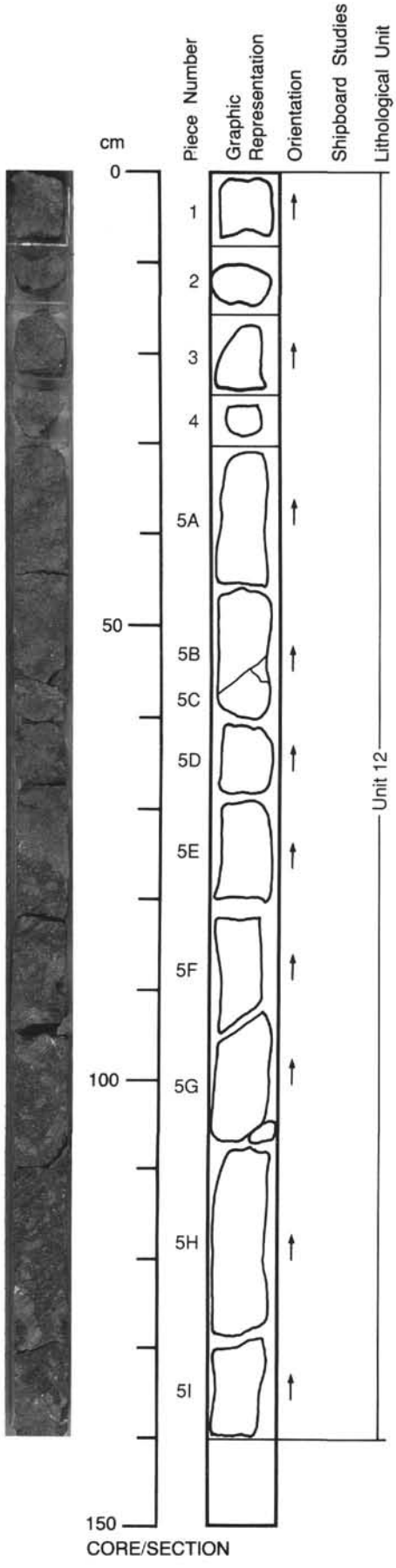


126-793B-108R-3

UNIT 12: ANDESITIC BRECCIA

Pieces 1-9

PHENOCRYSTS: Clinopyroxene>orthopyroxene>plagioclase with very big clinopyroxene crystals up to 1 cm in diameter.
GROUNDMASS: "Matrix" contains crystals, glassy shards, and gray lithic fragments.

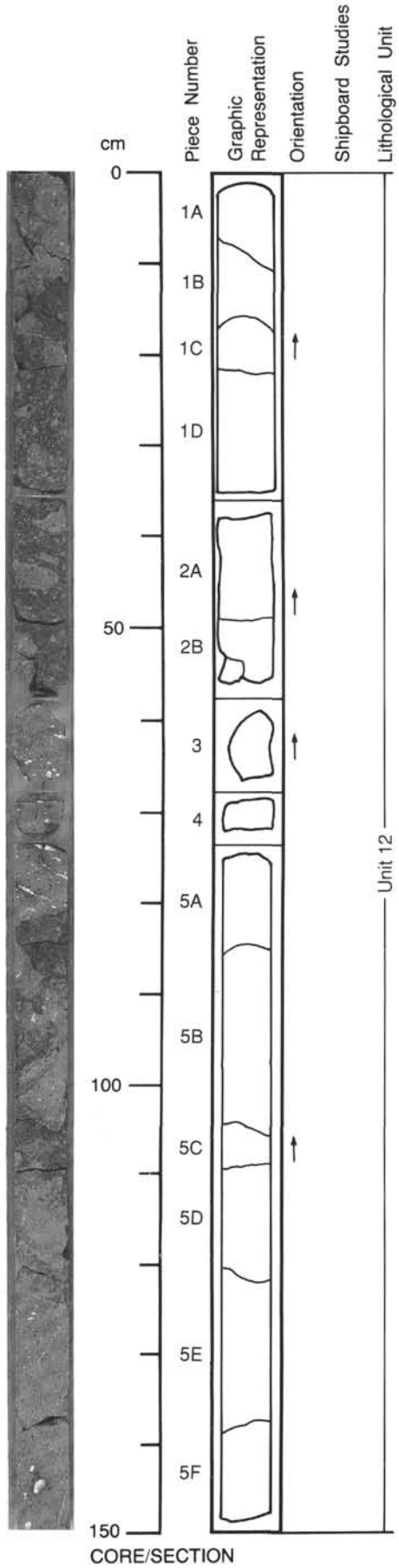


126-793B-109R-1

UNIT 12: ANDESITE BRECCIA IN HYALOCLASTITIC MATRIX

Pieces 1-5

CONTACTS: None internally visible within clasts.
PHENOCRYSTS: Clasts of 1 - 8 cm in size in a greenish gray to dark greenish gray matrix.
Plagioclase - ~ 5%; 0.5 mm; euhedral, fresh.
Clinopyroxene - 5%; 0.5-3.0 mm; euhedral, fresh.
Orthopyroxene - 2%; 0.5-1.0 mm; euhedral, altered.
GROUNDMASS: Altered, with plagioclase microlites, smectites, and celadonite. Matrix contains clasts of lava, altered glass shards and crystal fragments/phenocrysts.
VESICLES: 0-2%; filled with zeolites.
COLOR: Dark greenish gray.
ALTERATION: Groundmass altered to smectite and celadonite. Orthopyroxene altered to celadonite and smectite plus an iron oxide mineral (brown).
ADDITIONAL COMMENTS: About 20% of the clasts have broken chilled margins.

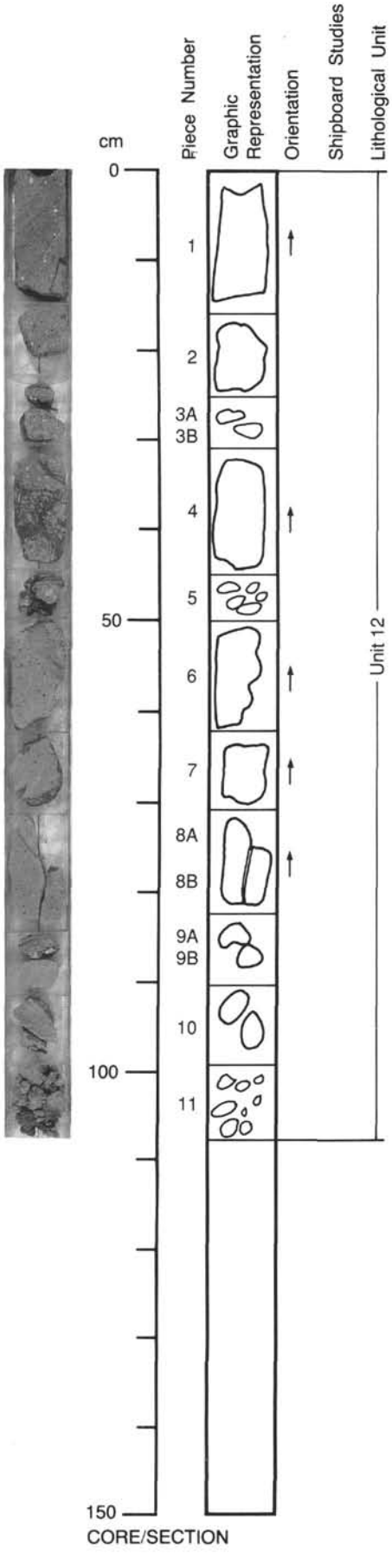


126-793B-109R-2

UNIT 12: ANDESITE BRECCIA IN HYALOCLASTITIC MATRIX

Pieces 1-5

CONTACTS: None internally visible within clasts.
PHENOCRYSTS: Clasts of 1 - 8 cm in size in a greenish gray to dark greenish gray matrix.
Plagioclase - ~ 5%; 0.5 mm; euhedral, fresh.
Clinopyroxene - 5%; 0.5-3.0 mm; euhedral, fresh.
Orthopyroxene - 2%; 0.5-1.0 mm; euhedral, altered.
GROUNDMASS: Altered, with plagioclase microlites, smectites, and celadonite. Matrix contains clasts of lava, altered glass shards and crystal fragments/phenocrysts.
VESICLES: 0-2%; filled with zeolites.
COLOR: Dark greenish gray.
ALTERATION: Groundmass altered to smectite and celadonite. Orthopyroxene altered to celadonite and smectite plus an iron oxide mineral (brown).
ADDITIONAL COMMENTS: About 20% of the clasts have broken chilled margins.



126-793B-109R-3

UNIT 12: ANDESITE BRECCIA IN HYALOCLASTITIC MATRIX

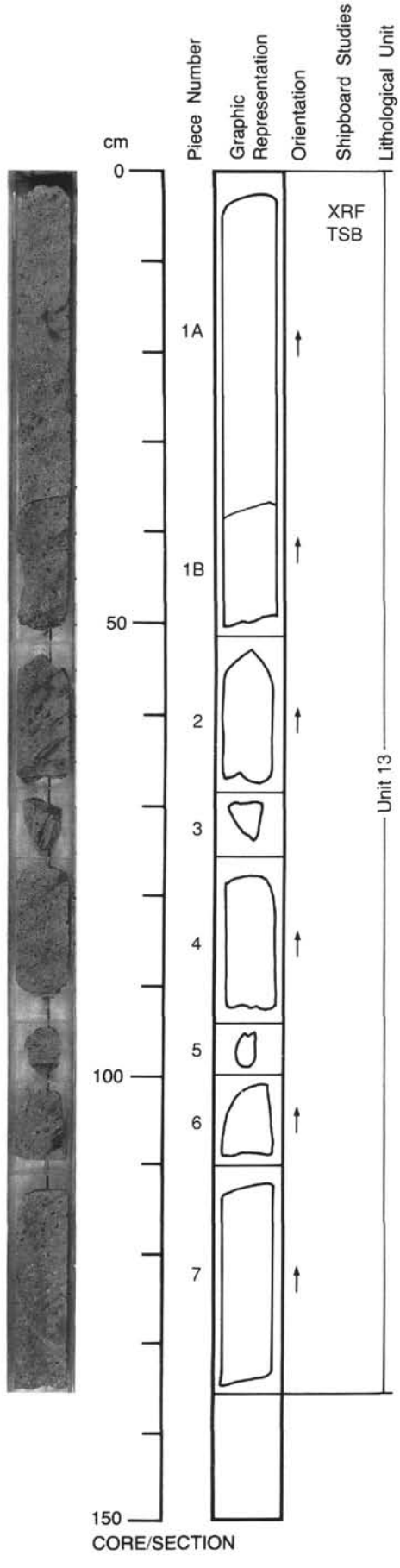
Pieces 1-7, 9-11

CONTACTS: None internally visible within clasts.
PHENOCRYSTS: Clasts of 1 - 8 cm in size in a greenish gray to dark greenish gray matrix.
Plagioclase - ~ 5%; 0.5 mm; euhedral, fresh.
Clinopyroxene - 5%; 0.5-3.0 mm; euhedral, fresh.
Orthopyroxene - 2%; 0.5-1.0 mm; euhedral, altered.
GROUNDMASS: Altered, with plagioclase microlites, smectites, and celadonite. Matrix contains clasts of lava, altered glass shards and crystal fragments/phenocrysts.
VESICLES: 0-2%; filled with zeolites.
COLOR: Dark greenish gray.
ALTERATION: Groundmass altered to smectite and celadonite. Orthopyroxene altered to celadonite and smectite plus an iron oxide mineral (brown).
ADDITIONAL COMMENTS: About 20% of the clasts have broken chilled margins.

UNIT 12: BASALTIC ANDESITE CLAST

Pieces 8 (A & B)

CONTACTS: None.
PHENOCRYSTS:
Plagioclase - 1%; < 1.0 mm; lath.
Clinopyroxene - 1%; 1.0 mm; fresh, green.
Orthopyroxene - 3%; 1.0-3.0 mm; altered to Fe oxide and clay.
GROUNDMASS: Fine-grained, < 0.2 mm plagioclase laths, microlites.
VESICLES: 3%; 4 mm; elongate; aligned, empty,
COLOR: Dusky yellow-green.
STRUCTURE: None.
ALTERATION: Groundmass altered mostly to clays.
ADDITIONAL COMMENTS: Similar alteration to Core 126-793B-110R and lower in the section.

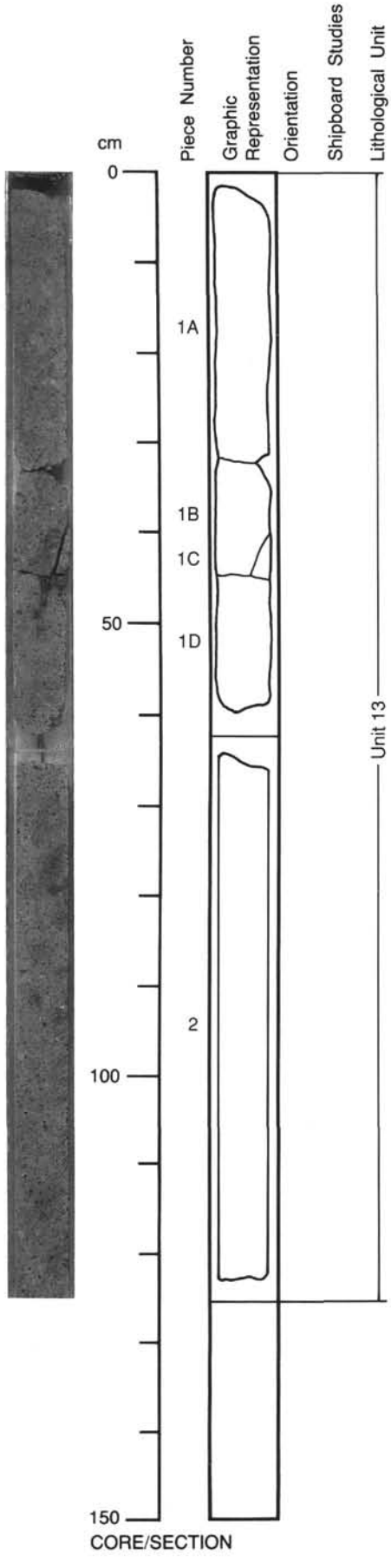


126-793B-110R-1

UNIT 13: MASSIVE BASALTIC ANDESITE LAVA

Pieces 1-7

CONTACTS: None.
PHENOCRYSTS:
Clinopyroxene - 10%; 0.3-10.0 mm; euhedral, generally fresh.
Orthopyroxene - 10%; 0.3-10.0 mm; euhedral, 80% altered.
GROUNDMASS: Fine-grained altered glass with plagioclase laths.
VESICLES: 1-5%; 0.2-5.0 mm; elongated; concentrated in certain zones. Mostly empty with smectite and celadonite lining on vesicle walls. Some zeolite filled.
COLOR: Medium bluish gray.
STRUCTURE: Massive lava flow.
ALTERATION: Orthopyroxene altered to a brown clay mineral. Native copper present in orthopyroxene pseudomorphs. Clinopyroxene 40% altered to smectite. Plagioclase laths are fresh. Alteration along cleavages and margins, but alteration from interior and out to surface is not uncommon.
VEINS/FRACTURES: Zeolite and smectite-filled veins (< 1 mm in size) are common.

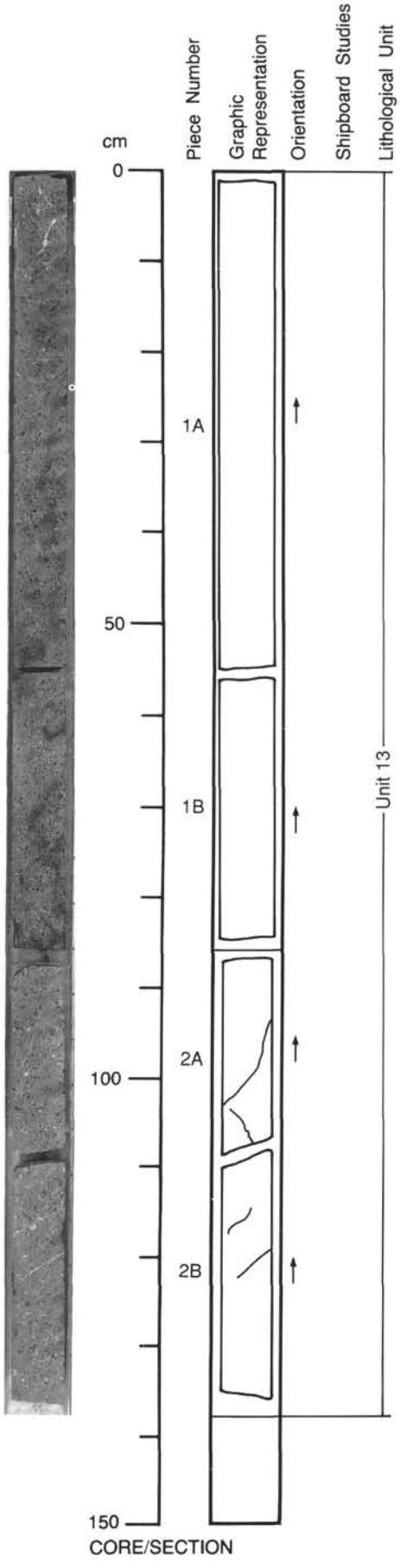


126-793B-110R-2

UNIT 13: MASSIVE BASALTIC ANDESITE LAVA

Pieces 1-2

CONTACTS: None.
PHENOCRYSTS:
Clinopyroxene - 10%; 0.3-10.0 mm; euhedral, generally fresh.
Orthopyroxene - 10%; 0.3-10.0 mm; euhedral, 80% altered.
GROUNDMASS: Fine-grained altered glass with plagioclase laths.
VESICLES: 1-5%; 0.2-5.0 mm; elongated; concentrated in certain zones. Mostly empty with smectite and celadonite lining on vesicle walls. Some zeolite filled.
COLOR: Medium bluish gray.
STRUCTURE: Massive lava flow.
ALTERATION: Orthopyroxene altered to a brown clay mineral. Native copper present in orthopyroxene pseudomorphs. Clinopyroxene 40% altered to smectite. Plagioclase laths are fresh. Alteration along cleavages and margins, but alteration from interior and out to surfaces is not uncommon.
VEINS/FRACTURES: Zeolite and smectite-filled veins (< 1 mm in size) are common.



126-793B-110R-3

UNIT 13: MASSIVE BASALTIC ANDESITE LAVA

Pieces 1-2

CONTACTS: None.

PHENOCRYSTS:
Clinopyroxene - 10%; 0.3-10.0 mm; euhedral, generally fresh.
Orthopyroxene - 10%; 0.3-10.0 mm; euhedral, 80% altered.

GROUNDMASS: Fine-grained altered glass with plagioclase laths.

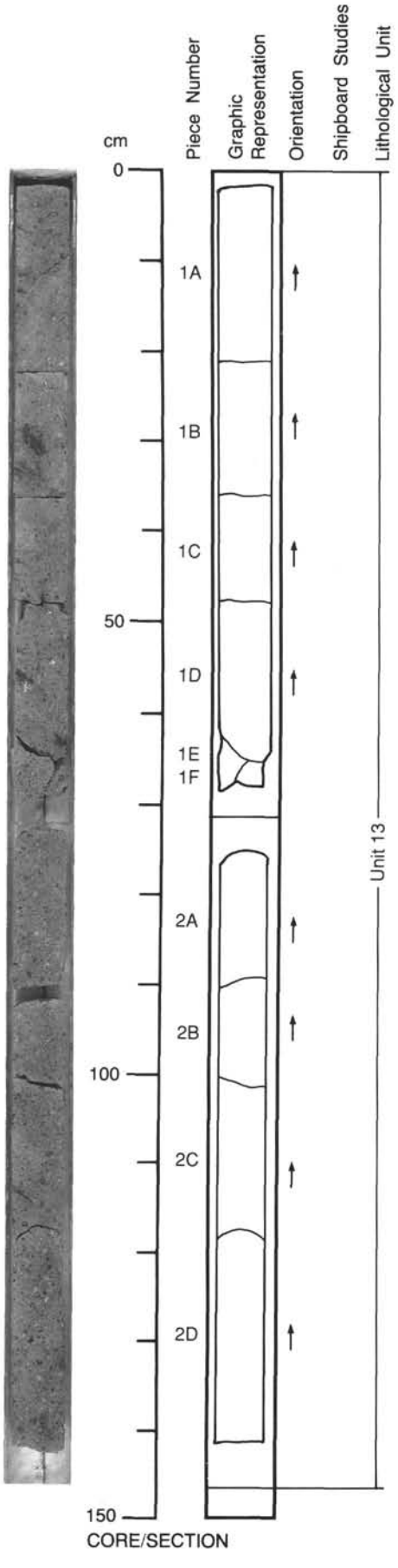
VESICLES: 1-5%; 0.2-5.0 mm; elongated; concentrated in certain zones. Mostly empty with smectite and celadonite lining on vesicle walls. Some zeolite filled.

COLOR: Medium bluish gray.

STRUCTURE: Massive lava flow.

ALTERATION: Othopyroxene altered to a brown clay mineral. Native copper present in orthopyroxene pseudomorphs. Clinopyroxene 40% altered to smectite. Plagioclase laths are fresh. Alteration along cleavages and margins, but alteration from interior and out to surfaces is not uncommon.

VEINS/FRACTURES: Zeolite and smectite filled veins (< 1 mm in size) are common. Zeolite veins in Piece 2 are less than 1 mm thick.

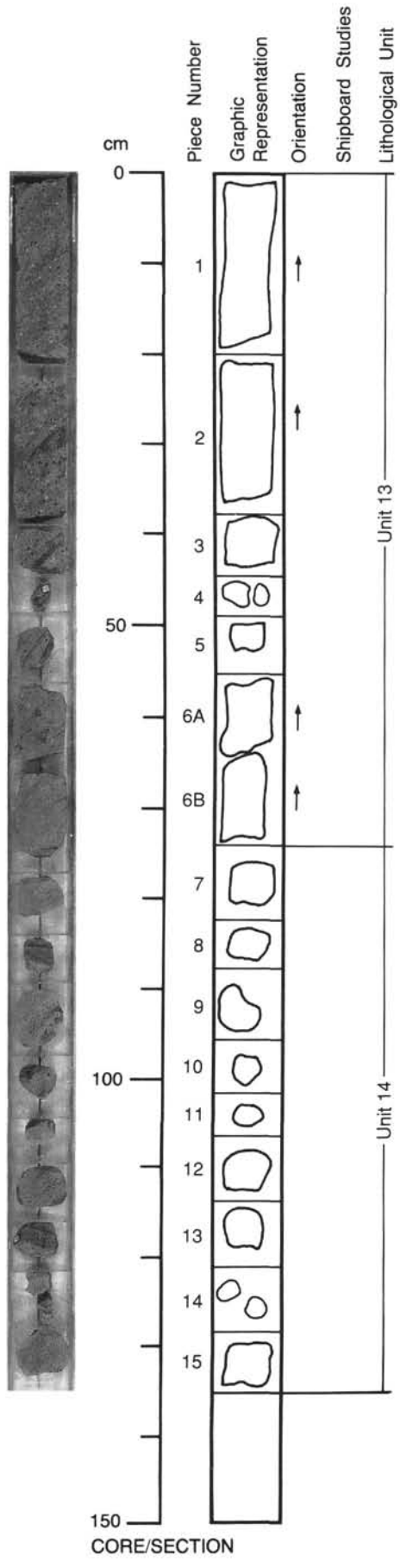


126-793B-110R-4

UNIT 13: MASSIVE BASALTIC ANDESITE LAVA

Pieces 1-2

CONTACTS: None.
PHENOCRYSTS: Phenocryst more altered towards the bottom of section through 126-793B-110R-05 Piece 6B.
Clinopyroxene - 10%; 0.3-10.0 mm; euhedral, generally fresh.
Orthopyroxene - 10%; 0.3-10.0 mm; euhedral, 80% altered.
GROUNDMASS: Fine-grained altered glass with plagioclase laths.
VESICLES: 1-5%; 0.2-5.0 mm; elongated; concentrated in certain zones. Mostly empty with smectite and celadonite lining on vesicle walls. Some zeolite filled.
COLOR: Brown, olive gray.
STRUCTURE: Massive lava flow.
ALTERATION: Orthopyroxene altered to brown clay mineral. Native copper present in orthopyroxene pseudomorphs. Clinopyroxene 40% altered to smectite. Plagioclase laths are fresh. Alteration along cleavages and margins, but alteration from interior and out to surfaces is uncommon.
VEINS/FRACTURES: Zeolite and smectite filled veins (< 1 mm in size) are common.



126-793B-110R-5

UNIT 13: MASSIVE BASALTIC ANDESITE LAVA

Pieces 1-3

CONTACTS: None.
PHENOCRYSTS: Phenocrysts more altered towards the bottom of section
Clinopyroxene - 10%; 0.3-10.0 mm; euhedral, generally fresh.
Orthopyroxene - 10%; 0.3-10.0 mm; euhedral, 80% altered.
GROUNDMASS: Fine-grained altered glass with plagioclase laths.
VESICLES: 1-5%; 0.2-5.0 mm; elongated; concentrated in certain zones. Mostly empty with smectite and celadonite lining on vesicle walls. Some zeolite filled.
COLOR: Brown, olive gray.
STRUCTURE: Massive lava flow.
ALTERATION: Orthopyroxene altered to brown clay mineral. Native copper present in orthopyroxene pseudomorphs. Clinopyroxene 40% altered to smectite. Plagioclase laths are fresh. Alteration along cleavages and margins, but alteration from interior and out to surfaces is not uncommon.
VEINS/FRACTURES: Zeolite and smectite filled veins (< 1 mm in size) are common.

UNIT 13: MASSIVE BASALTIC ANDESITE LAVA

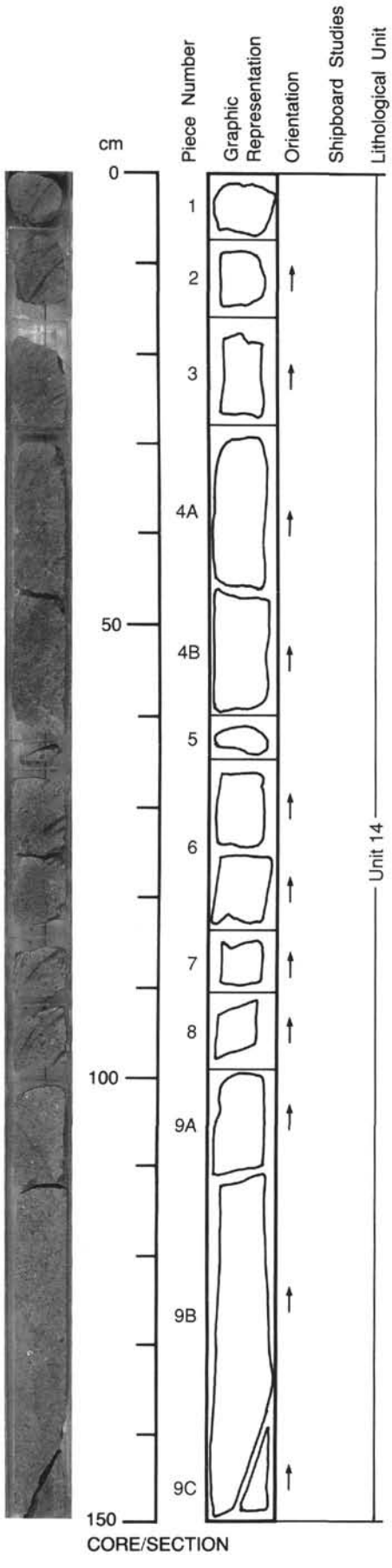
Pieces 4-6B

CONTACTS: None.
PHENOCRYSTS: Down section decrease in phenocryst abundance to Piece 6B.
Clinopyroxene - 3%; 0.3-10.0 mm; euhedral, generally fresh.
Orthopyroxene - 3%; 0.3-10.0 mm; euhedral, 80% altered.
GROUNDMASS: Fine-grained altered glass with plagioclase laths.
VESICLES: 1-5%; 0.2-5.0 mm; elongated; concentrated in certain zones. Mostly empty with smectite and celadonite lining on vesicle walls. Some zeolite filled.
COLOR: Brown, olive gray.
STRUCTURE: Massive lava flow.
ALTERATION: Orthopyroxene altered to brown clay mineral. Native copper present in orthopyroxene pseudomorphs. Clinopyroxene 40% altered to smectite. Plagioclase laths are fresh. Alteration along cleavages and margins, but alteration from interior and out to surfaces is not uncommon.
VEINS/FRACTURES: Zeolite and smectite filled veins (< 1 mm common in size) are common.

UNIT 14: APHYRIC-SPARSELY PHYRIC BASALTIC ANDESITE

Pieces 7-15

CONTACTS: None, not present with overlying flow.
PHENOCRYSTS: Phenocrysts are < 1% of total.
Plagioclase - < 0.5 mm; fresh.
Clinopyroxene - 0.5 mm; fresh.
Orthopyroxene - 0.3 mm; semi-fresh.
GROUNDMASS: Trachyitic alignment of feldspars, also some dark laths - quenched pyroxene?
VESICLES: 1-7%; elongate; sub-parallel alignment, in bands, open.
COLOR: Light olivine gray.
STRUCTURE: Bands of vesiculation.
ALTERATION: Semi-alteration of rare orthopyroxene at margins.

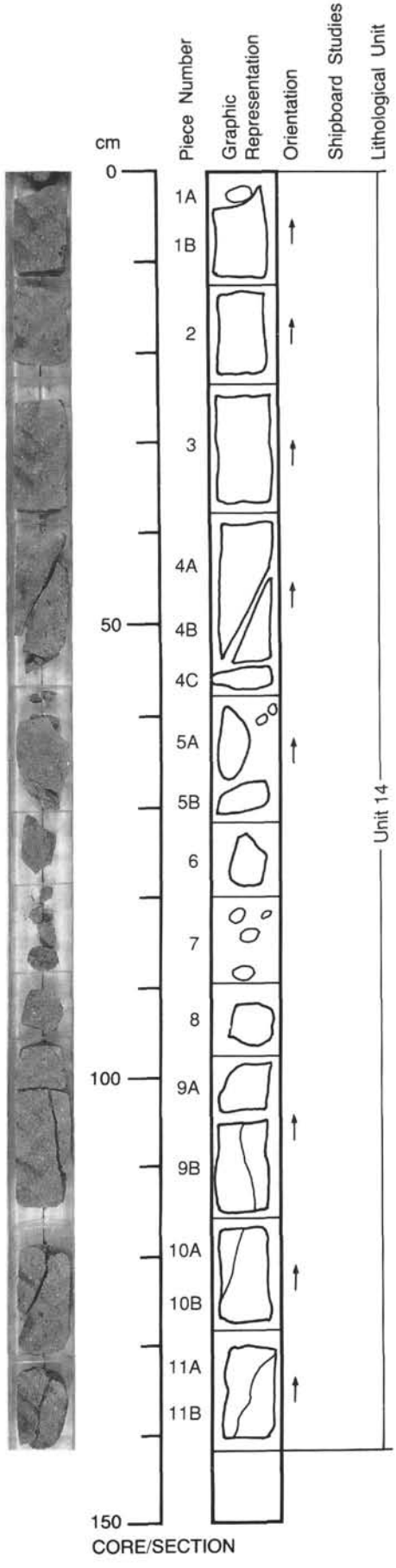


126-793B-111R-1

UNIT 14: BASALTIC ANDESITE, SETTLED FLOW

Pieces 1-9

CONTACTS: None.
PHENOCRYSTS: There is an increase in crystal density towards the base of the flow. Pieces 1-3 contain 7-10% phenocrysts (upper section). Pieces 4-9 contain 15% phenocrysts. Settling of crystals within the flow.
Plagioclase - 2%; 0.5-1.0 mm; fresh, euhedral.
Clinopyroxene - 10%; 1.0-10.0 mm; fresh, some alteration, euhedral.
Orthopyroxene - 5%; 1.0-3.0 mm; fresh, euhedral.
GROUNDMASS: Fine-grained, plagioclase laths, not orientated, intersertal texture(?).
VESICLES: 0.5-2%; 1.0-3.0 mm; spherical to slightly elongate.; vesicles are open.
COLOR: Dusky yellowish green.
STRUCTURE: None.
ALTERATION: Some hydrothermal veining recognized by smectite-celadonite rich zones. Orthopyroxene altered to smectite-celadonite-Fe oxides-etc.
ADDITIONAL COMMENTS: Native copper present as small grains in oxidized crystals.

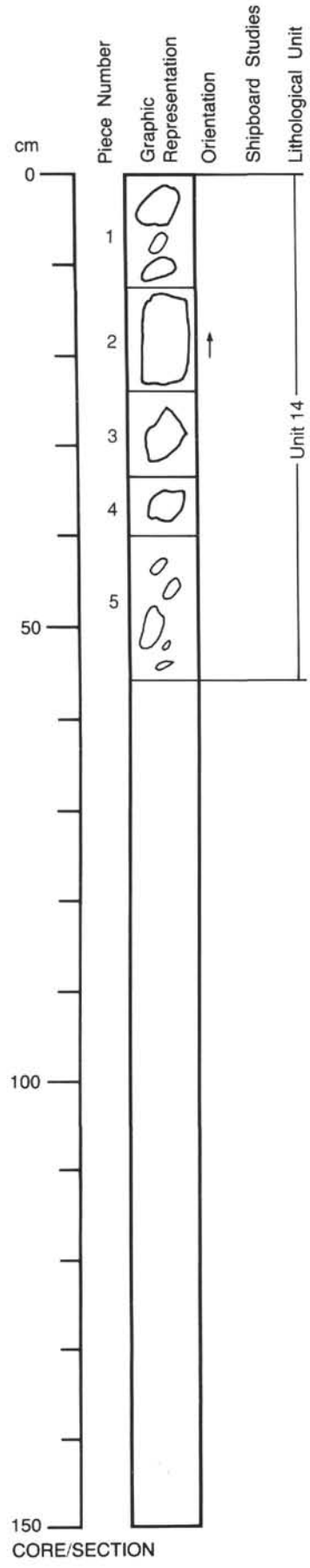


126-793B-111R-2

UNIT 14: BASALTIC ANDESITE, SETTLED FLOW

Pieces 1-11

CONTACTS: None.
PHENOCRYSTS:
Plagioclase - 2%; 0.5-1.0 mm; fresh, euhedral.
Clinopyroxene - 10%; 1.0-10.0 mm; fresh, some alteration, euhedral.
Orthopyroxene - 5%; 1.0-3.0 mm; fresh, euhedral.
GROUNDMASS: Fine-grained, plagioclase laths, not orientated, intersertal texture(?).
VESICLES: 0.5-2%; 1.0-3.0 mm; spherical to slightly elongate; vesicles are open.
COLOR: Dusky yellowish green.
STRUCTURE: None.
ALTERATION: Some hydrothermal veining recognized by smectite-celadonite rich zones. Orthopyroxene altered to smectite-celadonite-Fe oxides-etc.
ADDITIONAL COMMENTS: Native copper present as small grains in oxidized crystals.

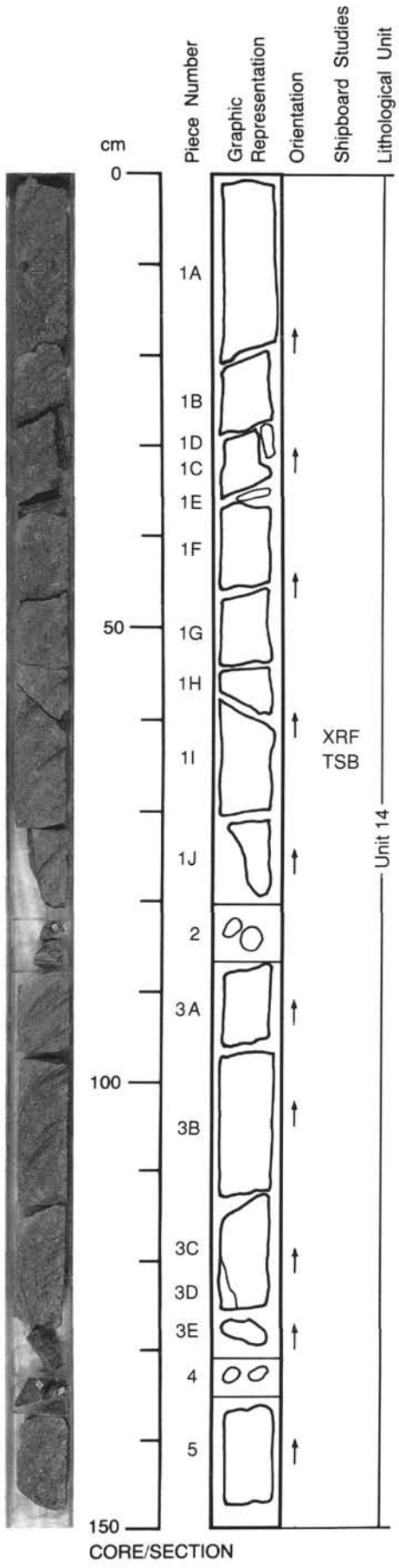


126-793B-111R-3

UNIT 14: BASALTIC ANDESITE, SETTLED FLOW

Pieces 1-5

CONTACTS: None.
PHENOCRYSTS:
Plagioclase - 2%; 0.5-1.0 mm; fresh, euhedral.
Clinopyroxene - 10%; 1.0-10.0 mm; fresh, some alteration, euhedral.
Orthopyroxene - 5%; 1.0-3.0 mm; fresh, euhedral.
GROUNDMASS: Fine-grained, plagioclase laths, not orientated, intersertal texture(?).
VESICLES: 0.5-2%; 1.0-3.0 mm; spherical to slightly elongate; vesicles are open.
COLOR: Dusky yellowish green.
STRUCTURE: None.
ALTERATION: Some hydrothermal veining recognized by smectite-celadonite rich zones.
Orthopyroxene altered to smectite-celadonite-Fe oxides-etc.
ADDITIONAL COMMENTS: Native copper present as small grains in oxidized crystals.



126-793B-112R-1

UNIT 14: PORPHYRITIC LAVA

Piece 1

CONTACTS: None.
PHENOCRYSTS: Phenocryst content decreases from about 20% in Piece 1A to 8% in Piece 1J.
Plagioclase - 1-2%; 0.5 mm.
Clinopyroxene - 5%; 1.0 mm.
Orthopyroxene - 1-2%; 1.0 mm; rusty.
GROUNDMASS: Fine-grained, plagioclase laths, not orientated, intersertal texture(?).
VESICLES: ~ 2%; 1.0-3.0 mm; spherical to slightly elongate; vesicles are open.
COLOR: Dusky yellowish green.
STRUCTURE: None.
ALTERATION: Some hydrothermal veining recognized by smectite-celadonite rich zones. Orthopyroxene altered to smectite-celadonite-Fe oxides-etc.
ADDITIONAL COMMENTS: Native copper present as small grains in oxidized crystals.

UNIT 14: SPARSELY-PHYRIC, NON-VESICULAR LAVA

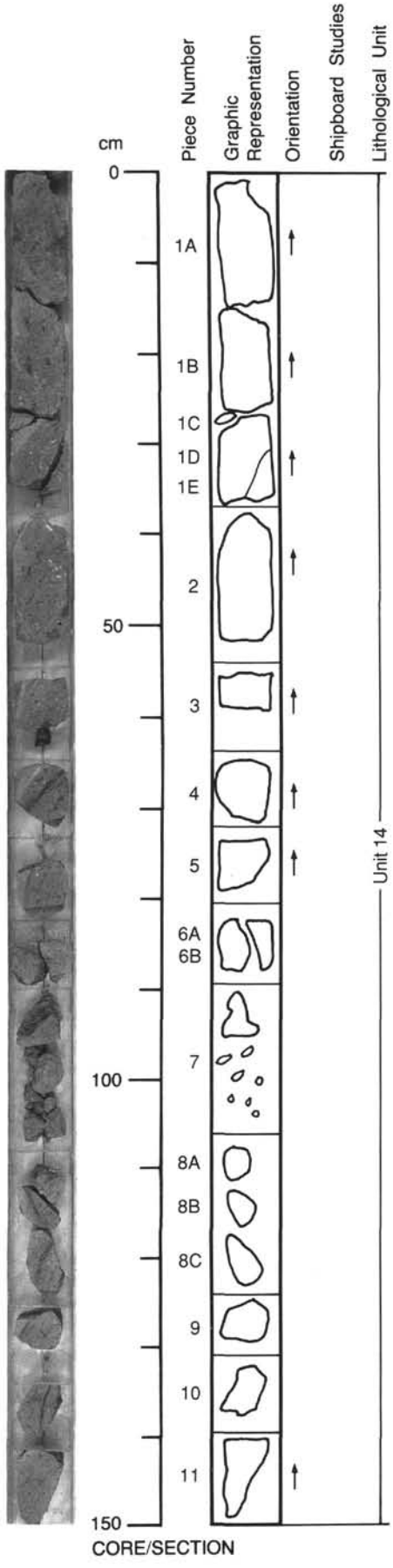
Pieces 2-3A

PHENOCRYSTS:
Plagioclase - 2%; 0.5 mm; fresh, euhedral.
Clinopyroxene - 1%; 1.0-2.0 mm; fresh, euhedral.
Orthopyroxene - 1%; Up to 1.0 mm; highly altered.
VESICLES: Non-vesicular.
ADDITIONAL COMMENTS: Piece 3A changes from sparsely phyric to 10% crystals (with 2-3 mm diameters) at 94 cm; Sharp contact with broken crystals.

UNIT 14: PORPHYRITIC LAVA

Pieces 3B-5

PHENOCRYSTS:
Plagioclase - 1%; < 1.0 mm; euhedral, fresh.
Clinopyroxene - 10%; 3.0-15.0 mm; euhedral, fresh.
Orthopyroxene - 5%; 2.0-3.0 mm; euhedral, altered to smectite.
GROUNDMASS: Fairly holocrystalline.
VESICLES: 5%; 1 mm; elongate.
ADDITIONAL COMMENTS: Similar to Core 126-793B-111R.



126-793B-112R-2

UNIT 14: PORPHYRITIC LAVA

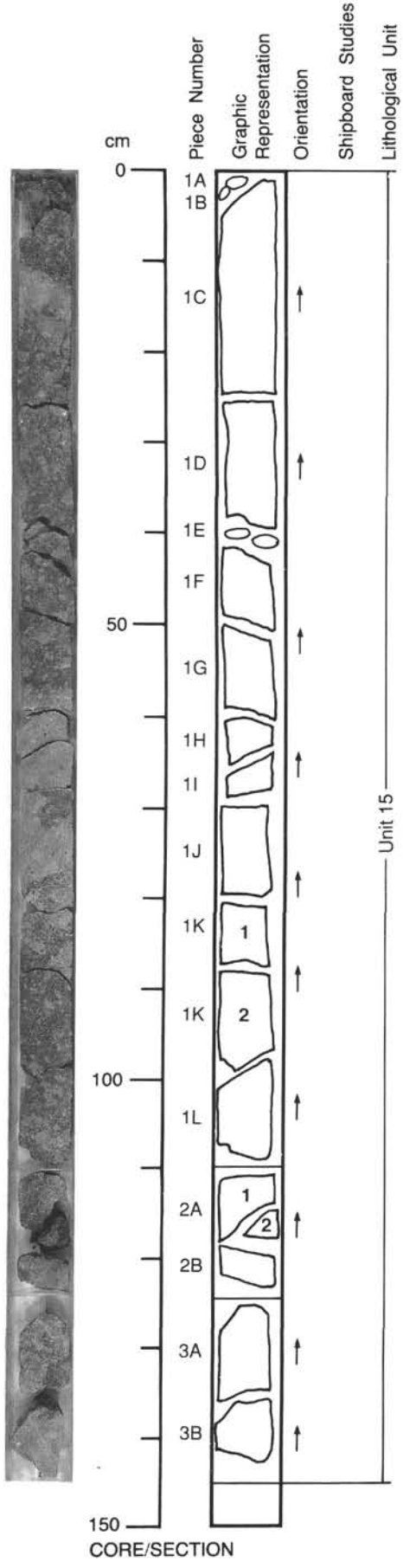
Pieces 1-7

PHENOCRYSTS:
Plagioclase - 1%; < 1.0 mm; euhedral, fresh.
Clinopyroxene - 10%; 3.0-15.0 mm; euhedral, fresh.
Orthopyroxene - 5%; 2.0-3.0 mm; euhedral, altered to smectite.
GROUNDMASS: Fairly holocrystalline.
VESICLES: 5%; 1 mm; elongate.
ADDITIONAL COMMENTS: Similar to Core 126-793B-111R.

UNIT 14: SPARSELY-PHYRIC LAVA

Pieces 8-11

PHENOCRYSTS:
Plagioclase - 5%; 0.5 mm; long, fresh, euhedral.
Clinopyroxene - 1%; 1.0-2.0 mm; fresh, euhedral.
Orthopyroxene - < 1%; 1.0 mm; altered.
GROUNDMASS: Looks fresh, intersertal.
VESICLES: ~ 5%; up to 10 mm long and 1 mm wide; elongate.



126-793B-113R-1

UNIT 15: HYALOCLASTITE BRECCIA

Pieces 1-3

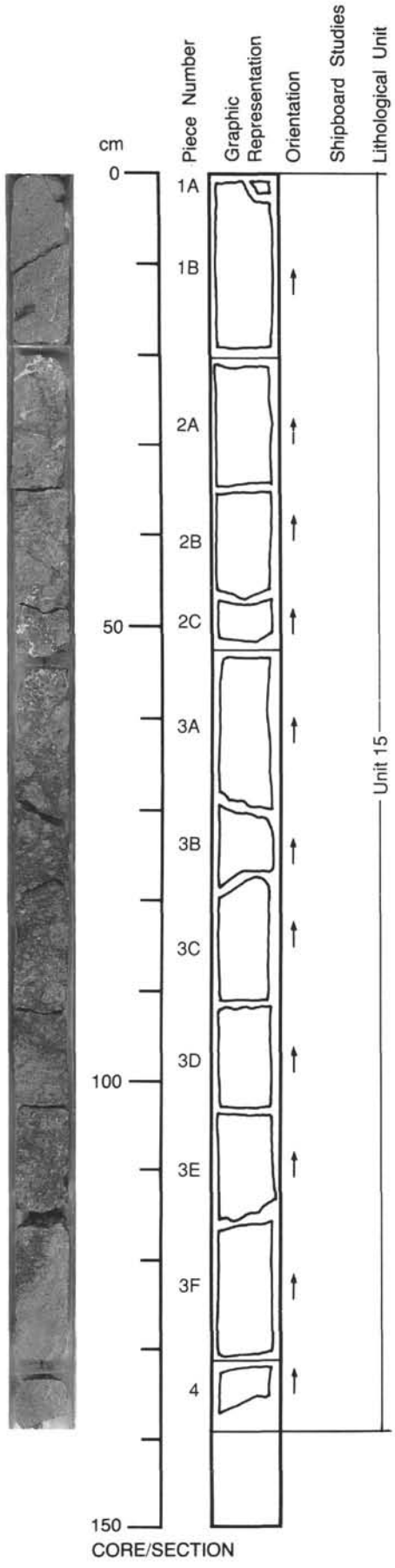
PHENOCRYSTS:
Plagioclase - 1%; 0.5-1.0 mm; euhedral, fresh.
Clinopyroxene - 5%; 1.0-3.0 mm; euhedral, fresh.
Orthopyroxene - 1%; 0.5-1.5 mm; euhedral, altered.

GROUNDMASS: Trachytic feldspar laths. Matrix is altered glass shards, (1-10 mm in size), and crystals of pyroxene in smectite > zeolite cement. Medium bluish gray in color.

VESICLES: < 2%; smectite filled.

COLOR: Medium gray.

ADDITIONAL COMMENTS: Clasts: 1-10 cm with chilled margins (good example at 58 cm).



126-793B-113R-2

UNIT 15: MASSIVE LAVA

Piece 1

CONTACTS: No contacts.
PHENOCRYSTS:
Plagioclase - 5%; 0.5-1.0 mm; euhedral, fresh.
Clinopyroxene - 8%; 2.5-5.0 mm; euhedral, fresh.
Orthopyroxene - 5%; 0.5-1.0 mm; euhedral, fresh.
GROUNDMASS: Intersertal, fresh.
VESICLES: 3%; 0.5-1.0 mm; filled with smectite > zeolite > native copper.

UNIT 15: HYALOCLASTITE BRECCIA

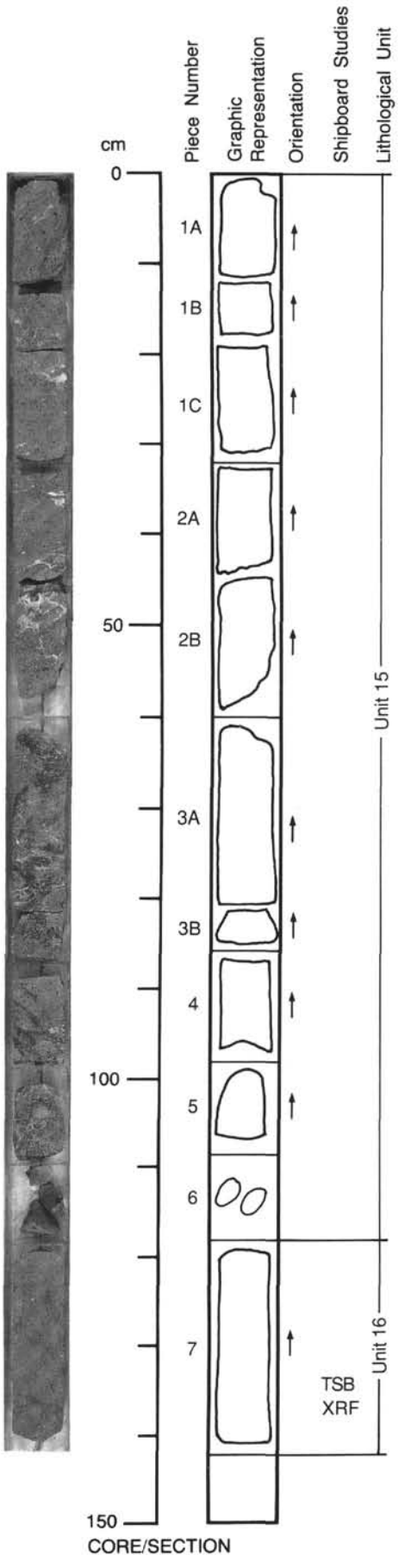
Pieces 2-3E

CONTACTS: No contacts.
PHENOCRYSTS: Highly altered.
Plagioclase - 5%; 0.5-1.0 mm.
Clinopyroxene - 8%; 2.5-5.0 mm.
Orthopyroxene - 5%; 0.5-1.0 mm.
GROUNDMASS: Intersertal, highly altered. Matrix is zeolite dominated in Piece 2 and smectite dominated in Piece 3.
VESICLES: 3%; 0.5-1.0 mm; filled with smectite > zeolite > native copper.
ADDITIONAL COMMENTS: Clasts are 1-6 cm in size. Highly altered version of Piece 1.

UNIT 15: HYALOCLASTITE BRECCIA

Pieces 3F-4

CONTACTS: No contacts.
PHENOCRYSTS:
Plagioclase - 5%; 0.5-1.0 mm.
Clinopyroxene - 8%; 2.5-5.0 mm.
Orthopyroxene - 5%; 0.5-1.0 mm.
GROUNDMASS: Intersertal.
VESICLES: 3%; 0.5-1.0 mm; filled with smectite > zeolite > native copper.
ADDITIONAL COMMENTS: Pieces 3F and 4 contain a 20 cm pillow Piece of same lava type but intermediate in freshness between Piece 1 and 2-3E.



126-793B-113R-3

UNIT 15: HYALOCLASTITE BRECCIA

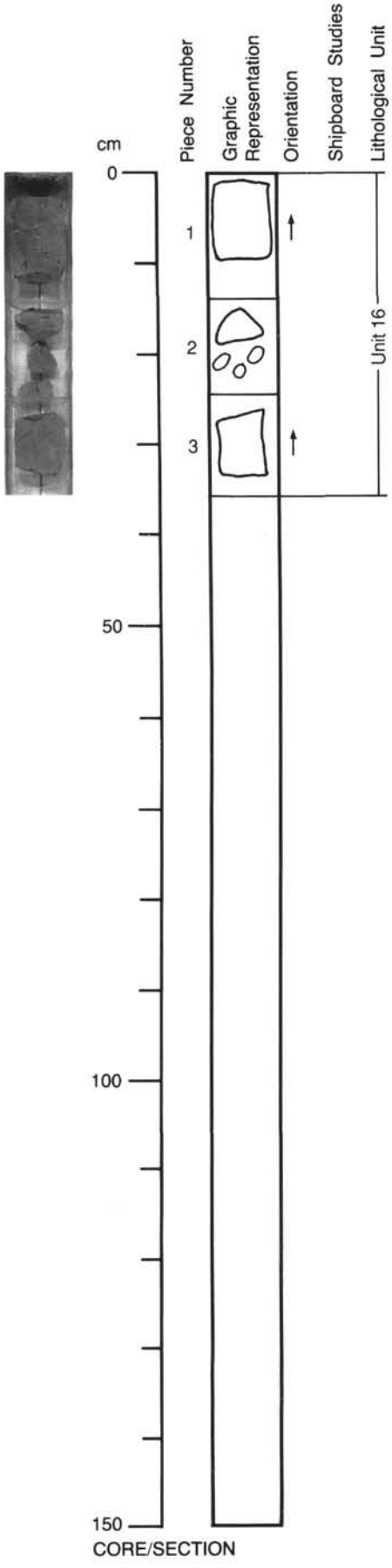
Pieces 1-6

CONTACTS: No contacts.
PHENOCRYSTS:
Plagioclase - 5%; 0.5-1.0 mm.
Clinopyroxene - 8%; 2.5-5.0 mm.
Orthopyroxene - 5%; 0.5-1.0 mm.
GROUNDMASS: Intersertal. Zeolite cement at 45-50 cm, but mostly smectite cement.
VESICLES: 3%; 0.5-1.0 mm; filled with smectite > zeolite > native copper.
ADDITIONAL COMMENTS: Mostly 10 cm-sized clasts (also at base of section 2) of porphyritic lava.

UNIT 16: APHYRIC LAVA

Piece 7

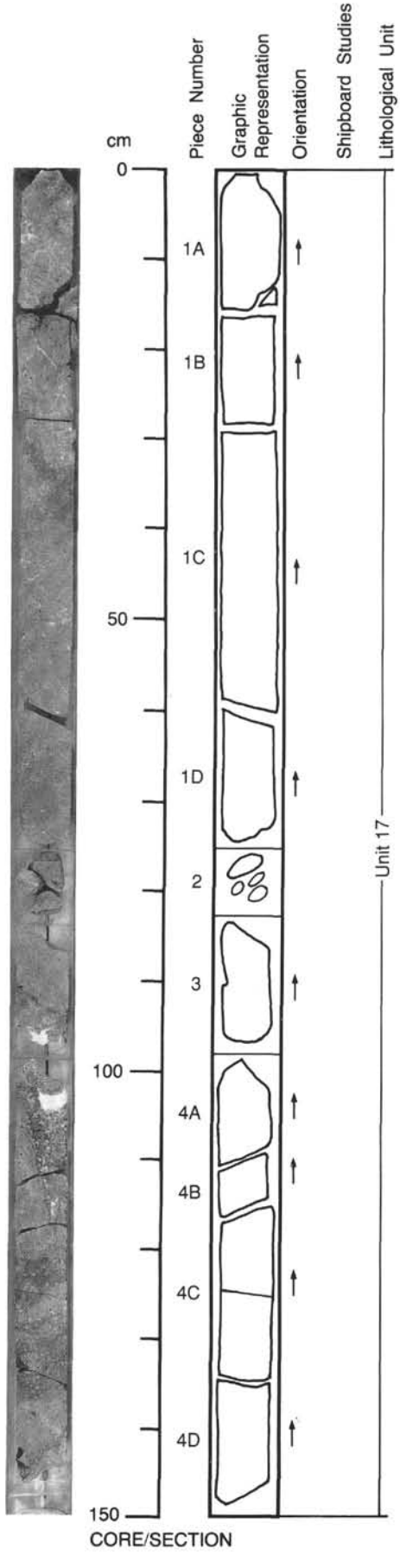
CONTACTS: No contacts.
PHENOCRYSTS:
Clinopyroxene - < 1%; 1.0 mm; partly altered to smectite.
GROUNDMASS: Groundmass is composed of felty feldspar laths and pyroxene.
VESICLES: 2%; 1-2 mm diameter; elongate; partly filled with smectite and native copper, glassy rims on vesicles.



126-793B-113R-4

UNIT 16: APHYRIC LAVA

CONTACTS: No contacts.
PHENOCRYSTS:
Clinopyroxene - < 1%; 1.0 mm; partly altered to smectite.
GROUNDMASS: Groundmass is composed of felty feldspar laths and pyroxene.
VESICLES: 2%; up to 10 mm; elongate; partly filled with smectite and native copper, glassy rims on vesicles.

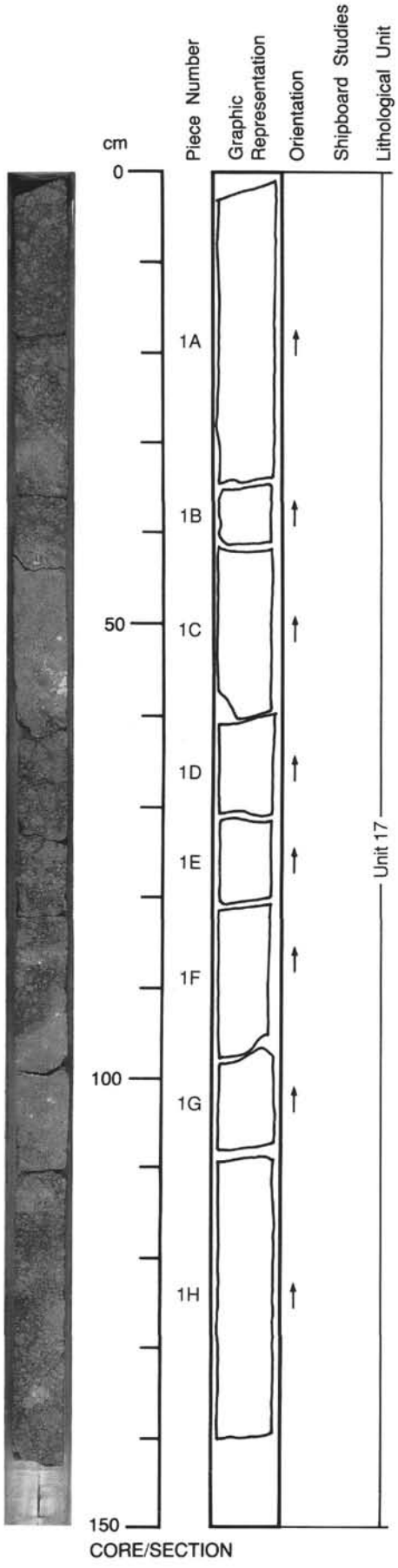


126-793B-114R-1

UNIT 17: HYALOCLASTITE BRECCIA

Pieces 1-4

CONTACTS: *Clasts are 1-10 cm in diameter; Pieces 1C and 1D contain one pillow Piece* greater than 40 cm in diameter. Next lower contact is in Piece 3. Pieces 4A-4C contain one pillow Piece 20 cm in diameter.
PHENOCRYSTS: Most clasts are from 0-130 cm in size. Clast at bottom of Piece 4D is more typical of clasts in Unit 15 (Core 126-793B-113) with clinopyroxene >/= orthopyroxene > plagioclase.
Plagioclase - 5%; 1-2 mm; fresh, euhedral.
Clinopyroxene - 2-5%; 1-6 mm; altered, euhedral.
Orthopyroxene - 1-2%; < 0.5 mm; very altered.
GROUNDMASS: Quite fresh. Matrix is composed of glass shards, pyroxene and plagioclase crystals with smectite and zeolite cement. Color is darkgreenish gray.
VESICLES: 1%; 1 mm; zeolite and smectite filling.
COLOR: Medium gray.
ADDITIONAL COMMENTS: Coarse, heterolithic.

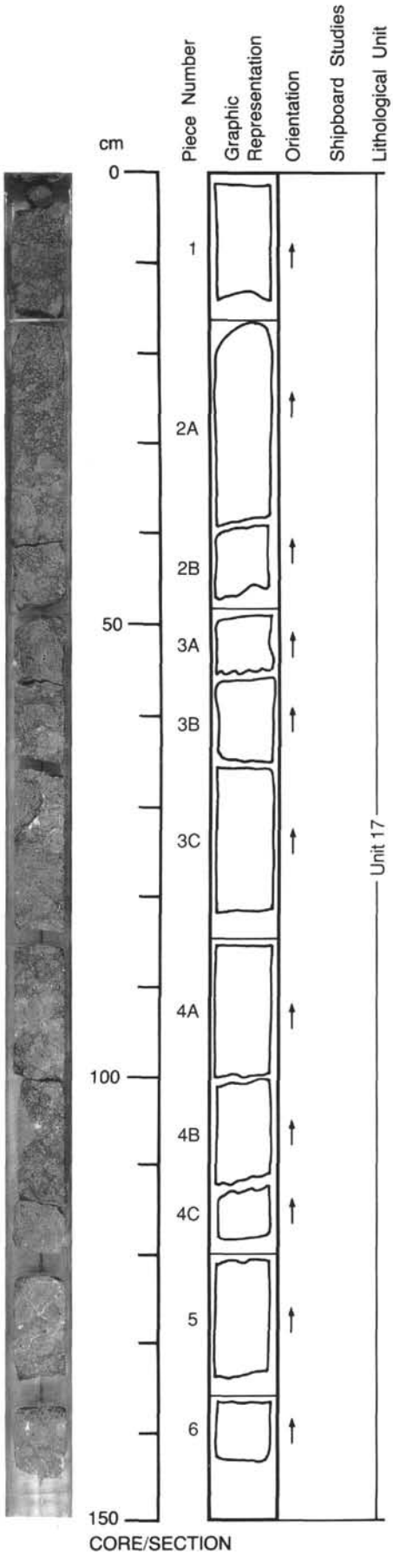


126-793B-114R-2

UNIT 17: HYALOCLASTITE BRECCIA

Piece 1

CONTACTS: Clasts are 1-4 cm, with two ~20 cm in diameter at 40-60 and 88-108 cm.
PHENOCRYSTS: All clasts are clinopyroxene > orthopyroxene >/= plagioclase, similar to those at the base of Section 126-793B-114R-1.
Plagioclase - 2%; 0.5 mm; fresh, euhedral.
Clinopyroxene - 5%; 1-6 mm; euhedral, fresh.
Orthopyroxene - 2%; 1.0 mm; fresh and altered.
GROUNDMASS: Quite fresh. Matrix is a hyaloclastite.
VESICLES: 2%; 1 mm; filled with smectite greater than zeolite.
COLOR: Medium gray.

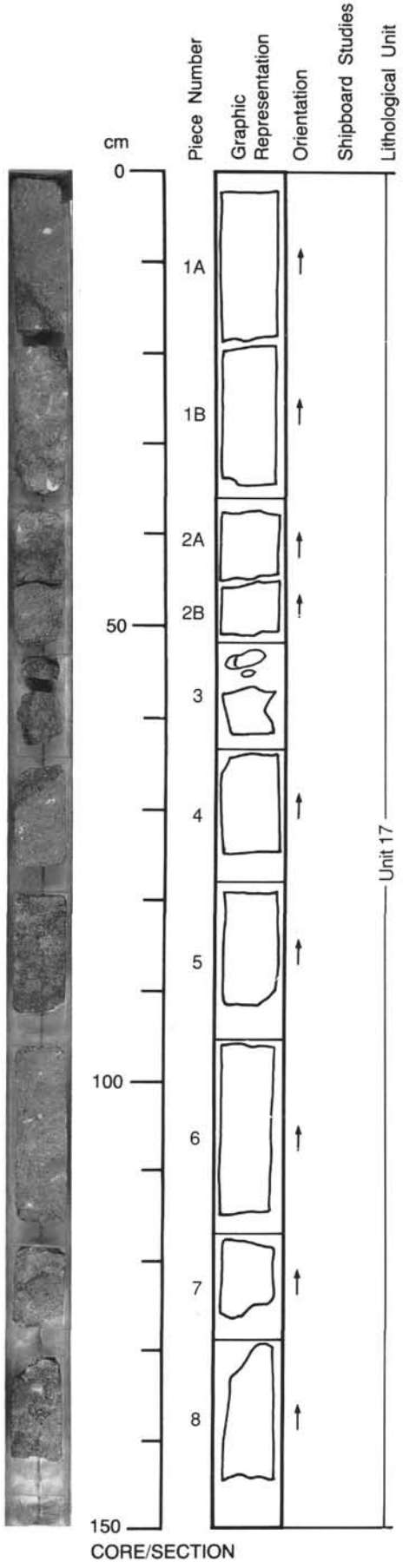


126-793B-114R-3

UNIT 17: HYALOCLASTITE BRECCIA

Pieces 1-6

PHENOCRYSTS: All clasts are clinopyroxene >/= orthopyroxene >/= plagioclase, similar to those at the base of Section 126-793B-114R-1. Clasts are 1-8 cm in diameter, and largest in Pieces 3C and 4C-5.
Plagioclase - 2%; 0.5 mm; fresh, euhedral.
Clinopyroxene - 5%; 1-6 mm; euhedral, fresh.
Orthopyroxene - 2%; 1.0 mm; fresh and altered.
GROUNDMASS: Quite fresh. Matrix of glass, pillow shards and crystals in smectite, zeolite and native copper cement.
VESICLES: 2%; 1 mm; filled with smectite greater than zeolite.
COLOR: Medium gray.
ADDITIONAL COMMENTS: Similar to Sections 126-793B-114R-1 and 2.

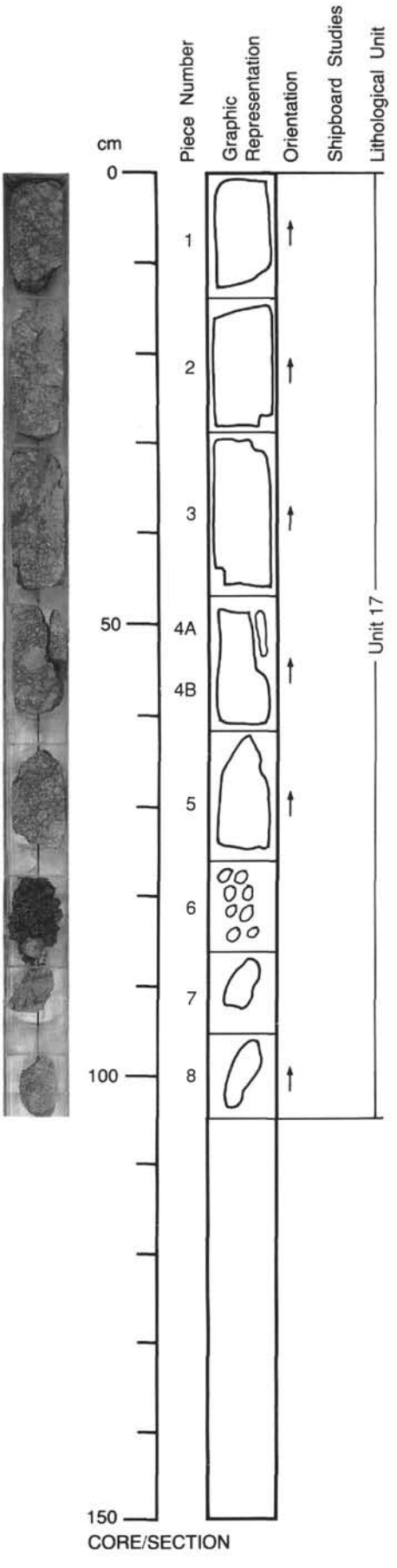


126-793B-114R-4

UNIT 17: HYALOCLASTITE BRECCIA

Pieces 1-7

PHENOCRYSTS: All clasts are clinopyroxene >/= orthopyroxene >/= plagioclase, similar to those at the base of section 1. Clasts are typically 1-5 cm in size, but 15 cm in Piece 1, and 18 cm in Piece 6.
Plagioclase - 2%; 0.5 mm; fresh, euhedral.
Clinopyroxene - 5%; 1-6 mm; euhedral, fresh.
Orthopyroxene - 2%; 1.0 mm; fresh and altered.
GROUNDMASS: Quite fresh. Matrix of glass, pillow shards and crystals in smectite, zeolite, and native copper cement.
VESICLES:2%; 1 mm; filled with smectite greater than zeolite.
COLOR: Medium gray.
ADDITIONAL COMMENTS: Similar to Sections 126-793B-114R-1 and 2.



126-793B-114R-5

UNIT 17: HYALOCLASTITE BRECCIA

Pieces 1-8

PHENOCRYSTS: All clasts are clinopyroxene >/= orthopyroxene >/= plagioclase, similar to those at the base of Section 126-793B-114R-1. Clasts are typically 1-8 cm in diameter.
Plagioclase - 2%; 0.5 mm; fresh, euhedral.
Clinopyroxene - 5%; 1-6 mm; euhedral, fresh.
Orthopyroxene - 2%; 1.0 mm; fresh and altered.
GROUNDMASS: Quite fresh. Matrix of glass, pillow shards and crystals in smectite, zeolite and native copper cement.
VESICLES: 2%; 1 mm; filled with smectite greater than zeolite.
COLOR: Medium gray.
ADDITIONAL COMMENTS: Similar to Sections 126-793B-114R-1 and 2. Piece 6 is drilling hash. Pieces 7 and 8 are isolated clasts of the same lava type.

126-793B-1R-01 (Piece 5,102-104 cm) OBSERVER: TOR WHERE SAMPLED: Unit 7

ROCK NAME: Plagioclase-clinopyroxene-olivine diabase

GRAIN SIZE: Medium

TEXTURE: Subophitic-intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	2.9	N/A		N/A	
Plagioclase	41	41	N/A		N/A	
Clinopyroxene	18.3	18.3	N/A		N/A	
Ores	4.2	4.2	N/A		N/A	
GROUNDMASS						
Glass	0	33.6	N/A		N/A	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	36.5	Olivine and glass	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	8				

COMMENTS: Point counting of described thin section.

126-793B-1R-01 (Piece 5,102-104 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Olivine-clinopyroxene-diabase

GRAIN SIZE: Medium

TEXTURE: Intersertal-intergranular

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	3	2		Sub-euhedral	Altered to smectites.
Plagioclase	40	40	0.1-1		Subhedral	Fresh, intersertal texture.
Clinopyroxene	20	0	0.1-0.5		Sub-euhedral	Fresh, intersertal texture.
Opaques	5	5	0.05-0.2		Subhedral	
Orthopyroxene	<0.5	<0.5	0.1		Subhedral	Fresh, minor groundmass phase.
GROUNDMASS						
Glass	35	N/A	N/A		10%	Smectites replacing probably glass. Plagioclase and clinopyroxene in dark band.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays			Smectites filling up vesicles or replacing glass.
Zeolites			Intersertal, in between the plagioclase laths.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	10	Random	1-4	Smectites	Rounded or polygonal

COMMENTS: Darker bands or inclusions are formed of the same rocks but finer grained and the groundmass was more rich in glass, now transformed to smectites. Minerals like feldspars and clinopyroxene are quenched. Vesicles are more abundant, bigger and lined by smectites. Around the vesicles, the groundmass is formed of glass now recrystallized to brown opaque material with few small feldspars microlites formed during devitrification. The darker color is due to smectites replacing the glass.

126-793B-1R-02 (Piece 5B,115-116 cm) OBSERVER: TOR WHERE SAMPLED: Unit 1, middle

ROCK NAME: Plagioclase-clinopyroxene-olivine-diabase

GRAIN SIZE: Fine

TEXTURE: Porphyritic-intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	7	0.2-1		Euhedral	Altered to smectite.
Plagioclase	37	37	0.1-1		Subhedral	
Clinopyroxene	20	20	0.1-2		Subhedral	Glomeroporphyritic clots with orthopyroxene.
Opaques	5	5	0.05-0.2		N/A	
Orthopyroxene	1	1	</=1		Subhedral	
GROUNDMASS						
Glass	0	30	N/A		N/A	Altered to smectite.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	37	Olivine, orthopyroxene, glass	
Carbonate	Tr	Olivine	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0				

COMMENTS: Clinopyroxene has albite twinning.

126-793B-1R-03 (Piece 1A,86-89 cm) OBSERVER: LTP WHERE SAMPLED: Chilled margin of the sill

ROCK NAME: Olivine-clinopyroxene-orthopyroxene basalt

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	N/A	10	2		Sub-euhedral	Altered to calcite and smectites.
Plagioclase	N/A	5	0.2-0.5		Euhedral	Zoned-clustered (corroded).
Clinopyroxene	N/A	15	up to 6		Euhedral	Zoned, twinned + inclusions-lamellae often clustered with olivine.
Orthopyroxene	N/A	5	3		Sub-euhedral	Clustered with clinopyroxene and olivine.
GROUNDMASS						
Plagioclase	N/A	N/A	0.1		N/A	Quenched minerals-crystallites.
Clinopyroxene	N/A	N/A	0.2		N/A	Microcrystalline.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays			Replacing olivine.
Carbonate			Calcite, replacing olivine.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	5		0.1	Smectites	Rounded

COMMENTS: Glomeroporphyritic aggregates suggesting cumulate process with olivine + clinopyroxene + orthopyroxene. Plagioclase may be an inclusion as small laths in orthopyroxene. Glass is caught in between the phenocrysts. Groundmass is 60%.

126-793B-3R-01 OBSERVER: TOR WHERE SAMPLED:

ROCK NAME: Plagioclase-clinopyroxene-basalt

GRAIN SIZE: Fine

TEXTURE: Vesicular-porphyritic-intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	5	5	0.3-2		Euhedral	Glomeroporphyritic clots, fresh.
Clinopyroxene	3	3	0.2-1		Euhedral	Fresh.
GROUNDMASS						
Glass	N/A	N/A	N/A		N/A	Devitrified.
Plagioclase	N/A	N/A	<0.2		Laths	
Clinopyroxene	N/A	N/A	<0.1		N/A	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	25	Random	0.2-4	None	Rounded-elongated

COMMENTS: The plagioclase phenocrysts do not contain any fluid inclusions. The plagioclase laths show alignment around vesicles and phenocrysts (like dacitic texture). Groundmass is 92%. No top or bottom interval or piece # given.

126-793B-30R-03 (129-131 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	30	</=1		Euhedral	Clustered in glomerophyritic aggregates, zoned.
Clinopyroxene	N/A	10	</=2		Subhedral	Fresh, zones, partly corroded.
Orthopyroxene	1	N/A	<0.5		Euhedral	Altered in smectites and or zeolites.
GROUNDMASS						
Plagioclase	N/A	N/A	0.1		65%	Groundmass altered in a brown-opaque material.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays			Replacing orthopyroxene.
Zeolites			Replacing orthopyroxene-partly plagioclase/filling up vesicles.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	4		</=0.4	Zeolites	Lobate

COMMENTS: Clast in a conglomerate. Isolated clinopyroxene crystals sometimes clustered with orthopyroxene, never with plagioclase. Orthopyroxene: altered in smectite and/or zeolites. Plagioclase beginning to be replaced by zeolites. No piece # given.

126-793B-32R-03 (125-128 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE:

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	~10	N/A	<1		Euhedral	Altered to smectites and zeolite.
Clinopyroxene	2	N/A	</=1		N/A	Fresh. Includes opaques.
Orthopyroxene	~1	N/A	0.5		N/A	Replaced by smectite/zeolite.
GROUNDMASS						
N/A	N/A	N/A	N/A		N/A	Groundmass. Replaced by opaque, reddish material.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0				

COMMENTS: Clots of clinopyroxene-orthopyroxene plagioclase. Andesitic clasts are clinopyroxene-orthopyroxene-plagioclase. Zeolite cement. No piece # given. Groundmass is 87%.

126-793B-37R-01 (68-69 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Hornblende-dacitic crystal tuff

GRAIN SIZE:

TEXTURE:

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	N/A	N/A		N/A	Fresh/oscillatory zoned.
Clinopyroxene	N/A	N/A	N/A		N/A	Fresh.
Opaques	N/A	N/A	N/A		N/A	Enclosed in clinopyroxene and hornblende.
Hornblende	N/A	N/A	N/A		N/A	Fresh.
Quartz	N/A	N/A	N/A		Subhedral	Embayed.
GROUNDMASS						
N/A	N/A	N/A	N/A		N/A	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0				

COMMENTS: Crystal tuff of hornblende-augite dacite. No piece # given.

126-793B-56R-02 (Piece 1,75-76 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic/flow aligned

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	5	N/A	0.5		Euhedral	Altered to smectite and zeolite.
Clinopyroxene	5	N/A	</=1		Euhedral	Fresh.
GROUNDMASS						
N/A	N/A	N/A	N/A		N/A	Groundmass altered to brown opaque iron stained material.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays			Smectite/filling up vesicles.
Zeolites			Replacing plagioclase/filling vesicles.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	20		</=0.2	Smectite, zeolite	Lobate, flattened

COMMENTS: Clasts in a sandstone/conglomerate. Some andesitic clasts look fresher with glass still present, more porphyritic and with a fluidal texture. Clinopyroxene-plagioclase clots. Zeolite cement. Groundmass is 70%.

126-793B-56R-02 (85-86 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic/flow aligned

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	15	0.7		Euhedral	Fresh-zoned/flow aligned.
Clinopyroxene	N/A	5	0.7		Euhedral	Fresh/clustered with orthopyroxene.
Orthopyroxene	N/A	2	0.5		Euhedral	Sometimes fresh/replaced.
GROUNDMASS						
N/A	N/A	N/A	N/A		N/A	Groundmass replaced by an opaque-brown material (iron stained).

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	2		0.2	Smectite	Rounded

COMMENTS: Other clasts altered intersertal quenched basalt (uncommon). The other clasts are clinopyroxene-orthopyroxene-plagioclase andesite. Clinopyroxene-plagioclase crystals or clots. Zeolite cement. Very similar to sample 126-793B-83R-02, 39-40cm. No piece # given.

126-793B-82R-07 (80-82 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	30	N/A	~0.6		Euhedral-subhedral	Isolated or clustered with clinopyroxene and orthopyroxene beginning to alter.
Clinopyroxene	10	N/A	~0.5		Euhedral	Zoned-isolated or clustered with orthopyroxene.
Oxides	N/A	1	N/A		N/A	
Orthopyroxene	N/A	6	</=0.6		Euhedral	Altered to Fe-oxides and smectites. Clustered with clinopyroxene and plagioclase.
GROUNDMASS						
Plagioclase	N/A	0.1	N/A		N/A	Microphenocrysts.
Clinopyroxene	N/A	0.1	N/A		N/A	Microphenocrysts.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays			Replacing orthopyroxene and glass.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0				

COMMENTS: Clast in a volcaniclastic sediment. ?? clinopyroxene crystals. Cement is smectite. The order of appearance in the glomeroporphyritic clots are orthopyroxene, plagioclase, clinopyroxene, oxides. No piece # given. 53% of groundmass altered to smectites.

126-793B-83R-01 (120-121 cm) OBSERVER: LTP WHERE SAMPLED: In a sedimentary unit

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE:

TEXTURE:

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	20	N/A	1		N/A	Partly altered-zoned (zeolites?).
Clinopyroxene	N/A	10	0.5		Euhedral	Zoned-very fresh.
Oxides	N/A	1	0.1		Euhedral	
Orthopyroxene	3	N/A	0.5		Euhedral	Mantled by clinopyroxene-altered to smectite (some are preserved).
GROUNDMASS						
N/A	N/A	N/A	N/A		N/A	Altered groundmass rather rich in glass: now replaced by smectites.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0				

COMMENTS: Very similar to sample 126-793B-82R-07, 80-82 cm. But main differences: (1) less porphyritic, (2) clinopyroxene + orthopyroxene clustered but no plagioclase present. Seems less differentiated than sample 126-793B-82R-07, 80-82 cm. No piece # given. Groundmass is 66%.

126-793B-84R-01 (75-78 cm) OBSERVER: REX WHERE SAMPLED: As clast in breccia

ROCK NAME: Clinopyroxene-phyric basalt-andesite

GRAIN SIZE: Fine (1 mm phenocrysts)

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	0	0	N/A		N/A	May not be any-possibly clinopyroxene phyric.
Clinopyroxene	7	7	0.2-1		Subhedral-euhedral	Fresh.
Oxide	<1	<1	0.2		Anhedral	
GROUNDMASS						
Glass	0	93	N/A		N/A	Completely replaced by clays and cristobalite.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	47	Replacing	Groundmass glass.
Cristobalite	45	Replacing	Groundmass glass (+ feldspar?).

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0				

COMMENTS: Clast is dominantly clinopyroxene phyric. Matrix to whole breccia contains clinopyroxene, altered orthopyroxene, and replaced plagioclase. Clinopyroxene looks pale green in PPL. Na or Cr? in clinopyroxene? Plagioclase replaced by isotropic mineral, (zeolite of some kind?). No piece # given.

126-793B-84R-02 (39-40 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic/flow aligned

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	30	N/A	<1		Euhedral	Altered to smectites/zeolites/calcite.
Clinopyroxene	N/A	10	1		Euhedral	Fresh, includes opaques.
Opaques	N/A	1	0.1		Subhedral	Early crystallizing phase present in inclusions and also in the groundmass.
Quartz	N/A	Tr	0.3		Subhedral	Rounded.
Orthopyroxene	5	N/A	0.5		N/A	Altered to smectite.
GROUNDMASS						
N/A	N/A	N/A	N/A		N/A	49% groundmass is altered to smectites.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays			Groundmass/replacing plagioclase and orthopyroxene.
Zeolites			Filling vesicles/replacing plagioclase.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5		</=1.5		Lobate or flattened	Filled with zeolites/smectites.

COMMENTS: Very similar to 126-793B-85R-03, 39-40 m but much more altered. Looks like basement at Hole 792E. No piece # given.

126-793B-85R-01 (8-10 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic-"fluidal"

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	5	0.3-0.5		Euhedral	Fresh-zoned, sometimes altered in zeolites.
Clinopyroxene	N/A	5	0.5		Euhedral	Fresh-zoned/clustered with orthopyroxene, some crystals are corroded.
Orthopyroxene	N/A	3	1		Euhedral	Partly altered to smectites.
GROUNDMASS						
N/A	N/A	N/A	N/A		N/A	"Pseudo-welded" trachytic textures with flattened vesicles. Altered to smectites. Groundmass + vesicles = 87%.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays			Replacing the groundmass/filling vesicles.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	17		</=2	Smectites, zeolites	Elongated

COMMENTS: "Clasts" in a sandstone. Type of clasts: rounded. Predominant: clinopyroxene-orthopyroxene-plagioclase-andesite with two textures; fluidal see petrographic description, or more porphyritic (up to 30% phenocrysts and crystals). Crystals are clinopyroxene-plagioclase, entire or broken. Clinopyroxene and orthopyroxene may show intergrowths. Minor: clinopyroxene-plagioclase intersertal flow-aligned basalt. No piece # given.

126-793B-85R-02 (39-40 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene plagioclase andesite

GRAIN SIZE:

TEXTURE: Porphyritic/fluidal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	35	</=1		Euhedral	Zoned, rather fresh, clustered, sometimes altered to smectites.
Clinopyroxene	N/A	10	0.8		Subhedral	Fresh, corroded, embayed, sometimes clustered with orthopyroxene.
Oxides	N/A	1	0.4		Euhedral	
Orthopyroxene	N/A	8	1		Euhedral	Partly altered to smectites, some crystals are fresh.
GROUNDMASS						
Plagioclase	N/A	N/A	0.1		N/A	42% groundmass, microcrystalline.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	5		1	Zeolites, smectites	Lobate

COMMENTS: Vesicles are lobated or flattened, lined by smectites, and filled by zeolites. Oxides are included in clinopyroxene. Early crystallizing phase. Looks like basement at Hole 792E. No piece # given.

126-793B-86R-01 (117-119 cm) OBSERVER: REX WHERE SAMPLED: In breccia-conglomerate horizon (clast)

ROCK NAME: Porphyritic basalt

GRAIN SIZE: Phenocrysts 0.5-4 mm

TEXTURE: Porphyritic to glomeroporphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	4	1-4		Sub-euhedral	Totally pseudomorphed-probably olivine.
Plagioclase	10	10	0.5-2		Subhedral	Zoned, many fluid inclusions.
Clinopyroxene	6	6	0.5-3		Euhedral	Zoned, twinned.
Orthopyroxene	1-2	2	0.5-1		Euhedral	Some alteration, SiO_2?, could be two generations of orthopyroxene growth?
GROUNDMASS						
Microlitic glass	78	78	N/A		N/A	Microlites of plagioclase (<0.01 mm) in a glassy matrix-some patches of less microlitic glass.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS
Hematite-clay	4	Replacing	Olivine?	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	2	Random	0.5-1	Some	Rounded-moderately elongate	Walls lined with clays.

COMMENTS: No piece # given.

126-793B-86R-02 (29-30 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase-andesite

GRAIN SIZE:

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	5	</=0.3		Hedral	Oscillatory zoned-fresh.
Clinopyroxene	N/A	20	</=0.5		Euhedral	Fresh/zoned, clustered with orthopyroxene.
Orthopyroxene	3	2	</=1		Euhedral	Partly altered to smectites, sometimes fresh.
GROUNDMASS						
Feldspar	N/A	0	0.1		67%	Groundmass: microcrystalline.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	5	Groundmass	0.2	Smectites	Rounded

COMMENTS: Orthopyroxene mantled by clinopyroxene. Clots of orthopyroxene + clinopyroxene or clinopyroxene + plagioclase. Two types of orthopyroxene: bigger phenocrysts altered to smectites. Smaller phenocrysts fresh and mantled by clinopyroxene. No piece # given.

126-793B-87R-04 (21-22 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	10	0.5		Subhedral	Fresh-oscillatory zoned.
Clinopyroxene	N/A	20	</=2		Euhedral	Fresh.
Orthopyroxene	N/A	10	</=3		Euhedral	Fresh or slightly altered to smectites. Clustered with orthopyroxene and clinopyroxene.
GROUNDMASS						
Feldspar	N/A	N/A	0.1		N/A	65%. Groundmass: microcrystalline.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5		1		Rounded	Filled with zeolites and smectites.

COMMENTS: Orthopyroxene-clinopyroxene clots-??. No piece # given.

126-793B-87R-04 (21-22 cm) OBSERVER: LTP WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene-plagioclase andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	10	0.5		Subhedral	Fresh-oscillatory zoned.
Clinopyroxene	N/A	20	</=2		Euhedral	Fresh.
Orthopyroxene	N/A	10	</=3		Euhedral	Fresh or slightly altered to smectites. Clustered with orthopyroxene and clinopyroxene.
GROUNDMASS						
Feldspar	N/A	N/A	0.1		N/A	65%. Groundmass: microcrystalline.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5		1		Rounded	Filled with zeolites and smectites.

COMMENTS: Orthopyroxene-clinopyroxene clots-??. No piece # given.

126-793B-88R-01 (Piece 1,69-70 cm) OBSERVER: GIL WHERE SAMPLED:

ROCK NAME: Plagioclase-clinopyroxene andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	6	6	0.5-2		Euhedral	Fresh, relatively simple growth history.
Clinopyroxene	3	4	0.5-2		Euhedral	Both fresh and smectite alteration; Twinned.
Orthopyroxene	2	2	N/A		N/A	None fresh.
GROUNDMASS						
Plagioclase + magnetite + clinopyroxene	88	N/A	N/A		N/A	Trachytic alignment.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	5	Zeolite + smectites		Round	

COMMENTS: Groundmass quite fresh, with some smectite glass between plagioclase +/- clinopyroxene clots devitrified. Sample is a clast; the zeolite, smectite, clinopyroxene and plagioclase matrix is seen in one corner, as well as part of an adjacent clast.

126-793B-89R-02 (3-4 cm) OBSERVER: GIL WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene andesite

GRAIN SIZE:

TEXTURE: Porphyritic, intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	1	0.5-1		Euhedral	
Clinopyroxene	12	15	0.5-4		Euhedral	Twinned, unzoned.
Orthopyroxene	?	?3-5	N/A		N/A	5-10% smectite-altered pyroxene shapes, no orthorhombic OA figures.
GROUNDMASS						
Plagioclase + pyroxene + magnetite	84	N/A	N/A		N/A	Flow aligned (trachytic) alteration is patchy.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	2	Smectite, zeolites	0.2-2	Round	

COMMENTS: No piece # given.

126-793B-89R-03 (111-113 cm) OBSERVER: GIL WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	1	0.5		Euhedral	Fresh.
Clinopyroxene	N/A	15	0.5-8		Euhedral	Fresh, twinned.
Orthopyroxene	N/A	10	0.5-3		Euhedral	Fresh (smectite at edges); zoned or overgrowths.
GROUNDMASS						
Plagioclase + pyroxene + magnetite	74	N/A	N/A		N/A	Intersertal, plagioclase laths 0.05 mm, alteration is patchy.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	2		0.5-4			Smectite and zeolite.

COMMENTS: No piece # given.

126-793B-93R-01 (Piece 4A,84-85 cm) OBSERVER: TOR WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene-andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Clinopyroxene	7	7	0.2-2		Euhedral	Fresh, with fluid inclusions.
Orthopyroxene	15	18	0.3-7		Euhedral	Altered along cleavages and margins to smectite.
GROUNDMASS						
Glass	N/A	N/A	N/A		N/A	Devitrified.
Orthopyroxene	N/A	N/A	0.1		N/A	Altered to smectite.
Clinopyroxene	N/A	N/A	0.1		N/A	
Plagioclase	N/A	N/A	<0.1		Laths	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	3	Orthopyroxene	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5	Random	1-2		Round, elongated	Smectite on vesicle walls.

COMMENTS: Plagioclase laths aligned around crystals and vesicles (trachytic texture). Groundmass is 75%.

126-793B-93R-01 (Piece 4A, 84-85 cm) OBSERVER: GIL WHERE SAMPLED:

ROCK NAME: Clinopyroxene-orthopyroxene andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	N/A	1	0.5		Euhedral	Fresh.
Clinopyroxene	N/A	10	0.5-5		Euhedral	Fresh, twinned, unzoned.
Orthopyroxene	N/A	15	0.5-4		Euhedral	Generally fresh; some smectite +/- calcite alteration.
GROUNDMASS						
Plagioclase + pyroxene + magnetite	74	N/A	N/A		N/A	Flow aligned, intersertal.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	2		0.5	Smectite linings	

126-793B-93R-02 (27-28 cm) OBSERVER: REX WHERE SAMPLED: Flow top

ROCK NAME: Andesite

GRAIN SIZE: Fine grained with 1 mm phenocryst

TEXTURE: Porphyritic, felty groundmass

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	2	2	0.3-1		Euhedral	Fresh.
Clinopyroxene	1	1	0.5-1.5		Euhedral	Fresh, zoned.
Orthopyroxene	0.5	1	0.5-1.5		Euhedral	Cores fresh, margins to smectite.
GROUNDMASS						
Plagioclase	60	60	N/A		Euhedral	Laths are 0.05 by 0.5 mm.
Glass	0	30	N/A		N/A	
Pyroxene/clinopyroxene	6	6	N/A		Subhedral	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	0.5	Replacing	(Smectite) orthopyroxene.
Clays	30	Replacing	(Smectite) glass in interstitial.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	2	Random	1-2	Smectite	Spherical	Walls coated with smectite.

COMMENTS: Some vesicles filled with zeolite (newlandite). Some glomeroporphyritic clots of plagioclase-clinopyroxene. Groundmass plagioclase is aligned in trachyitic texture (felty). No piece # given.

126-793B-96R-01 (81-83 cm) OBSERVER: TOR WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene-plagioclase-andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	3	3	0.2-2		Euhedral	
Clinopyroxene	5	5	0.2-4		Euhedral	Fresh, with fluid inclusions, zoned.
Orthopyroxene	12	15	0.2-2		Euhedral	Partly altered to smectite along margins and cleavages.
GROUNDMASS						
Glass	N/A	N/A	N/A		N/A	Devitrified.
Plagioclase	N/A	N/A	<0.05		Laths	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	60	Orthopyroxene, glass	And fractures in the thin section.
Carbonate	Tr	Orthopyroxene	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5	Random	0.5-5	Empty	Elongated	Smectite lining on vesicle walls.

COMMENTS: No piece # given. Present groundmass is 20%, original was 77%.

126-793B-97R-01 (Piece 20,123-124 cm) OBSERVER: TOR WHERE SAMPLED:

ROCK NAME: Orthopyroxene-clinopyroxene-andesite

GRAIN SIZE: Fine

TEXTURE: Porphyritic, intersertal

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Clinopyroxene	7	7	0.2-4		Euhedral	Fresh.
Orthopyroxene	6	8	0.2-2		Euhedral	Partly altered to smectite.
GROUNDMASS						
Glass	N/A	N/A	N/A		N/A	Devitrified.
Plagioclase	N/A	N/A	<0.05		Laths	Alignment of laths around crystals.
Clinopyroxene	N/A	N/A	<0.05		N/A	
Orthopyroxene	N/A	N/A	<0.05		N/A	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	39	Orthopyroxene and glass	
Zeolites	1	Crack	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	N/A		1		Round	One vesicle in thin section, smectite lined walls.

COMMENTS: Alteration of orthopyroxene along margins and cleavages. Present groundmass is 45%, original was 85%.

126-793B-99R-01 (54-55 cm) OBSERVER: REX WHERE SAMPLED:

ROCK NAME: Basaltic andesite

GRAIN SIZE: Fine groundmass 1-3 mm phenocrysts

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	1	1		Rounded-subhedral	Possible reabsorbed.
Clinopyroxene	5	5	1-4		Euhedral-subhedral	Zoned, fluid inclusion.
Orthopyroxene	2	4	1-2		N/A	
GROUNDMASS						
Plagioclase	50	50	0.2		Laths	
Clinopyroxene	2	2	0.3		Laths	
Glass	10	38	N/A		N/A	Some interstitial glass may be fresh.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS
Clays	2	Replacing	Orthopyroxene.	
Clays	28	Replacing	Glass.	
Zeolites			Filling vesicles.	
Fe hydroxide/oxide	0.5	Replacing	Olivine.	
Celadonite	0.5	Replacing	Olivine.	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5	Random	1-4	50	Elongate to spherical	Aligned and 1/2 filled by zeolites and clays in some cases.

COMMENTS: No piece # given.

126-793B-100R-01 (28-29 cm) OBSERVER: REX WHERE SAMPLED:

ROCK NAME: Andesite

GRAIN SIZE: Fine grained <0.5 mm

TEXTURE: Aphyric, trachytic groundmass

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	0.2	0.2	0.3		Euhedral-subhedral	
Clinopyroxene	0.5	0.5	0.1-0.5		Euhedral	
Orthopyroxene	0.1	0.3	0.3		Euhedral	
GROUNDMASS						
Glass	10	50	N/A		Interstitial	
Plagioclase	48	48	N/A	1	Laths	Aligned in trachytic texture.
Clinopyroxene	1	1	N/A		Laths	
Oxide	<0.1	<0.1	N/A		Cubes	Red brown in ppl.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS
Clays	40	Replacing	Glass in groundmass.	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5	Random	0.5-3	Vesicles	Spherical	Zeolites on walls, smectite to center.

COMMENTS: Generally aphyric vesicular andesite. No piece # given.

126-793B-104R-02 (Piece 1D,48-49 cm) OBSERVER: REX WHERE SAMPLED:

ROCK NAME: Andesite

GRAIN SIZE: Fine groundmass

TEXTURE: Porphyritic-groundmass intersertal-microphyric

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	8	8	0.5-3		Euhedral	Zoned, with fluid inclusions.
Clinopyroxene	8	8	0.5-5		Euhedral-subhedral	Zoned, fluid inclusions and exsolution lamellae.
Orthopyroxene	0.5	1.5	0.5-1		Euhedral	
GROUNDMASS						
Glass	0?	47	N/A		N/A	Dominantly altered or hydrated.
Plagioclase	30	30	0.05		Euhedral	
Clinopyroxene	5	5	0.01		Subhedral	
Oxide	0.5	0.5	N/A		N/A	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	47	Replacing	Glass within the groundmass.
Clays	1	Replacing	Orthopyroxene rims.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	1	Random	1	No	Spherical	Thin coating of smectite on walls.

COMMENTS: Some clinopyroxene tend towards acicular habit. Length:width = 8:1.

126-793B-105R-01 (Piece 5B,126-127 cm) OBSERVER: REX WHERE SAMPLED:

ROCK NAME: Porphyritic andesite

GRAIN SIZE: Fine groundmass ~2 mm phenocrysts

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	10	10	0.5-2		Subhedral	Zoned, fluid inclusion.
Clinopyroxene	4	4	0.5-6		Euhedral	
Orthopyroxene	5.9	6	0.8-2		Euhedral	
GROUNDMASS						
Plagioclase	37	37	<0.01		Laths	
Clinopyroxene	4	4	0.03		Laths	Acicular.
Glass	15	37	N/A		N/A	
Orthopyroxene	2	2	0.03		Laths	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	22	Replacing	Glass and along fracture.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	4	Random	1-10	Vesicles	Round-elongate	Zeolite or clay filling.

COMMENTS: Some glomeroporphyritic clots. Some orthopyroxene phenocrysts rimmed by clinopyroxene.

126-793B-107R-01 (Piece 2A,17-18 cm) OBSERVER: REX WHERE SAMPLED:

ROCK NAME: Andesite

GRAIN SIZE: Fine groundmass

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	7	7	0.5-4	Anorthite 70	Euhedral	Zoned, with fluid inclusions.
Clinopyroxene	5	5	0.5-3		Euhedral-subhedral	
Orthopyroxene	0.2	1	0.5-1		Euhedral	Dominantly altered to smectite.
GROUNDMASS						
Plagioclase	55	55	0.1		Euhedral	Laths in glass.
Glass	10	22	N/A		N/A	
Oxide	1	N/A	N/A		N/A	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	0.8	Replacing	Smectite replacing orthopyroxene.
Clays	3	Replacing	Celadonite replacing groundmass and orthopyroxene.
Zeolites	2	Filling	Vesicles.
Smectite	16	Replacing	Glass in groundmass.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	3	Random	1-5	Vesicle	Sub-spherical	Filled with zeolites and smectite.

COMMENTS: Groundmass texture intersertal to microphyric. Some veins of celadonite (2 mm) crossing section. Some orthopyroxene phenocrysts rimmed by clinopyroxene laths.

126-793B-110R-01 (Piece 1A,4-5 cm) OBSERVER: REX WHERE SAMPLED: Orange spot lava flow

ROCK NAME: Boninitic basaltic andesite

GRAIN SIZE: Fine groundmass, 5 mm phenocrysts

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	4	1-6		Euhedral and subrounded	Altered to clays, calcite, Fe-oxide.
Clinopyroxene	9	9	0.2-3		Euhedral	Rare chromium-spinel inclusions.
Spinel	0.1	0.1	.005-.5		Euhedral cubes	Reddish tint in ppl.
Orthopyroxene	6	7	0.2-2		Euhedral	Altered along fractures, rimmed by clinopyroxene.
GROUNDMASS						
Plagioclase	30	30	0.1		Subhedral	
Clinopyroxene	25	25	0.1-0.2		Subhedral-quench acicular	
Orthopyroxene	4	4	0.2		Subhedral-quench acicular	
Spinel	1	1	0.02		Subhedral	Some cubes.
Glass	~20	20	N/A		N/A	Interstitial, possibly zeolite replaced.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	0.5	Replacing	Olivine.
Clays	1	Replacing	Orthopyroxene.
Carbonate	0.5	Replacing	Olivine (calcite).
Zeolites	1	Replacing	Glass.
Fe-oxide	2	Replacing	Olivine. Fe-oxide + hydroxide.
Celadonite	1	Replacing	Olivine.
Native copper	<0.1	Replacing	Olivine.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	0.1	Random	1	No	Sub-spherispherical

COMMENTS: "Orange spots" may represent cumulate mineral cluster. In this slide rounded euhedral pseudomorphs after olivine cluster in alignment, and are "cemented" by orthopyroxene and clinopyroxene. Chromium-spinel inclusions present in pseudomorphs and "cement" native copper present within the orange spot region.

126-793B-112R-01 (Piece 1G,63-64 cm) OBSERVER: TOR WHERE SAMPLED:

ROCK NAME: Basaltic andesite

GRAIN SIZE: Fine grained groundmass

TEXTURE: Porphyritic, intersertal, trachytic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Clinopyroxene	7	7	0.3-2		Euhedral	
Orthopyroxene	5	10	0.3-2		Euhedral	Partly altered to smectite along margins and fractures.
GROUNDMASS						
Plagioclase	40	40	N/A		Laths	
Glass	20	43	N/A		N/A	Devitrified.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	5	Replacing	Orthopyroxene.
Clays	13	Replacing glass and filling fractures.	
Zeolites	10	Filling	Vesicles and replacing glass.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	2	Random	0.2-1	Zeolites	

126-793B-113R-03 (Piece 7,136-137 cm) OBSERVER: TOR WHERE SAMPLED:

ROCK NAME: Andesite

GRAIN SIZE: Fine

TEXTURE: Aphyric with trachytic, groundmass

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Clinopyroxene	1	1	0.1-0.3		Euhedral	Altered along cleavages.
GROUNDMASS						
Glass	N/A	N/A	N/A		N/A	Devitrified.
Plagioclase	N/A	N/A	<0.1		N/A	Aligned around crystals.
Clinopyroxene	N/A	N/A	N/A		N/A	
Magnetite	N/A	N/A	<0.05		N/A	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS
Clays	9	Filling	Fractures.	
Clays	30	Replacing glass.		
Zeolites	10			

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	5	Random	0.3-2	Empty	Elongated	Zeolites on vesicle walls.

COMMENTS: Present groundmass is 50%, original was 99%.