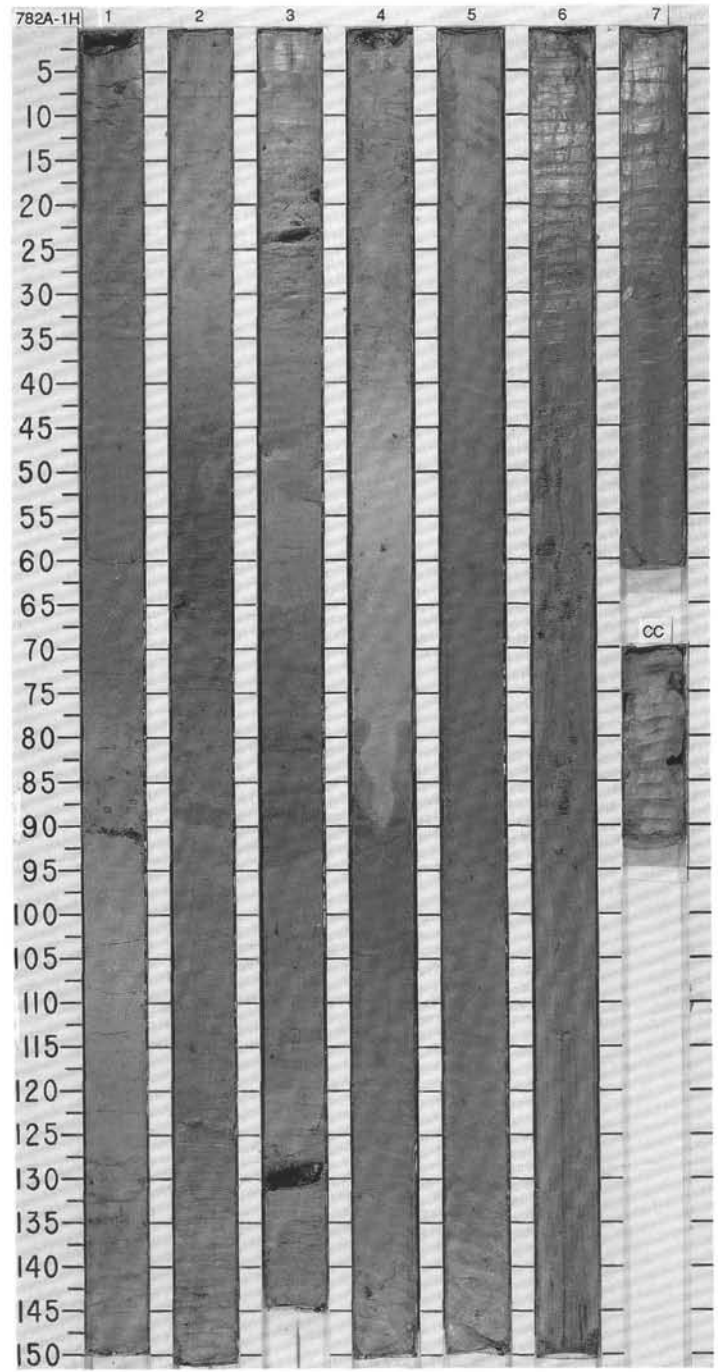
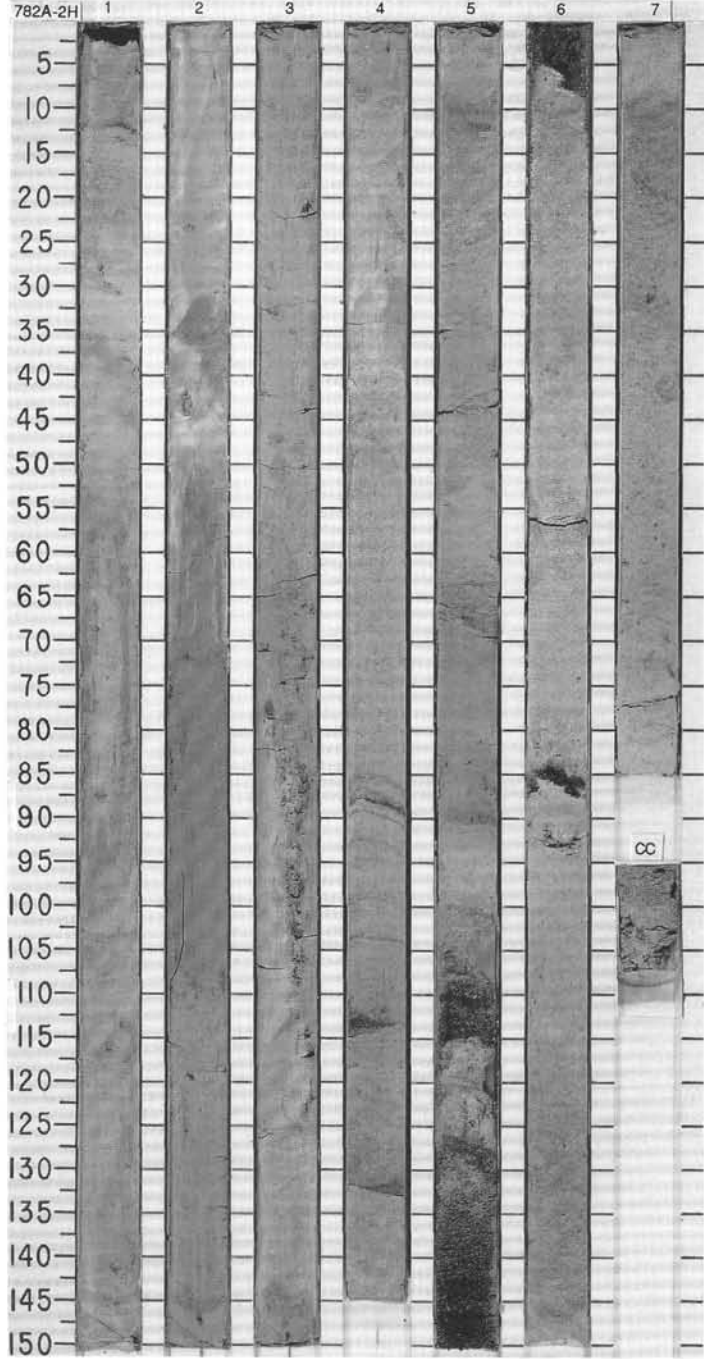
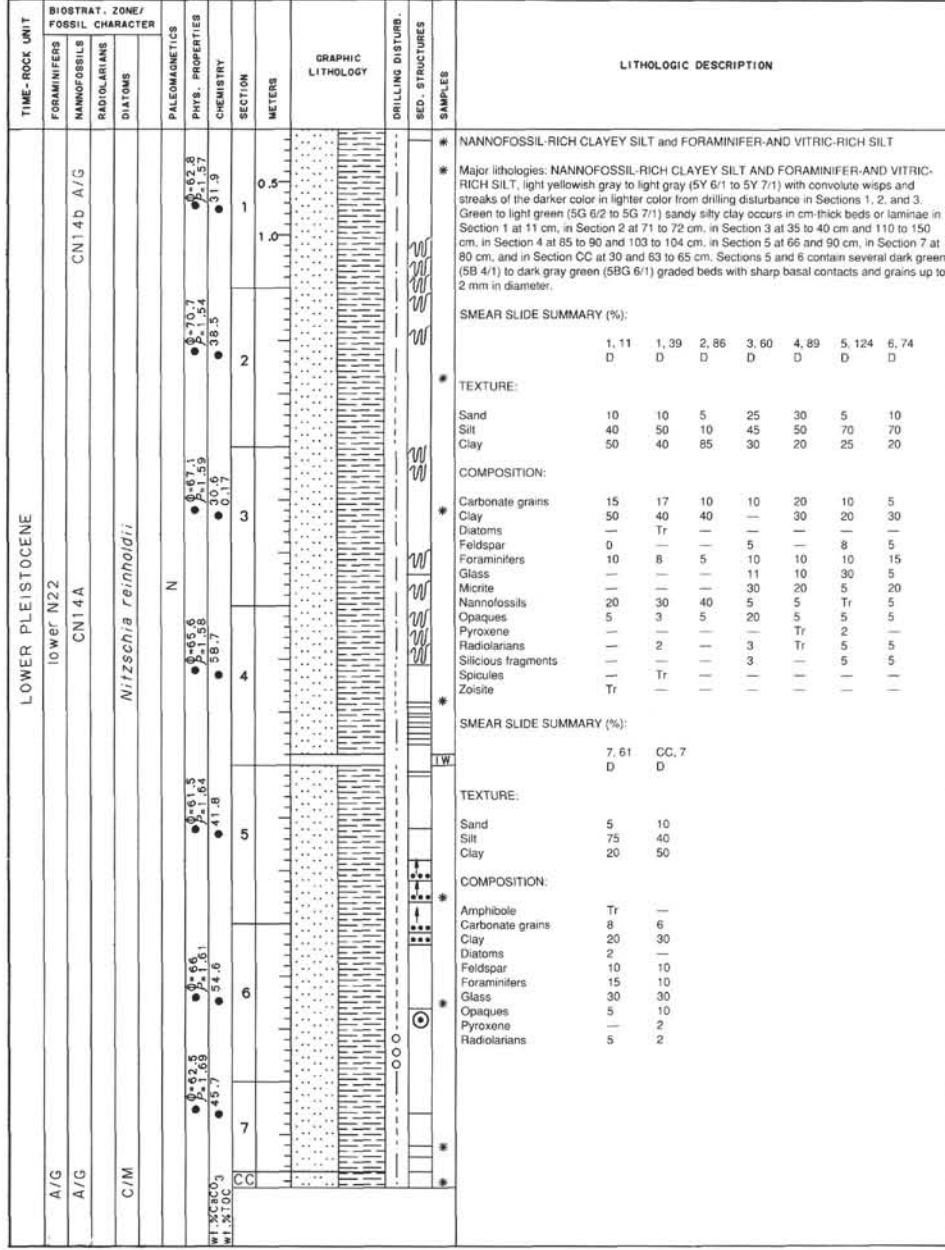
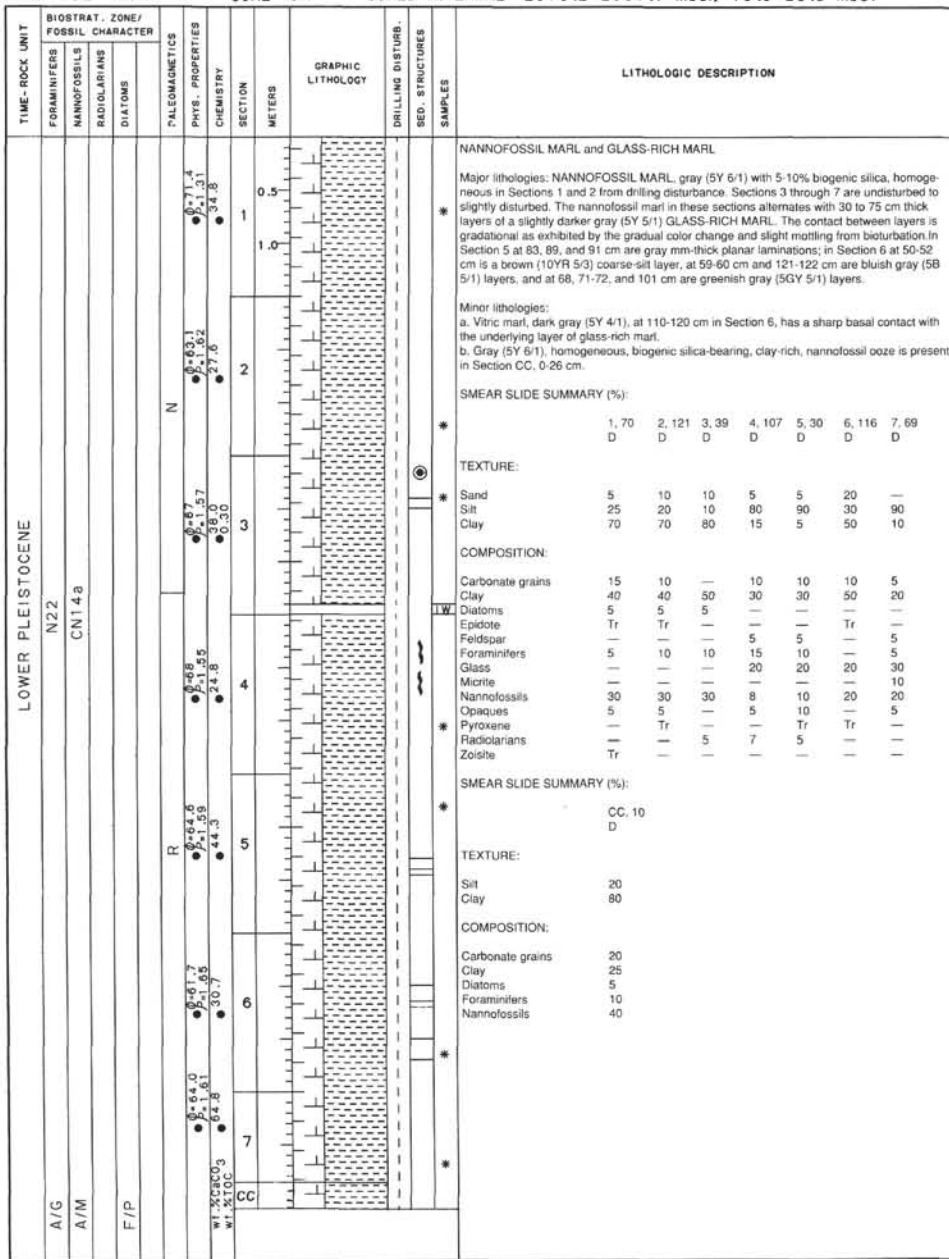


TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER	FORAMINIFERS	MANNOFOSSILS	RADIOLARIANS	DIATOMS	PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																																																																																																																																										
UPPER PLEISTOCENE	N22	CN15	A/G				0.7, 5 0.2 1.0, 5		1	0.5 1.0					<p>NANNOFOSSIL- AND FORAMINIFER-RICH CLAYEY SILT</p> <p>Major lithology: NANNOFOSSIL- AND FORAMINIFER-RICH CLAYEY SILT, 50-75 cm-thick layers alternating from gray (5Y 5/1) to dark gray (5GY 4/1) with dark greenish gray mottling. As much as 15% volcanic glass is present. Exhibits faint, mm-to 1/2 cm-thick planar laminations in Section 1 at 127-150 cm; Section 2 at 75, 93, 95, and 112 cm; and in Section 3 at 30, 50, 70 to 90, and 130 to 150 cm. Graded beds, 1 to 3 cm thick, with sharp bases occur in Section 1 at 90-93 cm, and in Section 3 at 19-20 cm and 128-131 cm. Sections 4, 5, 6, and 7 are severely disturbed by drilling.</p> <p>Minor lithology: Vitric sand, black (10YR 2/1) to very dark brown (10YR 2/2), very coarse-sand size. Composes the graded beds and as discontinuous patches in Section 2 at 65 cm.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td>1, 90</td> <td>1, 130</td> <td>2, 94</td> <td>3, 14</td> <td>4, 50</td> <td>4, 59</td> <td>5, 78</td> </tr> <tr> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>60</td> <td>5</td> <td>3</td> <td>10</td> <td>—</td> <td>5</td> </tr> <tr> <td>Silt</td> <td>20</td> <td>70</td> <td>52</td> <td>50</td> <td>40</td> <td>90</td> </tr> <tr> <td>Clay</td> <td>20</td> <td>25</td> <td>45</td> <td>40</td> <td>60</td> <td>30</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Amphibole</td> <td>3</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Carbonate grains</td> <td>2</td> <td>5</td> <td>7</td> <td>5</td> <td>10</td> <td>5</td> </tr> <tr> <td>Clay</td> <td>30</td> <td>40</td> <td>45</td> <td>30</td> <td>60</td> <td>55</td> </tr> <tr> <td>Diatoms</td> <td>—</td> <td>—</td> <td>3</td> <td>2</td> <td>—</td> <td>3</td> </tr> <tr> <td>Feldspar</td> <td>—</td> <td>8</td> <td>—</td> <td>5</td> <td>—</td> <td>10</td> </tr> <tr> <td>Foraminifers</td> <td>5</td> <td>15</td> <td>10</td> <td>12</td> <td>5</td> <td>15</td> </tr> <tr> <td>Glass</td> <td>35</td> <td>30</td> <td>—</td> <td>30</td> <td>—</td> <td>10</td> </tr> <tr> <td>Nannofossils</td> <td>—</td> <td>—</td> <td>30</td> <td>Tr</td> <td>25</td> <td>3</td> </tr> <tr> <td>Opauques</td> <td>10</td> <td>—</td> <td>Tr</td> <td>8</td> <td>Tr</td> <td>5</td> </tr> <tr> <td>Pyroxene</td> <td>5</td> <td>—</td> <td>—</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Quartz</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>Tr</td> <td>5</td> </tr> <tr> <td>Radiolarians</td> <td>—</td> <td>—</td> <td>Tr</td> <td>5</td> <td>—</td> <td>5</td> </tr> <tr> <td>Rock fragment</td> <td>—</td> <td>—</td> <td>5</td> <td>—</td> <td>—</td> <td>3</td> </tr> <tr> <td>Silicious fragments</td> <td>—</td> <td>2</td> <td>—</td> <td>3</td> <td>—</td> <td>2</td> </tr> <tr> <td>Zoisite</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> </table> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td>6, 33</td> <td>7, 30</td> <td>CC, 8</td> </tr> <tr> <td>D</td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>20</td> <td>5</td> <td>5</td> </tr> <tr> <td>Silt</td> <td>40</td> <td>50</td> <td>25</td> </tr> <tr> <td>Clay</td> <td>40</td> <td>45</td> <td>70</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Carbonate grains</td> <td>20</td> <td>10</td> <td>10</td> </tr> <tr> <td>Clay</td> <td>25</td> <td>45</td> <td>45</td> </tr> <tr> <td>Diatoms</td> <td>5</td> <td>2</td> <td>—</td> </tr> <tr> <td>Epidote</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Feldspar</td> <td>5</td> <td>—</td> <td>—</td> </tr> <tr> <td>Foraminifers</td> <td>15</td> <td>10</td> <td>15</td> </tr> <tr> <td>Glass</td> <td>15</td> <td>—</td> <td>—</td> </tr> <tr> <td>Nannofossils</td> <td>5</td> <td>30</td> <td>25</td> </tr> <tr> <td>Opauques</td> <td>—</td> <td>3</td> <td>5</td> </tr> <tr> <td>Radiolarians</td> <td>5</td> <td>—</td> <td>—</td> </tr> <tr> <td>Silicious fragments</td> <td>5</td> <td>—</td> <td>—</td> </tr> </table>	1, 90	1, 130	2, 94	3, 14	4, 50	4, 59	5, 78	D	D	D	D	D	D	D	Sand	60	5	3	10	—	5	Silt	20	70	52	50	40	90	Clay	20	25	45	40	60	30	Amphibole	3	—	—	—	—	—	Carbonate grains	2	5	7	5	10	5	Clay	30	40	45	30	60	55	Diatoms	—	—	3	2	—	3	Feldspar	—	8	—	5	—	10	Foraminifers	5	15	10	12	5	15	Glass	35	30	—	30	—	10	Nannofossils	—	—	30	Tr	25	3	Opauques	10	—	Tr	8	Tr	5	Pyroxene	5	—	—	—	Tr	—	Quartz	—	—	—	—	Tr	5	Radiolarians	—	—	Tr	5	—	5	Rock fragment	—	—	5	—	—	3	Silicious fragments	—	2	—	3	—	2	Zoisite	—	—	—	—	Tr	—	6, 33	7, 30	CC, 8	D	D	D	Sand	20	5	5	Silt	40	50	25	Clay	40	45	70	Carbonate grains	20	10	10	Clay	25	45	45	Diatoms	5	2	—	Epidote	—	Tr	—	Feldspar	5	—	—	Foraminifers	15	10	15	Glass	15	—	—	Nannofossils	5	30	25	Opauques	—	3	5	Radiolarians	5	—	—	Silicious fragments	5	—	—
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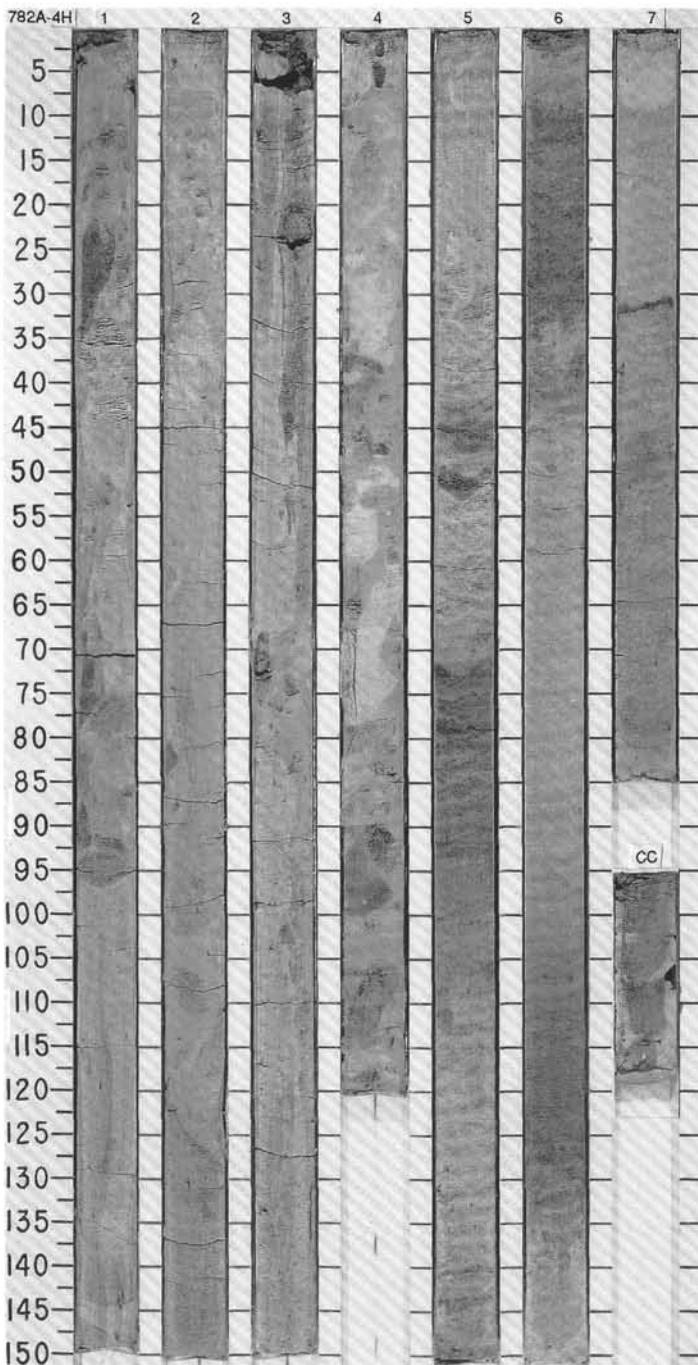
SITE 782 HOLE A CORE 2H CORED INTERVAL 2968.7-2978.2 mbsf; 9.8-19.3 mbsf

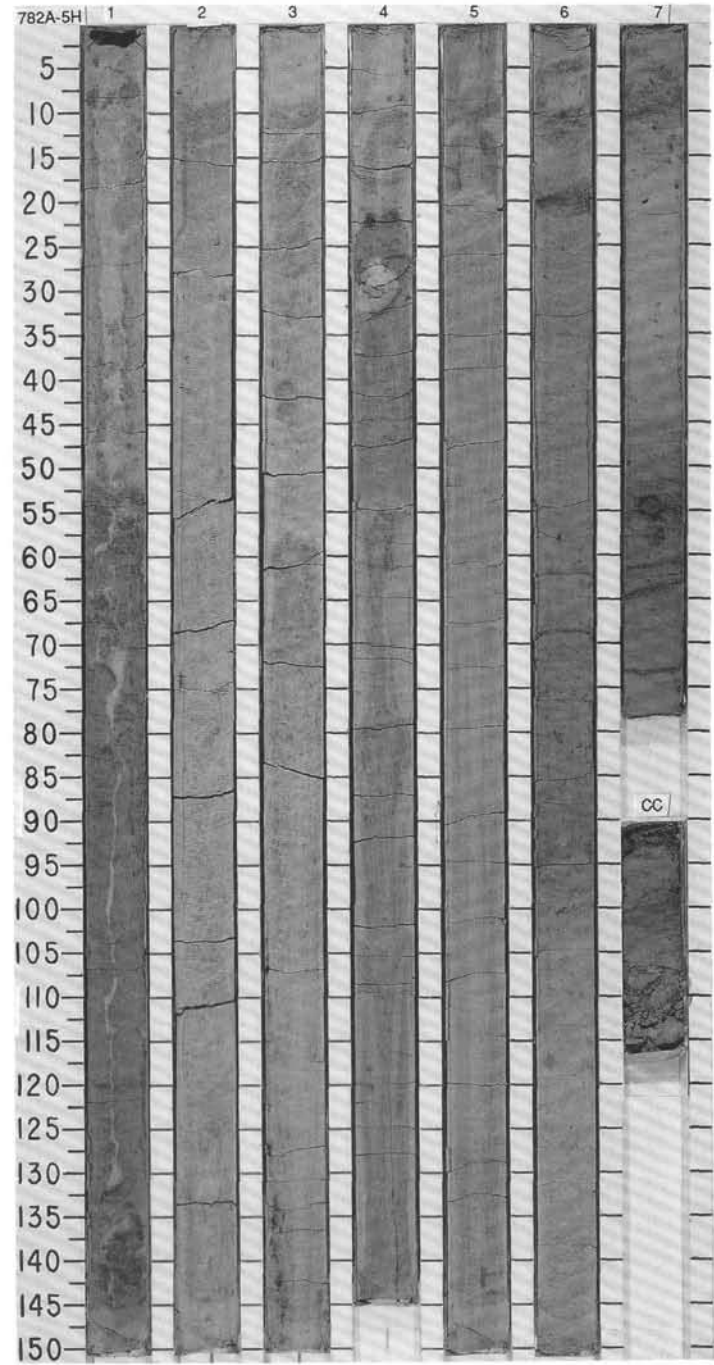
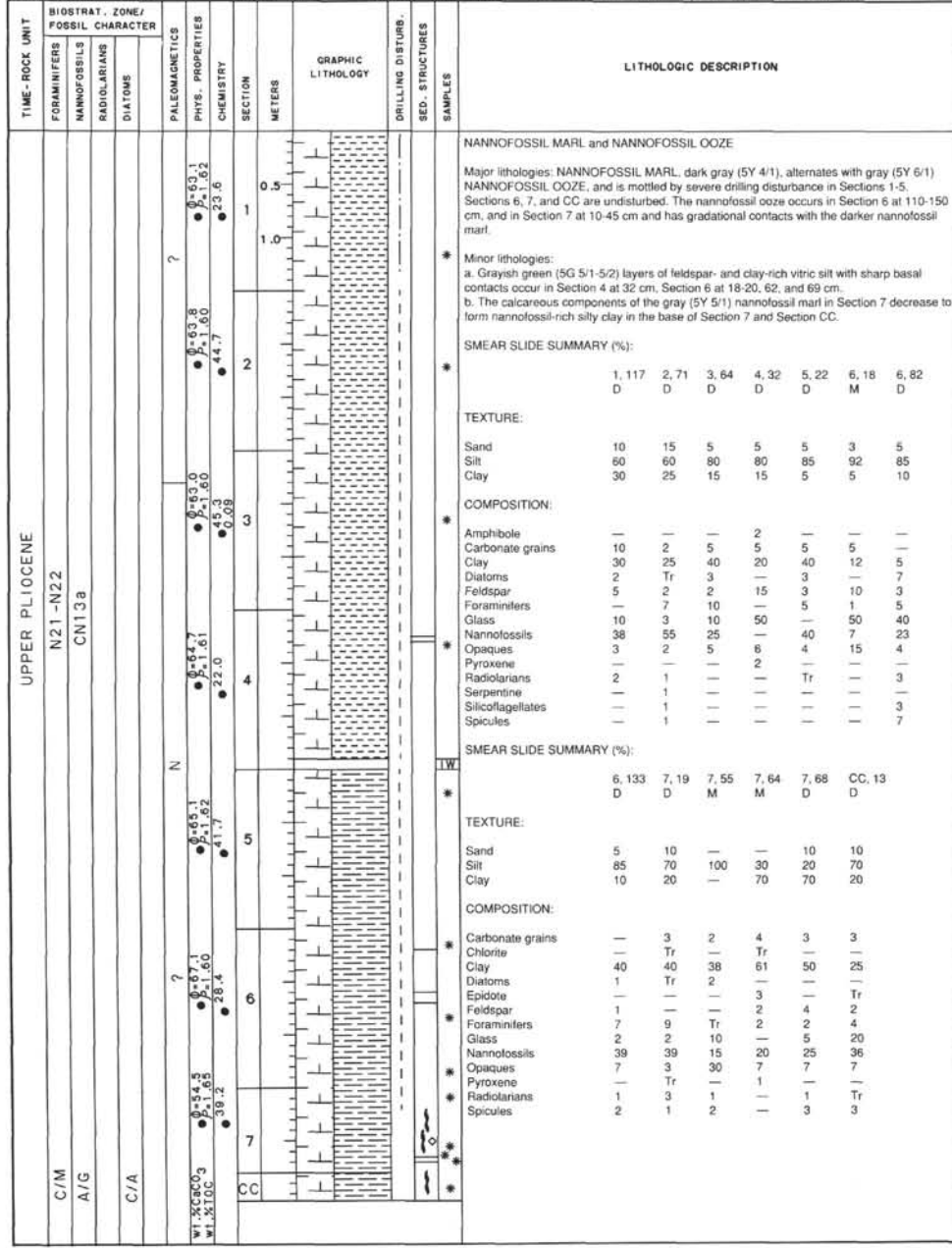




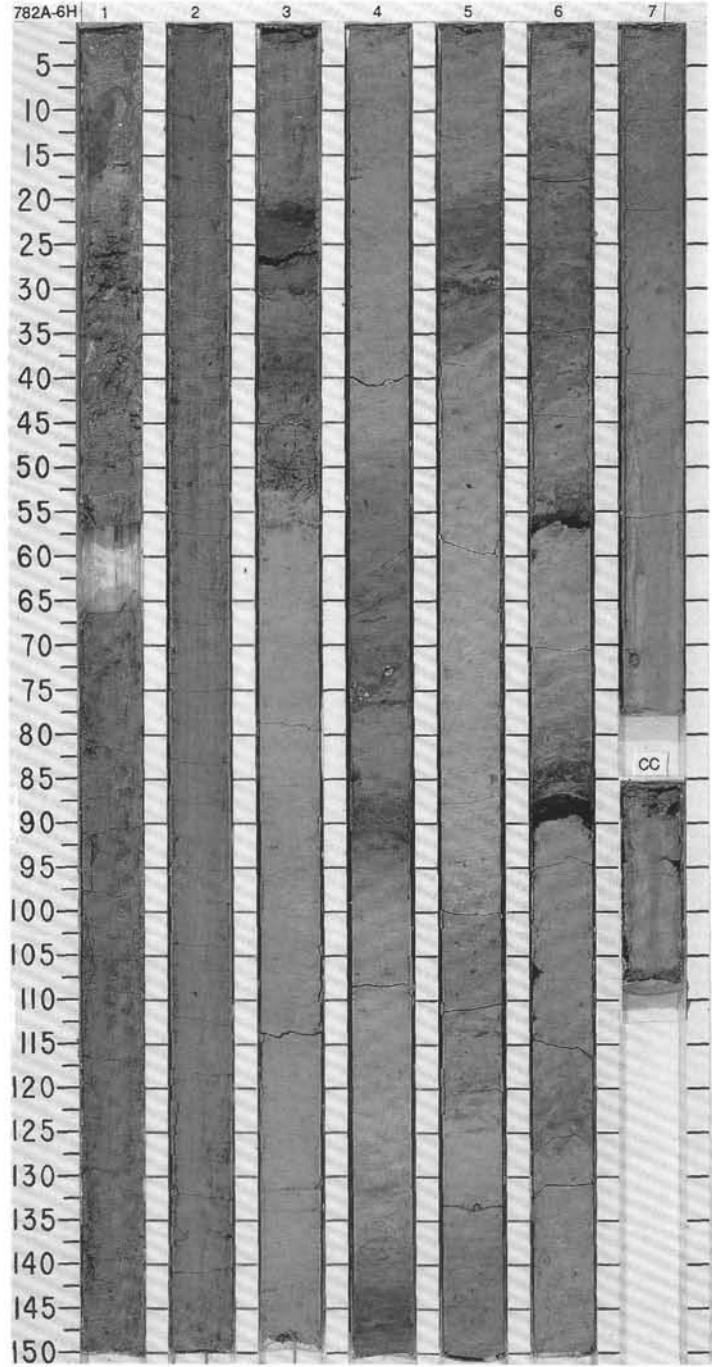
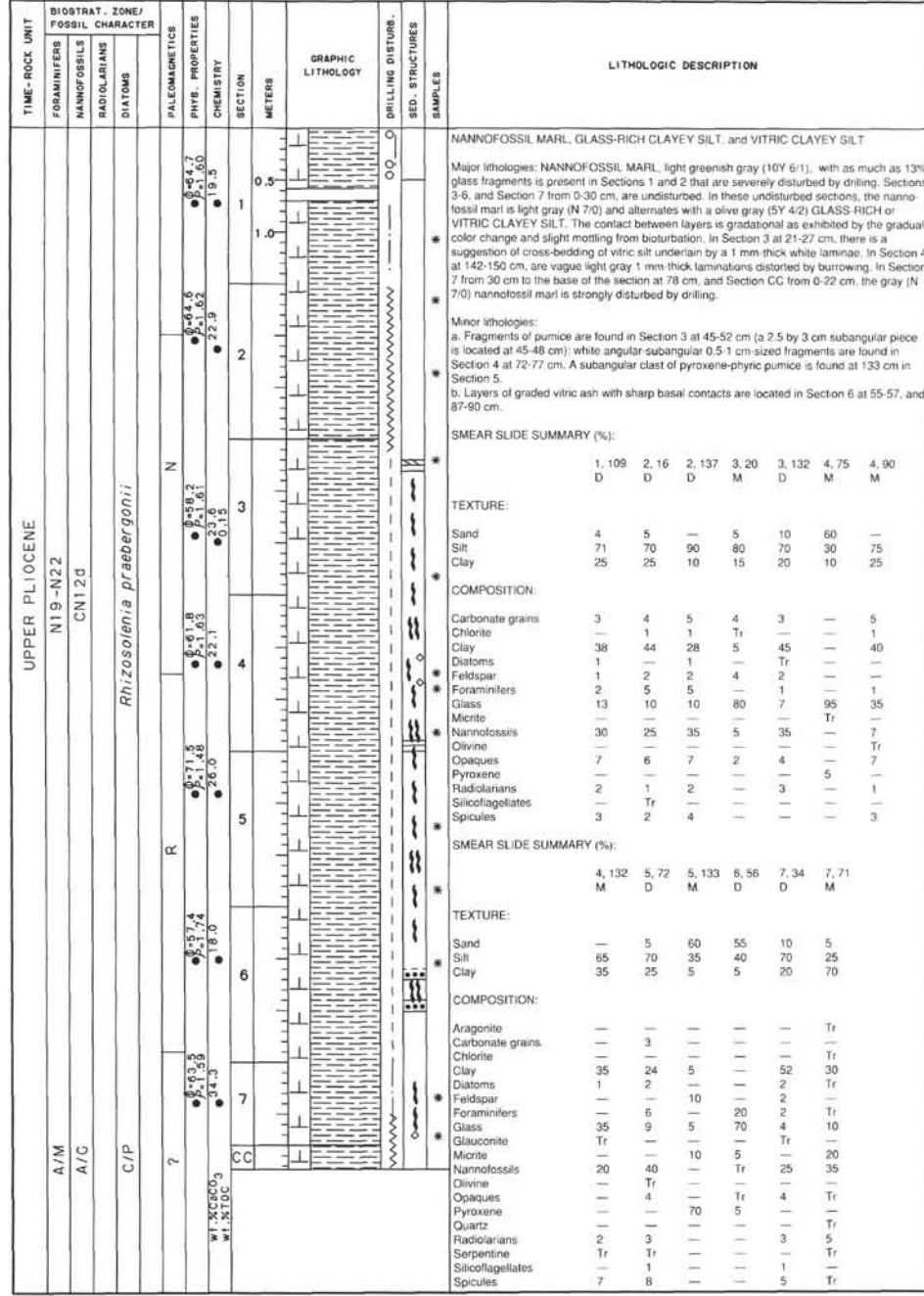
SITE 782 HOLE A CORE 4H CORED INTERVAL 2987.7-2997.2 mbsl; 28.8-38.3 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES CHEMISTRY	SECTION METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																																																																																																																																																																								
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	A/G	N22				● 66.3 ● 66.1 ● 65.7 ● 65.3					<p>NANNOFOSSIL MARL, BIOGENIC SILICA-AND FORAMINIFER-RICH SILTY CLAY, NANNOFOSSIL OOZE, and FORAMINIFER-RICH NANNOFOSSIL OOZE</p> <p>* Major lithologies: NANNOFOSSIL MARL, light gray to gray (5Y 7/1 -6/1), with as much as 10% biogenic silica and scattered black mm-sized pockets and streaks of coarse sand, is mottled by severe drilling disturbance in Sections 1-4, and 0 to 30 cm in Section 5. The remainder of Section 5, as well as Sections 6 and 7, are undisturbed to slightly disturbed. The calcareous components of the gray (5Y 5/1) nannofossil marl decrease, and yield to a BIOGENIC SILICA- AND FORAMINIFER-RICH SILTY CLAY with as much as 10% glass. The marl and clay intervals in these sections alternate with 55-75 cm-thick layers of a light gray (5Y 7/1) NANNOFOSSIL OOZE or FORAMINIFER-RICH NANNOFOSSIL OOZE. The contact between layers is gradational as exhibited by the gradual color change and slight mottling from bioturbation. In Section 5 at 70-72, 76-77, 110, 120, 122, 140, and 142 cm, as well as in Section 7 at 31 cm, are grayish green (5G 5/2) mm-thick planar laminations, whereas at 40-43 cm and at 47-50 cm in Section 5 there are greenish gray (5GY 5/1) sands.</p> <p>Minor lithology: Clay-rich nannofossil ooze, light gray (5Y 7/1), is present in Section CC, 0-22 cm and mottled by drilling disturbance throughout the gray nannofossil marl in Section 4.</p> <p>* SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <thead> <tr> <th></th> <th>1, 54</th> <th>2, 110</th> <th>3, 119</th> <th>4, 56</th> <th>5, 49</th> <th>6, 0</th> <th>6, 124</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>M</td> <td>D</td> <td>D</td> </tr> </tbody> </table> <p>TEXTURE:</p> <table border="1"> <thead> <tr> <th></th> <th>7</th> <th>2</th> <th>10</th> <th>15</th> <th>7</th> <th>10</th> <th>—</th> </tr> </thead> <tbody> <tr> <td>Sand</td> <td>7</td> <td>2</td> <td>10</td> <td>15</td> <td>7</td> 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grains	10	—	Clay	30	20	Feldspar	Tr	5	Foraminifers	5	10	Glass	Tr	—	Nannofossils	50	63	Pyroxene	—	Tr	Radiolarians	—	2	Silicious fragments	5	—
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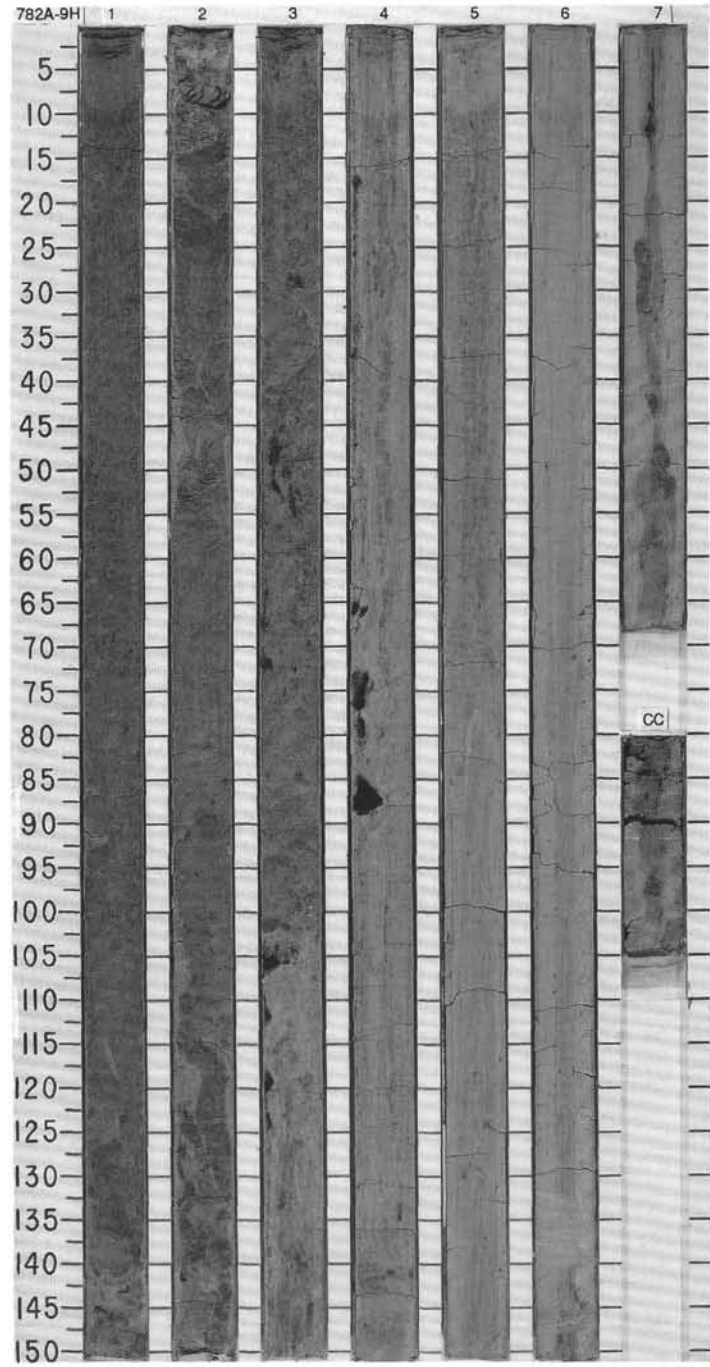




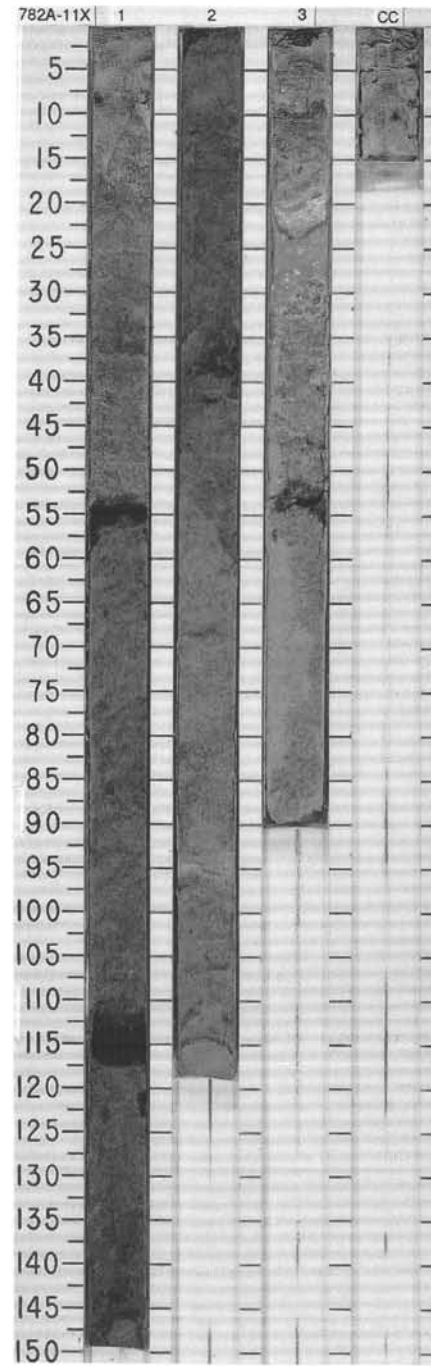
SITE 782 HOLE A CORE 6H CORED INTERVAL 3006.7-3016.2 mbsl; 47.8-57.3 mbsf



TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES CHEMISTRY	SECTION METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS							
UPPER PLIOCENE											
F/M	N19-N22				R	0-61.5 P-1.64	0.5				GLASS-BEARING NANNOFOSSIL MARL
A/C	CN12a					0-63.3 P-1.62	1				Entire core severely disturbed by drilling.
F/P	<i>Nitzschia jouseee</i>					0-63.3 P-1.62	1				Major lithology: GLASS-BEARING NANNOFOSSIL MARL, gray (5B6/1) to dark gray (5B 4/1) and dark greenish gray (5G 4/1), homogeneous except where mottled by drilling disturbance. Black (10YR 2/1) patches of silt-sized material scattered throughout the cored interval from drilling disturbance.
						0-64.2 P-1.60	2				SMEAR SLIDE SUMMARY (%):
						0-65.1 P-1.61	3				1, 81 2, 84 3, 104 4, 80 5, 77 6, 69 7, 30
						0-65.1 P-1.61	3				D D D D D D D
						0-65.1 P-1.61	3				TEXTURE:
						0-65.1 P-1.61	3				Sand 10 20 30 5 10 5
						0-65.1 P-1.61	3				Silt 30 40 30 60 75 75 80
						0-65.1 P-1.61	3				Clay 70 50 50 10 20 15 15
						0-65.1 P-1.61	3				COMPOSITION:
						0-65.1 P-1.61	3				Carbonate grains 10 12 5 10 6 5 5
						0-65.1 P-1.61	3				Clay 40 35 32 33 30 35 30
						0-65.1 P-1.61	3				Diatoms — — — — — — —
						0-65.1 P-1.61	3				Epidote — — — — — — —
						0-65.1 P-1.61	3				Feldspar — — — — — — —
						0-65.1 P-1.61	3				Foraminifers 5 5 — 5 10 5 10
						0-65.1 P-1.61	3				Glass 10 12 30 10 10 5 10
						0-65.1 P-1.61	3				Nannofossils 30 20 20 30 40 30 30
						0-65.1 P-1.61	3				Opales Tr — 5 7 — 8 10
						0-65.1 P-1.61	3				Pyroxene Tr — — — — — —
						0-65.1 P-1.61	3				Quartz — 5 — — — — —
						0-65.1 P-1.61	3				Radiolarians 5 3 5 5 3 5 Tr
						0-65.1 P-1.61	3				Silicoflagellates — — — — — 2 —
						0-65.1 P-1.61	3				Spicules — 5 3 — — — —
						0-65.1 P-1.61	3				Zoisite — — Tr — — — —
						0-65.1 P-1.61	3				SMEAR SLIDE SUMMARY (%):
						0-65.1 P-1.61	3				CC, 5
						0-65.1 P-1.61	3				D
						0-65.1 P-1.61	3				TEXTURE:
						0-65.1 P-1.61	3				Sand 20
						0-65.1 P-1.61	3				Silt 60
						0-65.1 P-1.61	3				Clay 20
						0-65.1 P-1.61	3				COMPOSITION:
						0-65.1 P-1.61	3				Carbonate grains 10
						0-65.1 P-1.61	3				Clay 28
						0-65.1 P-1.61	3				Diatoms 3
						0-65.1 P-1.61	3				feldspar 4
						0-65.1 P-1.61	3				Glass 10
						0-65.1 P-1.61	3				Nannofossils 35
						0-65.1 P-1.61	3				Opales 7
						0-65.1 P-1.61	3				Radiolarians 3



TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																										
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS																																																																																																			
UPPER PLOCIENE																																																																																																							
C/M	N19-N19/20				R	0-64.3 P-1.60		1	0.5				<p>NANNOFOSSIL MARL and NANNOFOSSIL OOZE</p> <p>Major lithologies: NANNOFOSSIL MARL and NANNOFOSSIL OOZE, gray (5G 6/1) to dark gray (5B 5/1). Intervals with thin (1 to 3 cm) graded beds at their bases, sharp basal contacts, overlain by marl with decreasing amounts of ash, occur at 0-57 cm and 57-117 cm in Section 1 and at 1-54 cm and 54-90 cm in Section 3. The intervals grade from coarse sand at the base to finely laminated fine sand and silt in their central portions to bioturbated silt at the top. Section 1 contains faint grayish green (5B 5/1) to very dark gray (7.5YR 3/0) laminations at 68, 105-106, 110, 112, and 115 cm. These laminations contain up to 10 percent volcanic glass.</p> <p>Minor lithology: Black (10YR 2/1) vitric ash occurs as local patches in Sections 1, 2, and CC.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 66</td> <td>2, 50</td> <td>3, 41</td> <td>CC, 9</td> </tr> <tr> <td></td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>—</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Silt</td> <td>30</td> <td>25</td> <td>20</td> <td>15</td> </tr> <tr> <td>Clay</td> <td>70</td> <td>70</td> <td>75</td> <td>80</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Carbonate grains</td> <td>15</td> <td>—</td> <td>10</td> <td>5</td> </tr> <tr> <td>Clay</td> <td>34</td> <td>60</td> <td>35</td> <td>4</td> </tr> <tr> <td>Diatoms</td> <td>—</td> <td>—</td> <td>5</td> <td>—</td> </tr> <tr> <td>Epidote</td> <td>Tr</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Feldspar</td> <td>—</td> <td>Tr</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Foraminifers</td> <td>5</td> <td>—</td> <td>—</td> <td>5</td> </tr> <tr> <td>Glass</td> <td>—</td> <td>15</td> <td>—</td> <td>3</td> </tr> <tr> <td>Nannofossils</td> <td>30</td> <td>15</td> <td>45</td> <td>80</td> </tr> <tr> <td>Opicques</td> <td>5</td> <td>—</td> <td>—</td> <td>3</td> </tr> <tr> <td>Pyroxene</td> <td>—</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Quartz</td> <td>3</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Radiolarians</td> <td>5</td> <td>10</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Spicules</td> <td>3</td> <td>—</td> <td>5</td> <td>—</td> </tr> </table>		1, 66	2, 50	3, 41	CC, 9		D	D	D	D	Sand	—	5	5	5	Silt	30	25	20	15	Clay	70	70	75	80	Carbonate grains	15	—	10	5	Clay	34	60	35	4	Diatoms	—	—	5	—	Epidote	Tr	—	—	—	Feldspar	—	Tr	—	Tr	Foraminifers	5	—	—	5	Glass	—	15	—	3	Nannofossils	30	15	45	80	Opicques	5	—	—	3	Pyroxene	—	—	Tr	—	Quartz	3	—	—	—	Radiolarians	5	10	—	Tr	Spicules	3	—	5	—
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C/M	<i>Nitzschia jouseae</i>					0-66.3 P-1.57 0-28.2 WT. XCaCO ₃ WT. XTiO ₂		3																																																																																															



SITE 782 HOLE A CORE 12X CORED INTERVAL 3064.2-3073.9 mbsl; 105.3-115.0 mbsf

TIME-ROCK UNIT		BIOSTRAT. ZONE/ FOSSIL CHARACTER		PALEOMAGNETICS PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SEP. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIAZONES									
LOWER / UPPER PLIOCENE												
C/M	N19-N19/20											
C/M	CN11b/CN12a											
R/P	<i>Nitzschia jouseae</i>											
?	R											
WT.XC3C03	0-0.83	0-0.24	0-0.7	0-0.59								
WT.XTC03	27.3	32.7	27.61	32.2								
	0.17		27.1									
CC	4											

NANNOFOSSIL MARL and NANNOFOSSIL OOZE

Major lithologies: NANNOFOSSIL MARL and NANNOFOSSIL OOZE, gray (5Y 5/1) alternates with greenish gray (5GY 6/1), mottled with light greenish gray (5GY 7/1). Faint dark greenish gray (5G 4/1) laminations occur at 72, 82-83, 93, 97, 110, 117, and 124 cm in Section 1. The core is mottled by bioturbation between 110 and 150 cm in Section 2 and between 62 and 80 cm in Section 3.

Minor lithology: Black (10YR 2/1) vitric ash occurs in mm to 1/2 cm layers in Section 1 at 28-29 cm and in Section 2 at 9-10, 16-17, 19, and 120-121 cm. Local patches of vitric ash occur at 61-62 cm in Section 1 and at 22-23 cm in Section CC. Scattered sand-size grains of vitric ash occur throughout the cored interval.

SMEAR SLIDE SUMMARY (%):

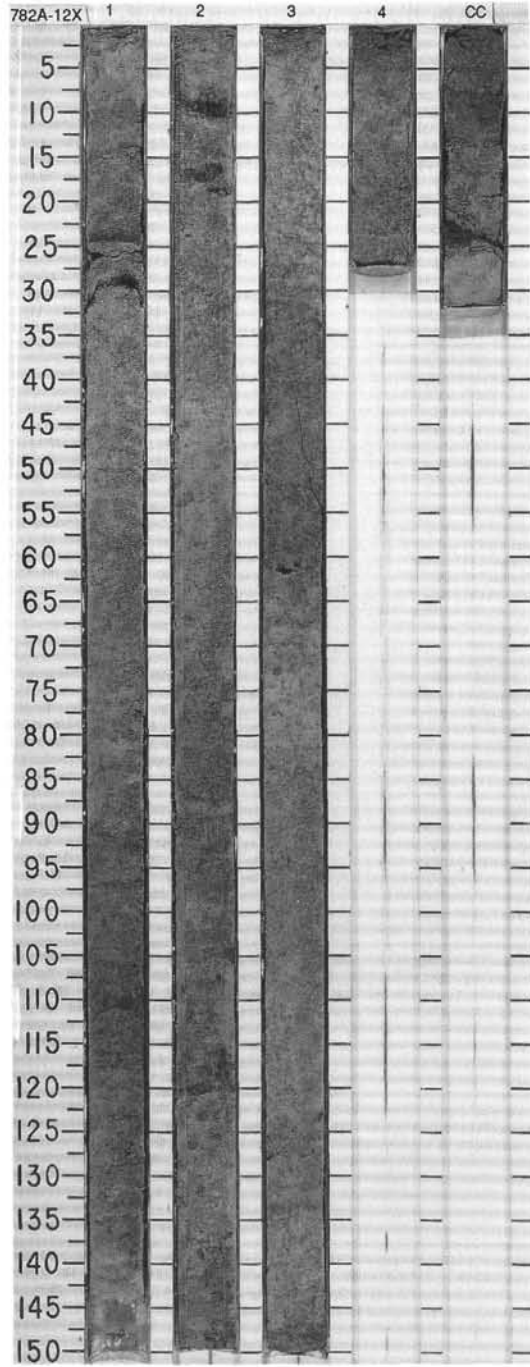
	1, 28	2, 68	CC, 29
M		D	D

TEXTURE:

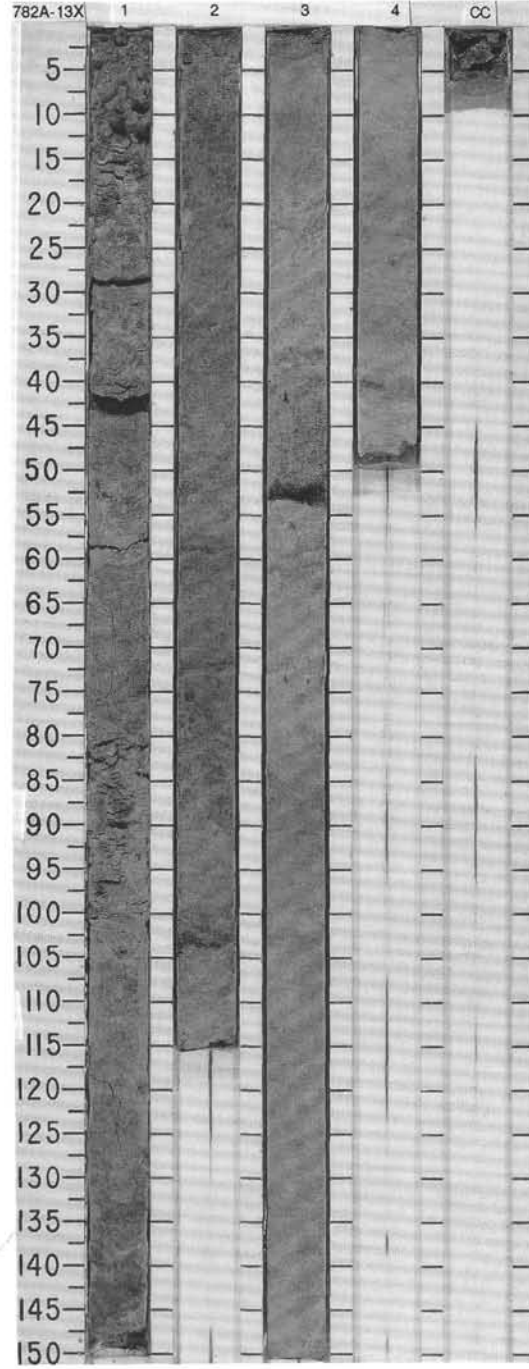
Sand	70	10	—
Silt	20	15	20
Clay	10	75	80

COMPOSITION:

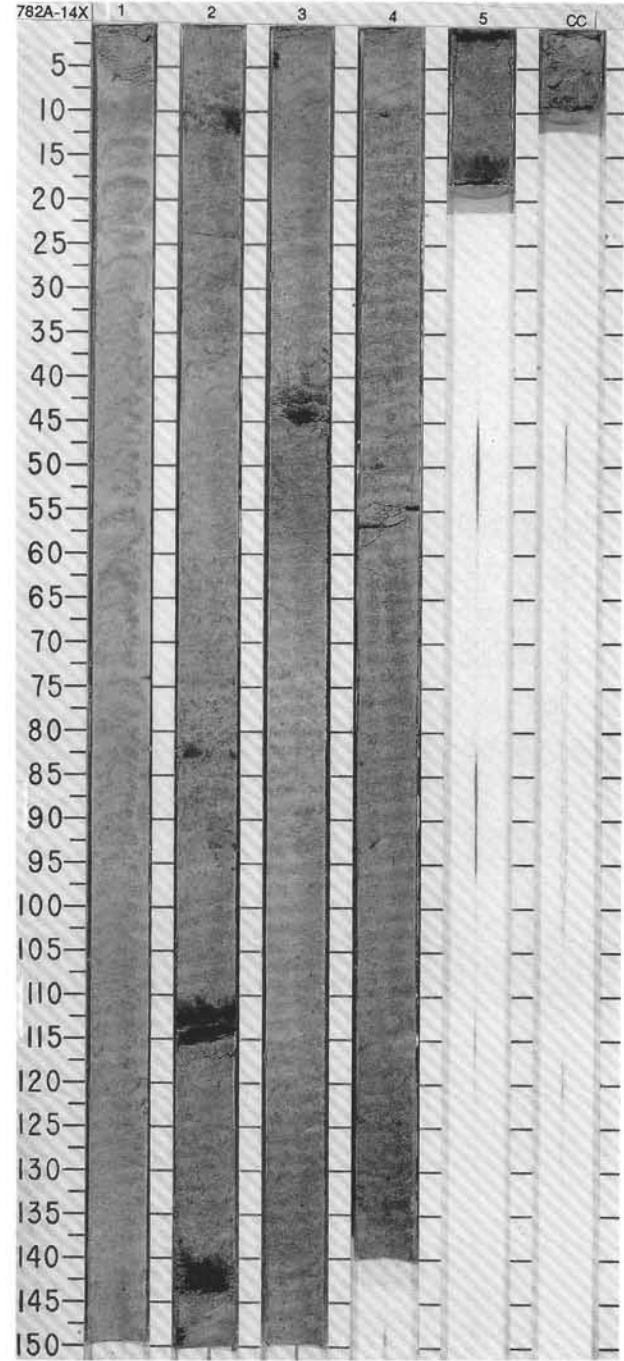
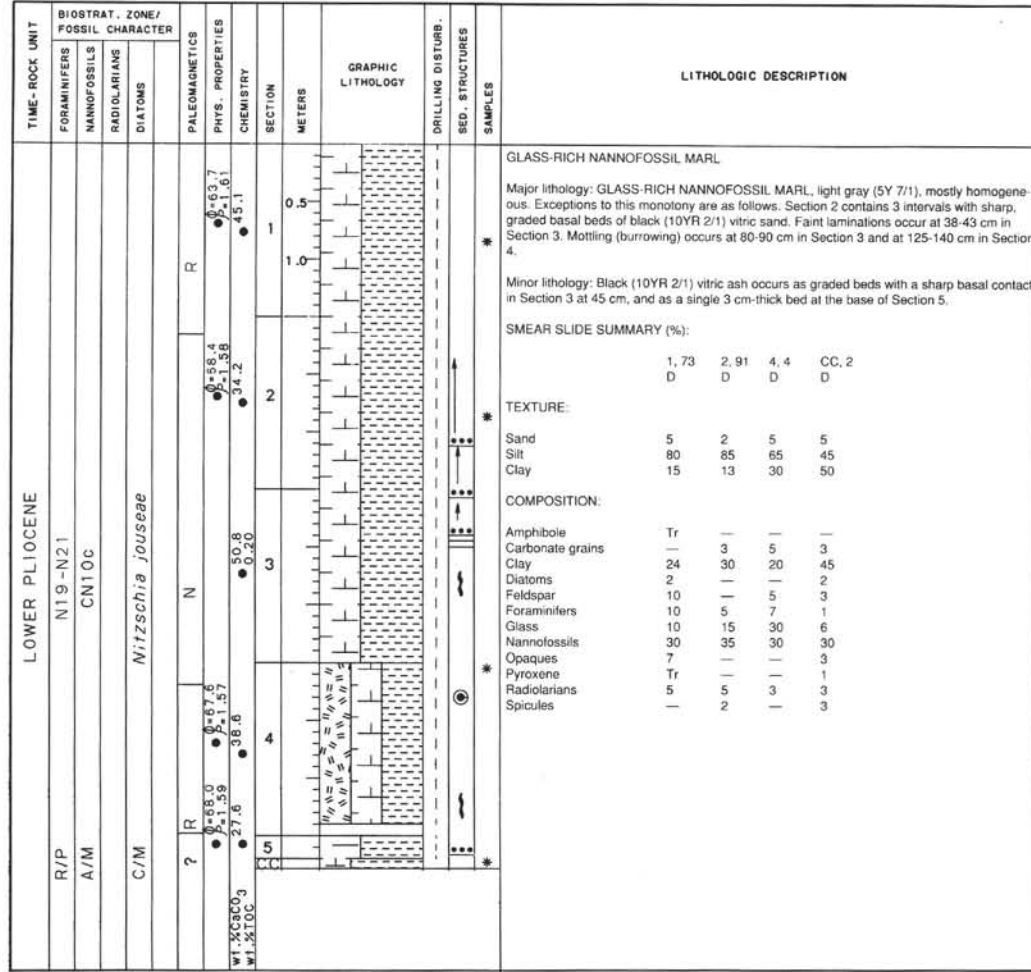
Carbonate grains	—	10	15
Clay	8	30	10
Feldspar	15	—	—
Foraminifers	—	—	5
Glass	65	5	5
Nannofossils	—	55	65
Olivine	Tr	—	—
Opauques	7	—	—

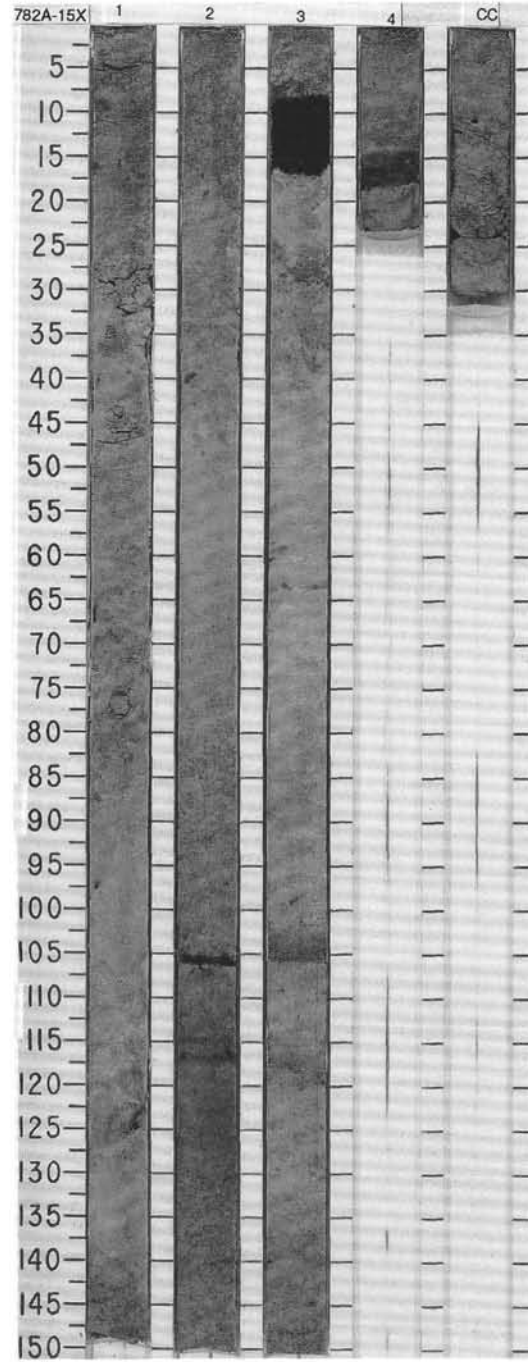
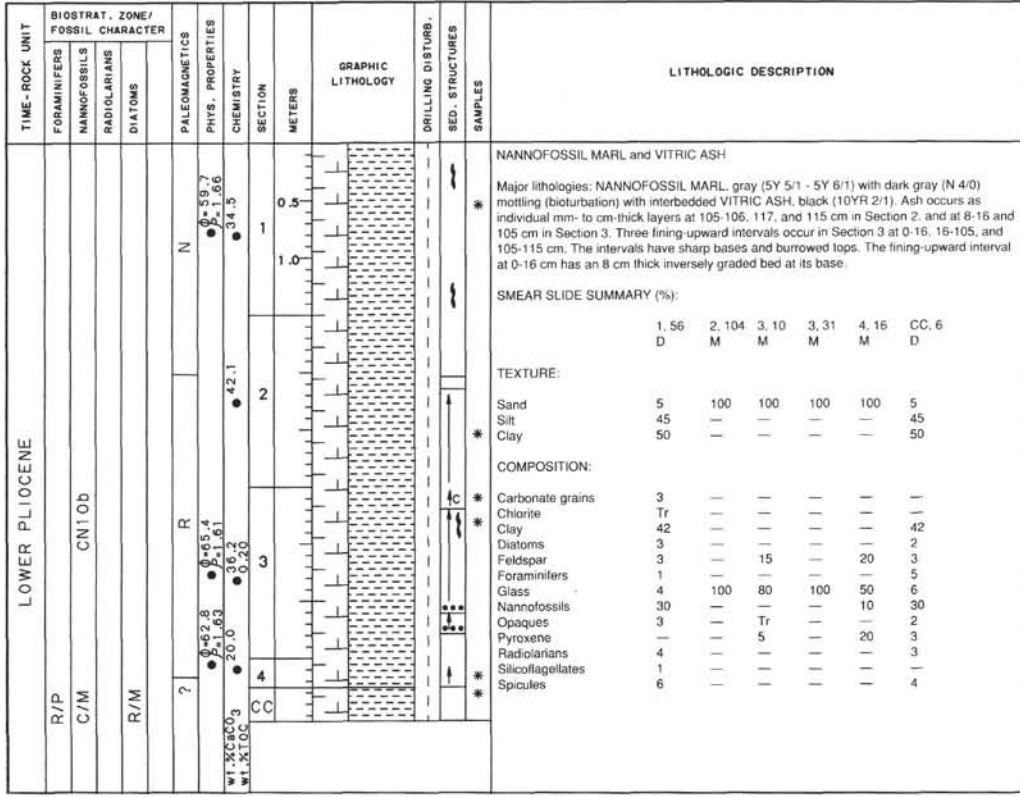


TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																										
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LOWER PLIOCENE																																																																																																								
C/M	N19				0-87.0 P=1.59			1	0.5					<p>NANNOFOSSIL MARL</p> <p>Major lithology: NANNOFOSSIL MARL, light gray (5Y 7/1), monotonous, with faint, grayish green mottling from 132 to 250 cm in Section 1 and faint greenish gray laminations in Section 2 at 57-59, 72-73, and 104-105 cm and at 40-41 cm in Section 4.</p> <p>Minor lithology: Black (10YR 2/1) vitric ash occurs in a 2.5 cm-thick layer at 51-52.5 cm in Section 3.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 47</td> <td>2, 96</td> <td>3, 50</td> <td>CC, 1</td> </tr> <tr> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>10</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Silt</td> <td>65</td> <td>60</td> <td>55</td> <td>50</td> </tr> <tr> <td>Clay</td> <td>25</td> <td>40</td> <td>45</td> <td>50</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Carbonate grains</td> <td>2</td> <td>3</td> <td>3</td> <td>4</td> </tr> <tr> <td>Chlorite</td> <td>1</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Clay</td> <td>25</td> <td>37</td> <td>41</td> <td>42</td> </tr> <tr> <td>Diatoms</td> <td>2</td> <td>2</td> <td>3</td> <td>1</td> </tr> <tr> <td>Feldspar</td> <td>4</td> <td>4</td> <td>2</td> <td>2</td> </tr> <tr> <td>Foraminifers</td> <td>7</td> <td>3</td> <td>1</td> <td>3</td> </tr> <tr> <td>Glass</td> <td>10</td> <td>8</td> <td>9</td> <td>7</td> </tr> <tr> <td>Nannofossils</td> <td>35</td> <td>30</td> <td>30</td> <td>30</td> </tr> <tr> <td>Opales</td> <td>4</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Pyroxene</td> <td>2</td> <td>3</td> <td>1</td> <td>2</td> </tr> <tr> <td>Radiolarians</td> <td>3</td> <td>4</td> <td>3</td> <td>3</td> </tr> <tr> <td>Silicoflagellates</td> <td>1</td> <td>—</td> <td>1</td> <td>—</td> </tr> <tr> <td>Spicules</td> <td>4</td> <td>4</td> <td>3</td> <td>2</td> </tr> </table>		1, 47	2, 96	3, 50	CC, 1	D	D	D	D	D	Sand	10	—	—	—	Silt	65	60	55	50	Clay	25	40	45	50	Carbonate grains	2	3	3	4	Chlorite	1	—	Tr	—	Clay	25	37	41	42	Diatoms	2	2	3	1	Feldspar	4	4	2	2	Foraminifers	7	3	1	3	Glass	10	8	9	7	Nannofossils	35	30	30	30	Opales	4	2	3	4	Pyroxene	2	3	1	2	Radiolarians	3	4	3	3	Silicoflagellates	1	—	1	—	Spicules	4	4	3	2
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A/G	CN11b				0-69.8 P=1.60			2	1.0																																																																																															
C/G	<i>Nitzschia jouseae</i>				0-47.9 P=1.61			3	1.5																																																																																															
?					0-41.8 P=1.64			4	2.0																																																																																															
					0-50.5 P=2.53				2.5																																																																																															



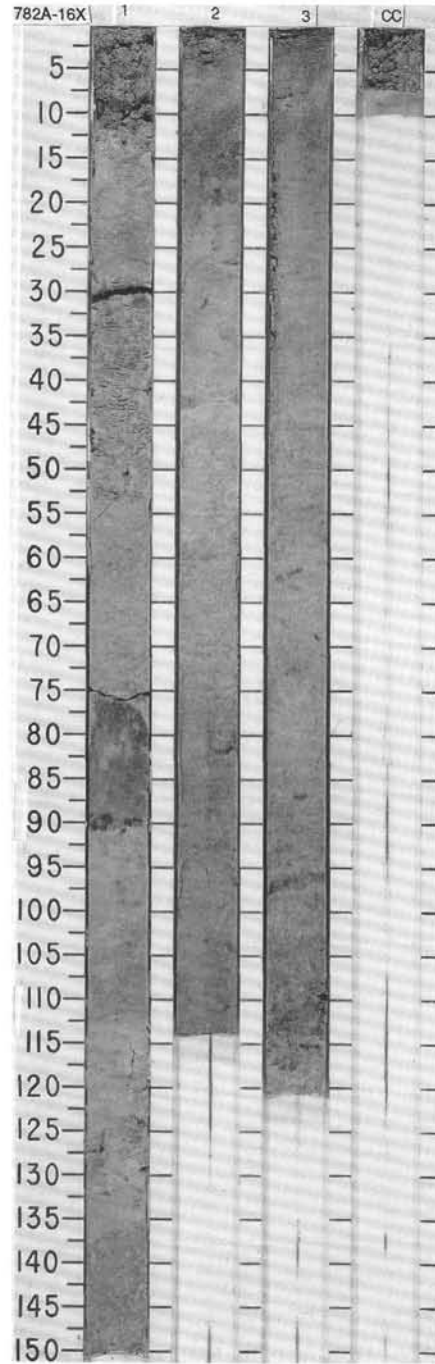
SITE 782 HOLE A CORE 14X CORED INTERVAL 3083.5-3093.2 mbsf; 124.6-134.3 mbsf

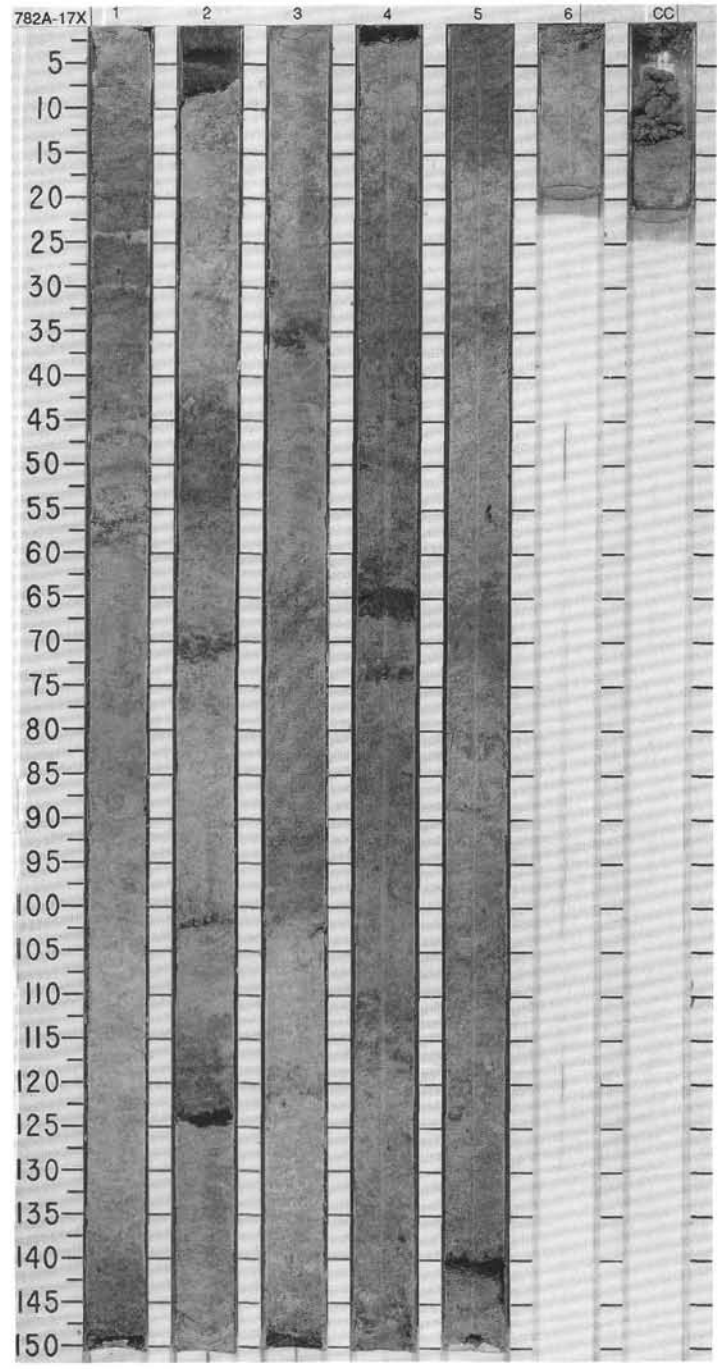
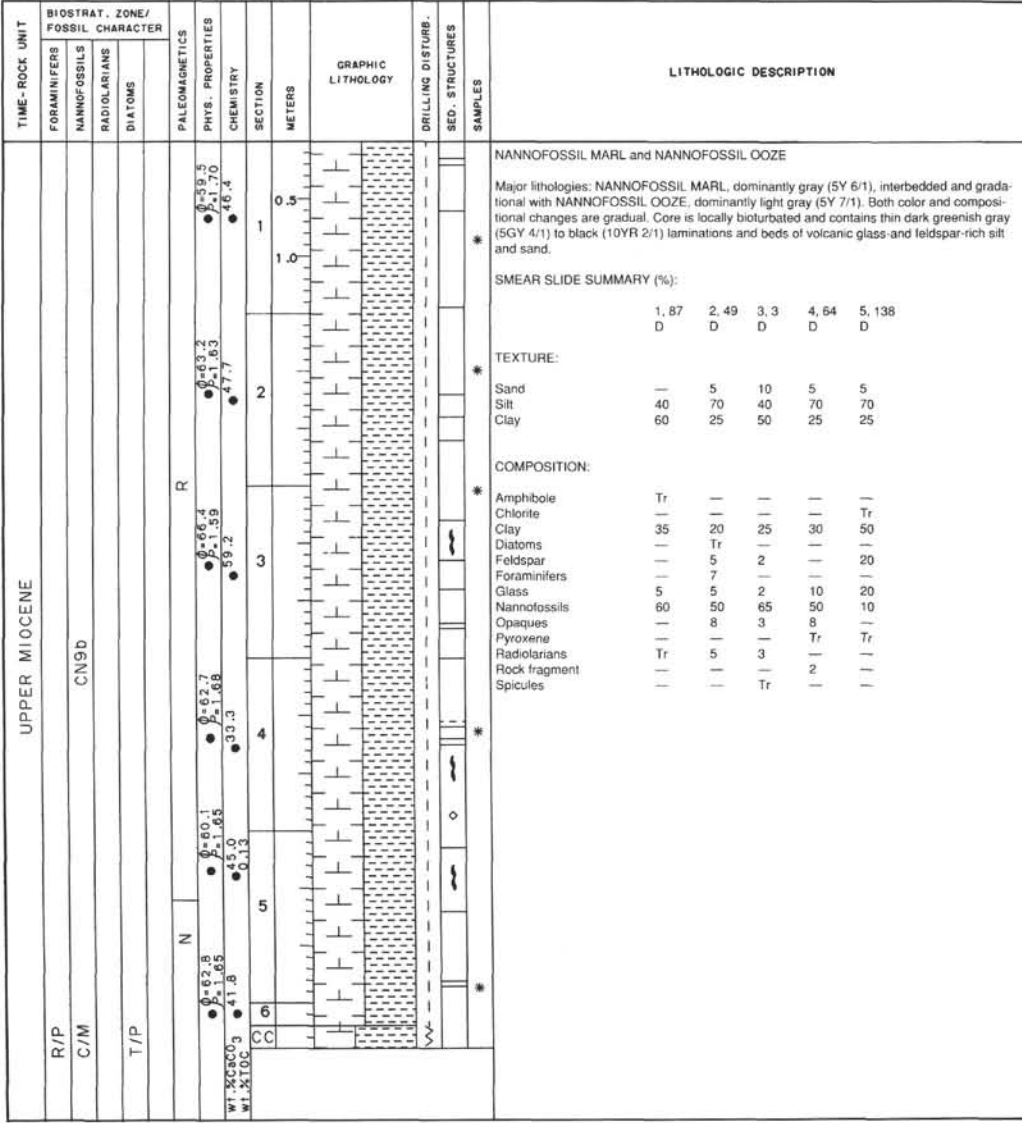


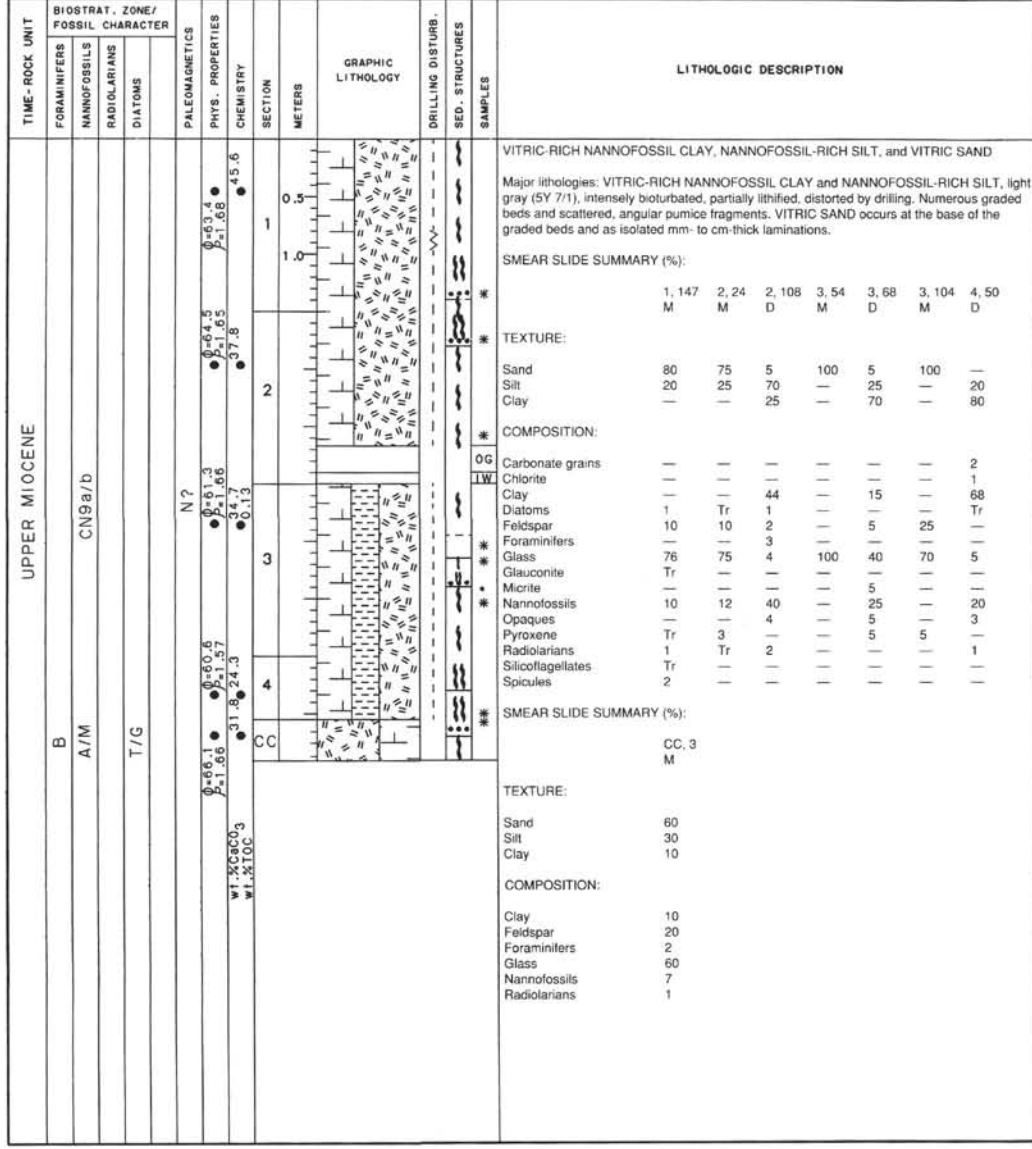


SITE 782 HOLE A CORE 16X CORED INTERVAL 3102.8-3112.5 mbsl; 143.9-153.6 mbsf

TIME - ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS																																																										
LOWER PLIOCENE	R/P	C/P	C/G		N	Q=60.3 P=1.67 ● 34.3		1	0.5 1.0	[Patterned Lithology]				<p>NANNOFOSSIL MARL</p> <p>Major lithology: NANNOFOSSIL MARL, light gray (7.5YR 7/0) with dark gray (N 4/0) mottling and laminations (rare). The core is badly disturbed by drilling and much of the mottling is the result of this disturbance. Local cm-scale patches and individual grains of black (10YR 2/0) ash. Isolated 1/2 cm-sized clasts (concretions?) occur at 89-90 cm in Section 1.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1,86</td> <td>3,64</td> </tr> <tr> <td>M</td> <td></td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Silt</td> <td>45</td> <td>50</td> </tr> <tr> <td>Clay</td> <td>55</td> <td>50</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Carbonate grains</td> <td>2</td> <td>—</td> </tr> <tr> <td>Chlorite</td> <td>2</td> <td>—</td> </tr> <tr> <td>Clay</td> <td>53</td> <td>46</td> </tr> <tr> <td>Diatoms</td> <td>—</td> <td>3</td> </tr> <tr> <td>Feldspar</td> <td>—</td> <td>1</td> </tr> <tr> <td>Foraminifers</td> <td>Tr</td> <td>1</td> </tr> <tr> <td>Glass</td> <td>5</td> <td>4</td> </tr> <tr> <td>Nannofossils</td> <td>30</td> <td>35</td> </tr> <tr> <td>Opaques</td> <td>5</td> <td>2</td> </tr> <tr> <td>Radiolarians</td> <td>1</td> <td>3</td> </tr> <tr> <td>Silicoflagellates</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Spicules</td> <td>2</td> <td>4</td> </tr> </table>		1,86	3,64	M		D	Silt	45	50	Clay	55	50	Carbonate grains	2	—	Chlorite	2	—	Clay	53	46	Diatoms	—	3	Feldspar	—	1	Foraminifers	Tr	1	Glass	5	4	Nannofossils	30	35	Opaques	5	2	Radiolarians	1	3	Silicoflagellates	Tr	—	Spicules	2	4
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						Q=55.1 P=1.69 ● 37.5	2			[Patterned Lithology]																																																				
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						WT: 42.00g WL: 8.10g																																																								

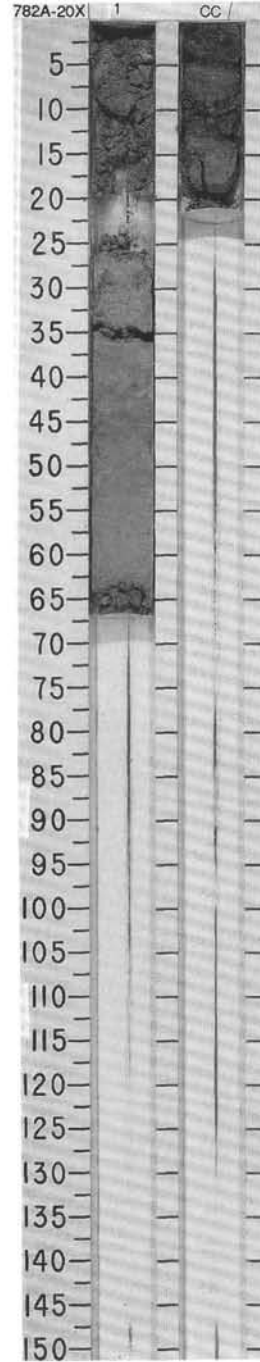






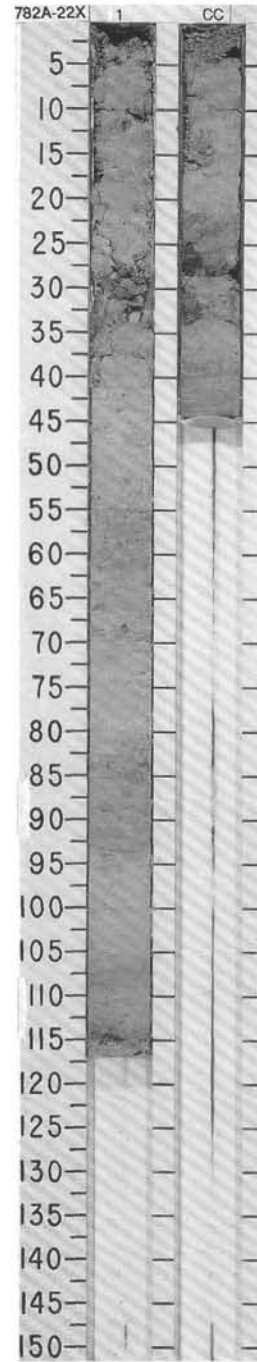
SITE 782 HOLE A CORE 20X CORED INTERVAL 3141.4-3151.0 mbsl; 182.5-192.1 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																			
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS																																																												
UPPER MIOCENE	R/P	F/M	R/P	?	R	0-0.2 4.0	CC	0.5			*	<p>NANNOFOSSIL MARL</p> <p>Major lithology: NANNOFOSSIL MARL, greenish gray (5G 5/1) and gray (5Y 6/1), completely bioturbated. Contains both horizontal and vertical burrows.</p> <p>Minor lithology: Pyroxene- and feldspar-rich vitric ash, black (10YR 2/1). Occurs as a 1/2 cm bed at 10 cm in Section CC.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1.57</td> <td>CC, 10</td> </tr> <tr> <td>D</td> <td></td> <td>M</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>—</td> <td>100</td> </tr> <tr> <td>Silt</td> <td>40</td> <td>—</td> </tr> <tr> <td>Clay</td> <td>60</td> <td>—</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Chlorite</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Clay</td> <td>52</td> <td>—</td> </tr> <tr> <td>Diatoms</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Feldspar</td> <td>2</td> <td>25</td> </tr> <tr> <td>Foraminifers</td> <td>4</td> <td>—</td> </tr> <tr> <td>Glass</td> <td>7</td> <td>64</td> </tr> <tr> <td>Nannofossils</td> <td>26</td> <td>—</td> </tr> <tr> <td>Opagues</td> <td>3</td> <td>—</td> </tr> <tr> <td>Pyroxene</td> <td>—</td> <td>11</td> </tr> <tr> <td>Radiolarians</td> <td>3</td> <td>—</td> </tr> <tr> <td>Silicoflagellates</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Spicules</td> <td>3</td> <td>—</td> </tr> </table>		1.57	CC, 10	D		M	Sand	—	100	Silt	40	—	Clay	60	—	Chlorite	Tr	—	Clay	52	—	Diatoms	Tr	—	Feldspar	2	25	Foraminifers	4	—	Glass	7	64	Nannofossils	26	—	Opagues	3	—	Pyroxene	—	11	Radiolarians	3	—	Silicoflagellates	Tr	—	Spicules	3	—
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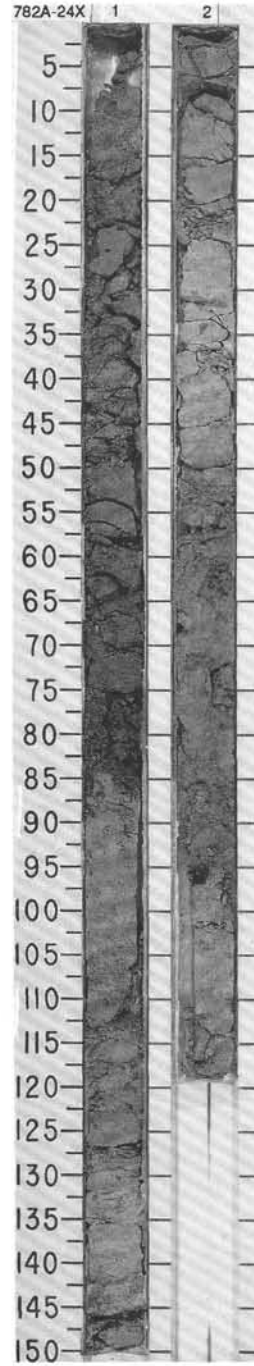
SITE 782 HOLE A CORE 22X CORED INTERVAL 3160.7-3170.4 mbsl; 201.8-211.5 mbsf

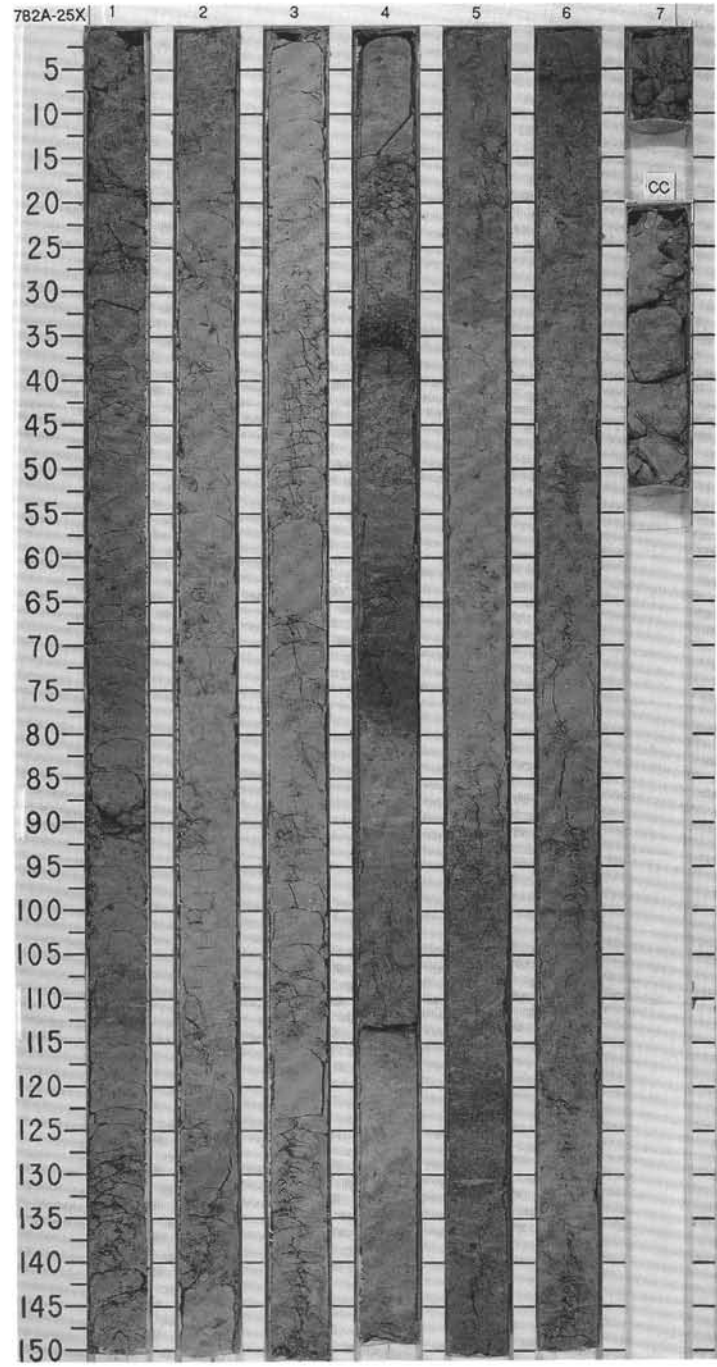
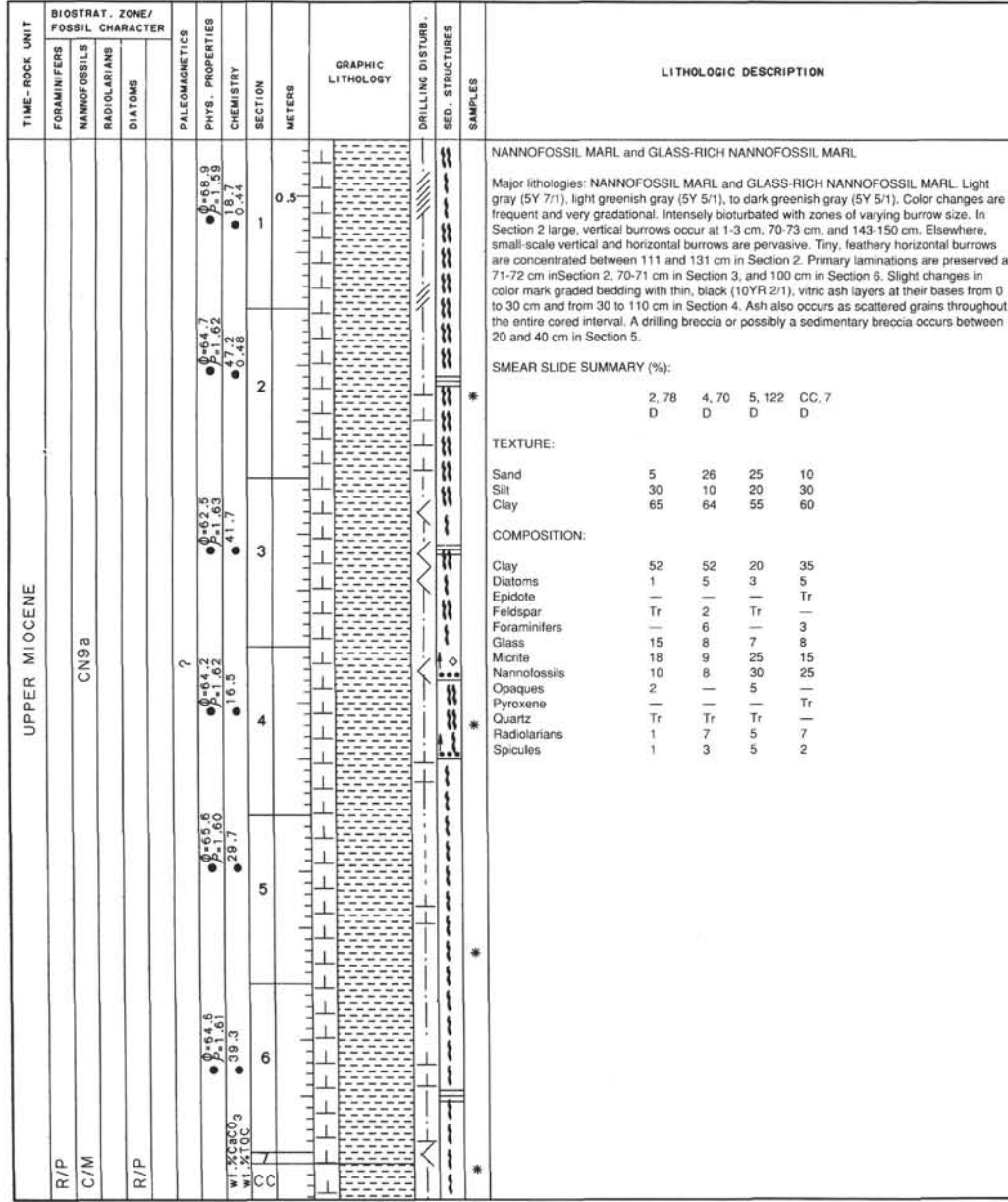
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SEP. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																				
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UPPER MIOCENE	B	F/P	C/M		0-5.3 0-1.70	0-2.8 0-1.71 0-2.3	CC	0.5 1.0					<p>NANNOFOSSIL OOZE and NANNOFOSSIL MARL</p> <p>Major lithologies: NANNOFOSSIL OOZE and NANNOFOSSIL MARL, light gray (5Y 7/1) to dark gray (5Y 3/1), intensely bioturbated. Color variations may be the result of the amount of black (10YR 2/1) vitric ash contained in the sediment.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 78</td> <td>1, 115</td> <td>CC, 27</td> </tr> <tr> <td></td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>—</td> <td>30</td> <td>—</td> </tr> <tr> <td>Silt</td> <td>10</td> <td>20</td> <td>15</td> </tr> <tr> <td>Clay</td> <td>90</td> <td>50</td> <td>85</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Clay</td> <td>10</td> <td>20</td> <td>25</td> </tr> <tr> <td>Diatoms</td> <td>—</td> <td>5</td> <td>2</td> </tr> <tr> <td>Foraminifers</td> <td>5</td> <td>3</td> <td>5</td> </tr> <tr> <td>Glass</td> <td>—</td> <td>2</td> <td>5</td> </tr> <tr> <td>Micrite</td> <td>—</td> <td>10</td> <td>4</td> </tr> <tr> <td>Nannofossils</td> <td>80</td> <td>30</td> <td>40</td> </tr> <tr> <td>Opales</td> <td>—</td> <td>30</td> <td>10</td> </tr> <tr> <td>Pyroxene</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Quartz</td> <td>Tr</td> <td>—</td> <td>—</td> </tr> <tr> <td>Radiolarians</td> <td>—</td> <td>—</td> <td>3</td> </tr> <tr> <td>Silicoflagellates</td> <td>—</td> <td>—</td> <td>3</td> </tr> <tr> <td>Spicules</td> <td>—</td> <td>—</td> <td>3</td> </tr> </table>		1, 78	1, 115	CC, 27		D	D	D	Sand	—	30	—	Silt	10	20	15	Clay	90	50	85	Clay	10	20	25	Diatoms	—	5	2	Foraminifers	5	3	5	Glass	—	2	5	Micrite	—	10	4	Nannofossils	80	30	40	Opales	—	30	10	Pyroxene	—	Tr	—	Quartz	Tr	—	—	Radiolarians	—	—	3	Silicoflagellates	—	—	3	Spicules	—	—	3
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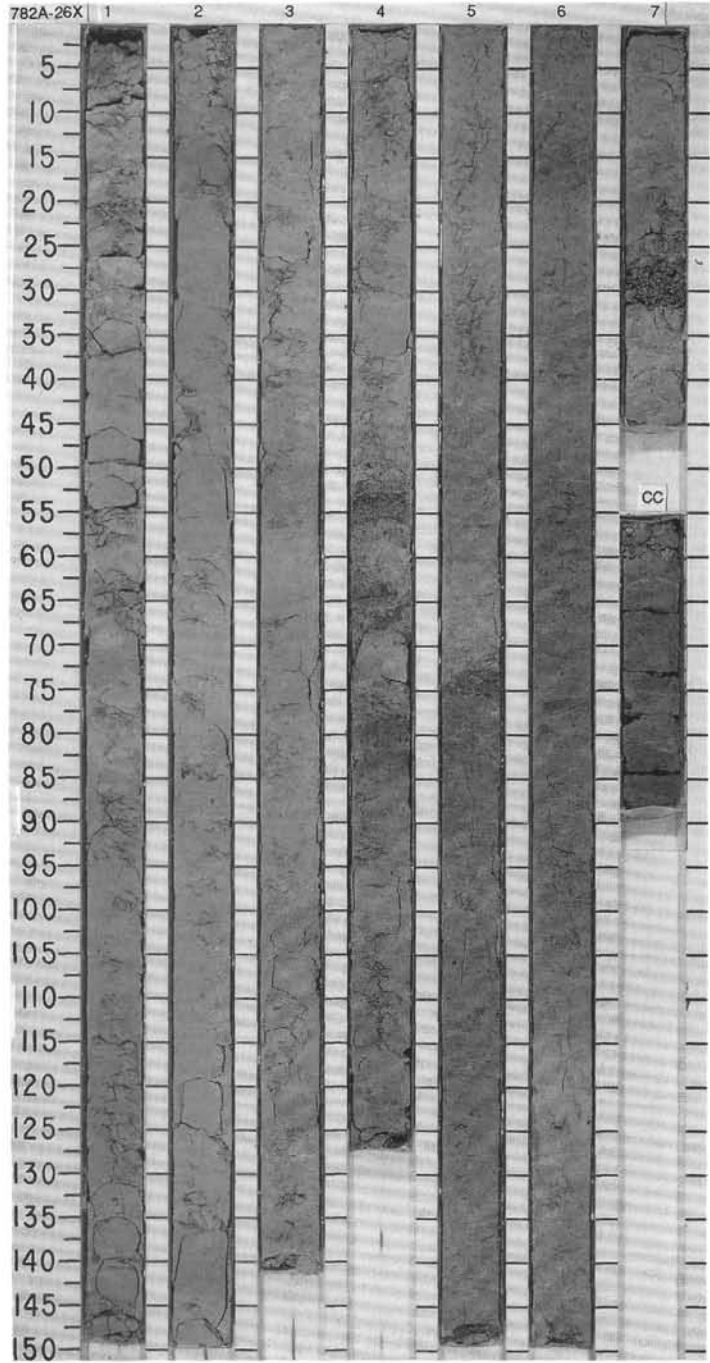
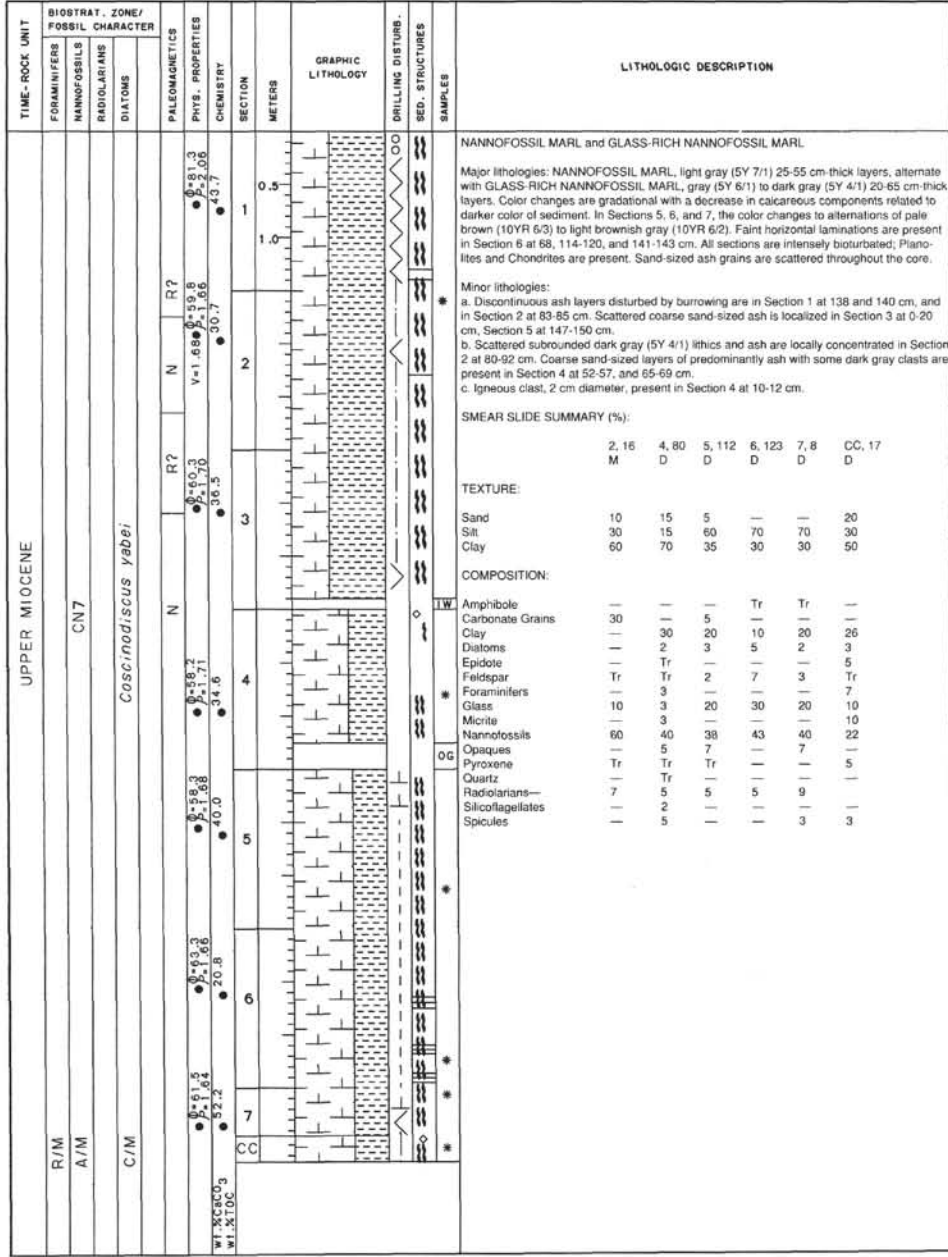
SITE 782 HOLE A CORE 24X CORED INTERVAL 3179.9-3189.6 mbsf; 221.0-230.7 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																
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UPPER MIOCENE	R/M	A/M CNB		F/M	?	0-63.3 ● 1.63 ● 1.64 ● 1.13 ● 1.12 ● 0.12	WT. % CaCO ₃ WT. % SiO ₂	1 2	0.5 1.0					<p>* NANNOFOSSIL OOZE</p> <p>Entire core severely disrupted by drilling.</p> <p>Major lithology: NANNOFOSSIL OOZE, dark greenish gray (5GY 4/1) to light greenish gray (5GY 7/1) and gray (5Y 6/1) to light gray (5Y 7/1). Intensely bioturbated throughout; burrows appear to be smaller in the darker sediments. Color changes are gradational, alternating from light to dark. Black (10YR 2/1) vitric ash layers occur locally.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 14</td> <td>1, 45</td> <td>2, 30</td> </tr> <tr> <td></td> <td>D</td> <td>M</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>10</td> <td>70</td> <td>—</td> </tr> <tr> <td>Silt</td> <td>20</td> <td>20</td> <td>5</td> </tr> <tr> <td>Clay</td> <td>70</td> <td>10</td> <td>95</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Clay</td> <td>10</td> <td>—</td> <td>10</td> </tr> <tr> <td>Diatoms</td> <td>5</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Epidote</td> <td>—</td> <td>1</td> <td>—</td> </tr> <tr> <td>Feldspar</td> <td>—</td> <td>2</td> <td>—</td> </tr> <tr> <td>Foraminifers</td> <td>5</td> <td>—</td> <td>3</td> </tr> <tr> <td>Glass</td> <td>5</td> <td>2</td> <td>5</td> </tr> <tr> <td>Hornblende</td> <td>—</td> <td>2</td> <td>—</td> </tr> <tr> <td>Micrite</td> <td>10</td> <td>—</td> <td>—</td> </tr> <tr> <td>Nannofossils</td> <td>60</td> <td>10</td> <td>82</td> </tr> <tr> <td>Opales</td> <td>—</td> <td>80</td> <td>—</td> </tr> <tr> <td>Pyroxene</td> <td>—</td> <td>2</td> <td>—</td> </tr> <tr> <td>Quartz</td> <td>—</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Radiolarians</td> <td>5</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Spicules</td> <td>Tr</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Zoisite</td> <td>—</td> <td>1</td> <td>—</td> </tr> </table>		1, 14	1, 45	2, 30		D	M	D	Sand	10	70	—	Silt	20	20	5	Clay	70	10	95	Clay	10	—	10	Diatoms	5	Tr	—	Epidote	—	1	—	Feldspar	—	2	—	Foraminifers	5	—	3	Glass	5	2	5	Hornblende	—	2	—	Micrite	10	—	—	Nannofossils	60	10	82	Opales	—	80	—	Pyroxene	—	2	—	Quartz	—	—	Tr	Radiolarians	5	Tr	—	Spicules	Tr	Tr	—	Zoisite	—	1	—
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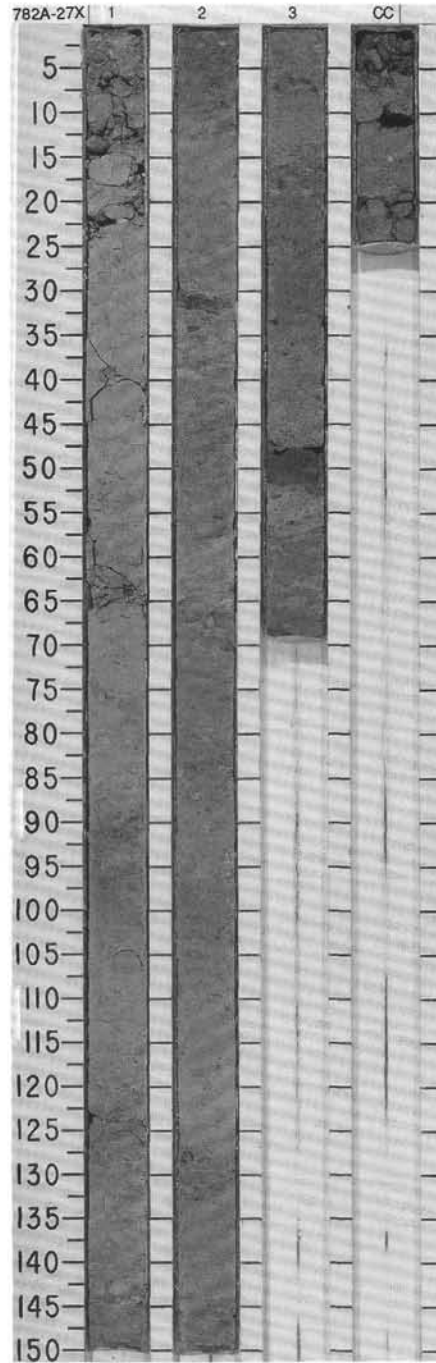
SITE 782 HOLE A CORE 26X CORED INTERVAL 3199.2-3208.9 mbsl; 240.3-250.0 mbsf



TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION			
	FORAMINIFERS	NANNOFOSSILS	RADIOLIARIANS										DIATOMS		
	DIATOMS														
MIDDLE MIOCENE	B	A/M	CN6-7	C/G	<i>Actinocyclus moronensis</i>	N	?								

WT. %	WT. %	WT. %
CC	N	1
● 56.5	● 39.0	● 50.8
● 21.0	● 1.84	● 62.5
● 23.7	● 0.26	● 39.3

WT. % CEC
WT. % TOC



NANNOFOSSIL MARL and GLASS-RICH NANNOFOSSIL MARL

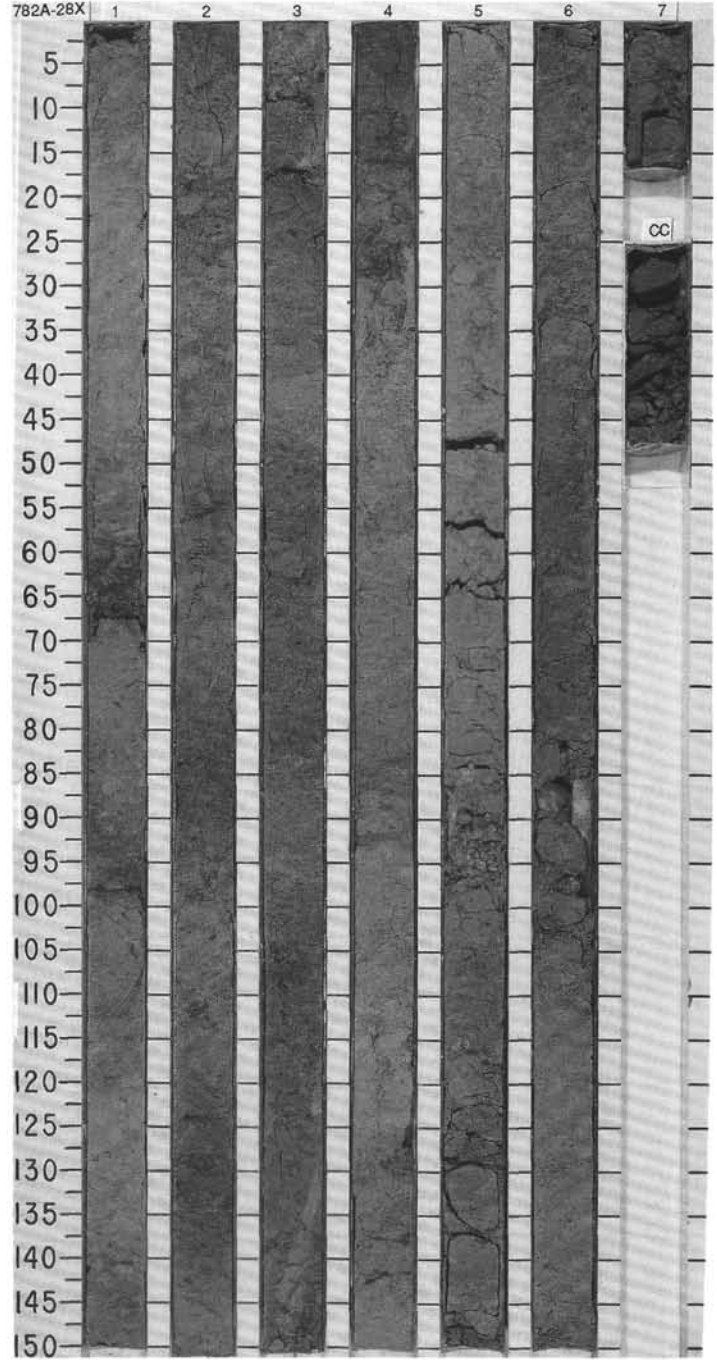
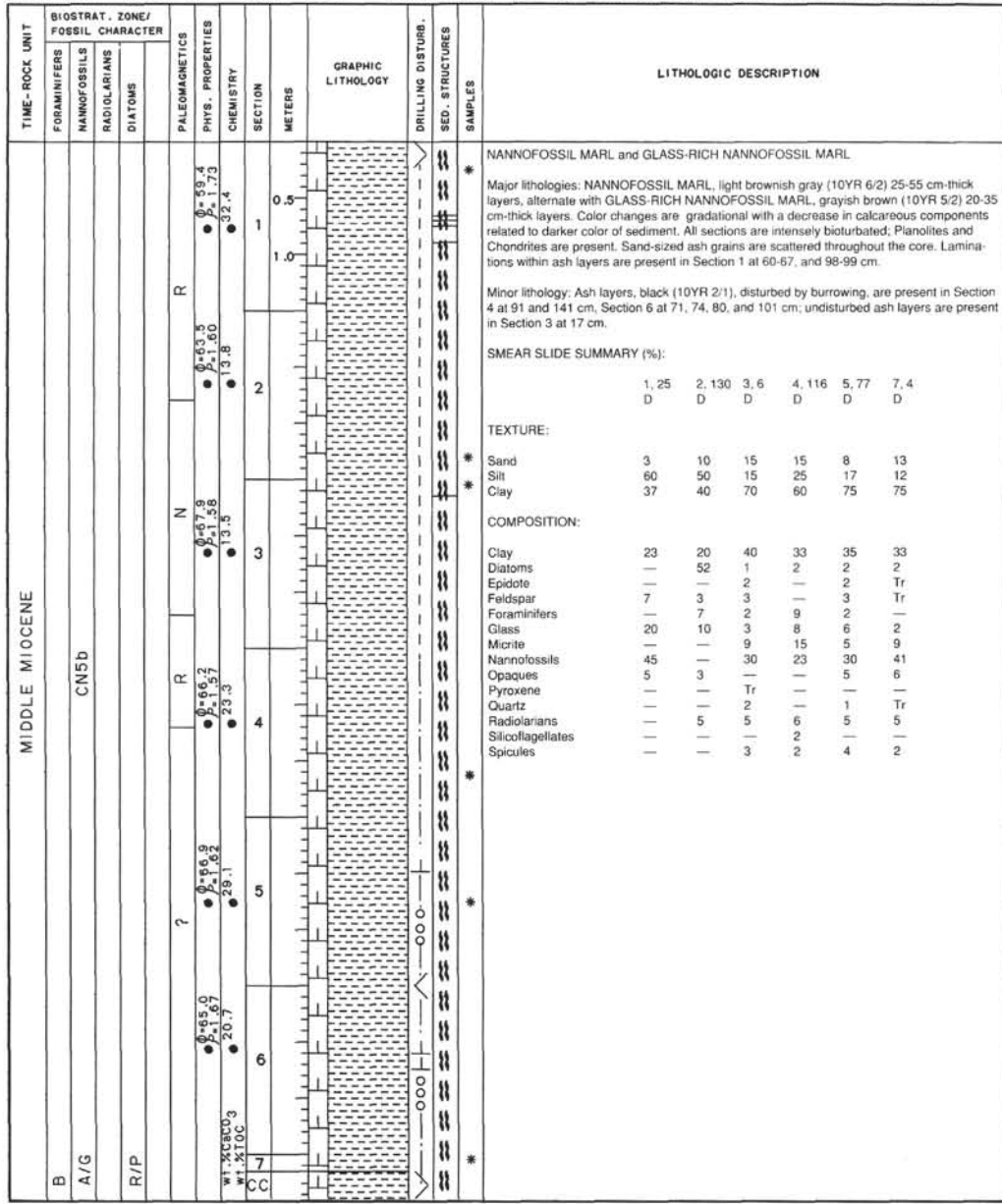
Major lithologies: NANNOFOSSIL MARL, light brownish gray (10YR 6/2) 25-55 cm-thick layers, alternate with GLASS-RICH NANNOFOSSIL MARL, grayish brown (10YR 5/2) 20-35 cm-thick layers. Color changes are gradational with a decrease in calcareous components related to darker color of sediment. All sections are intensely bioturbated; Planolites and Chondrites are present. Sand-sized ash grains are scattered throughout the core.

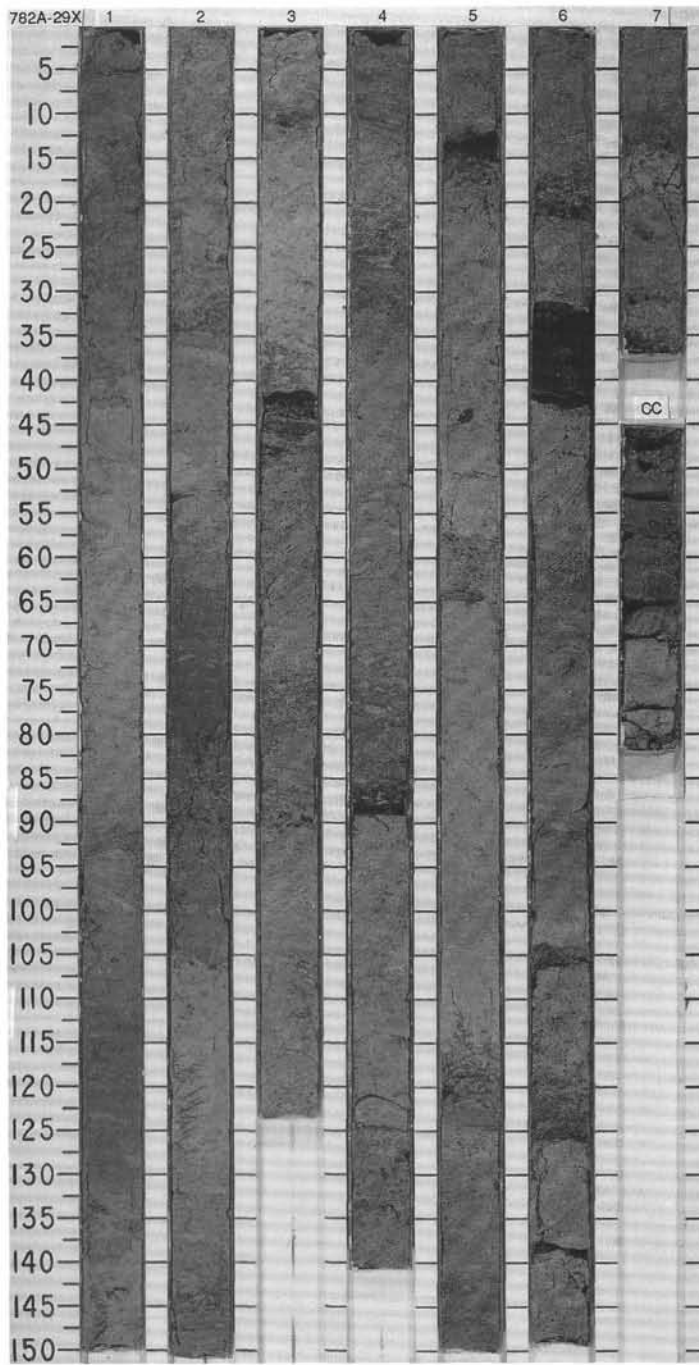
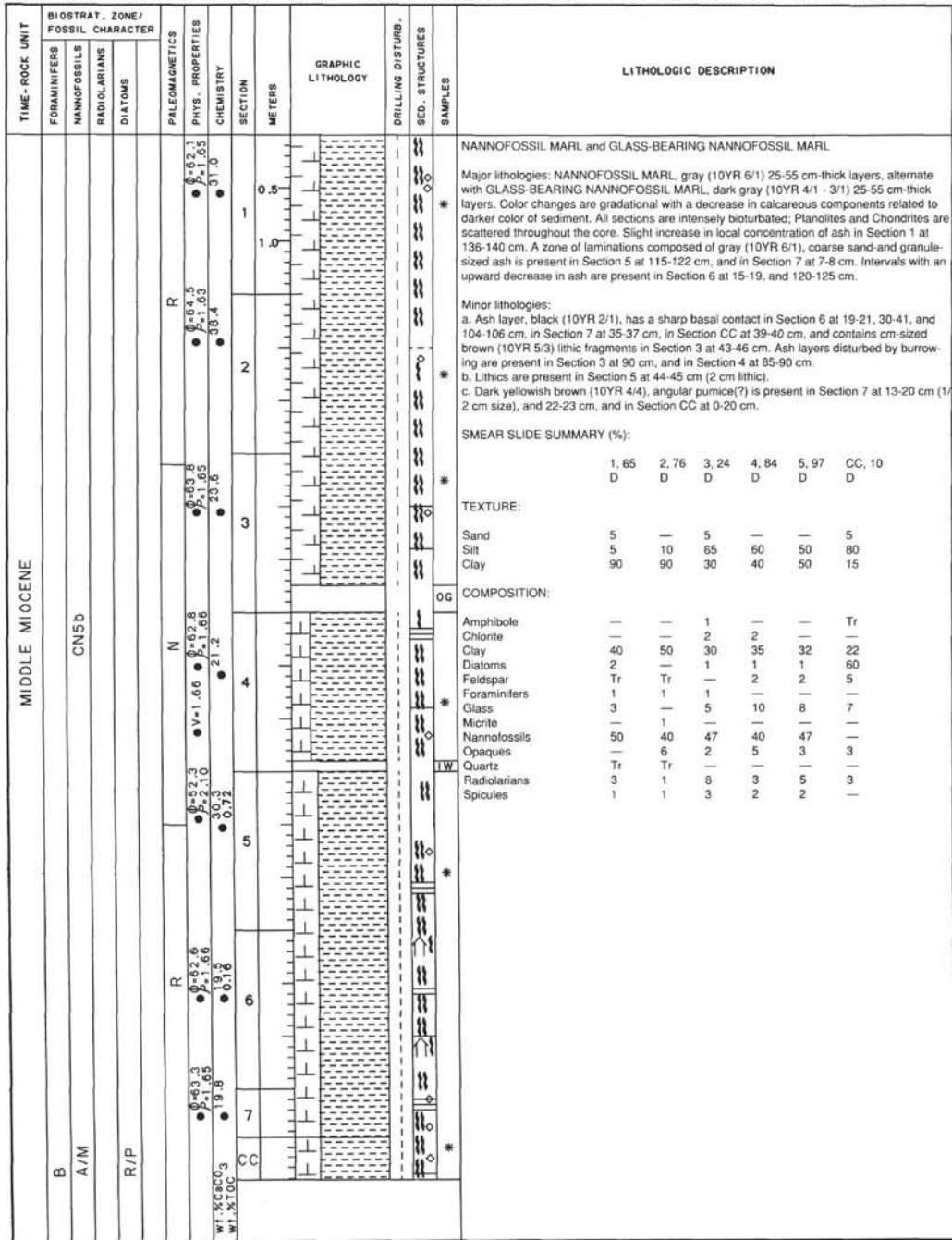
Minor lithologies:
a. Scattered coarse sand-sized ash, brown (10YR 5/3) and white (10YR 8/1), is localized in Section 1 at 0-7 cm, Section 2 at 30-32 cm, and Section 3 at 48-52 cm.
b. White clast, 1 cm diameter, present in Section CC at 15 cm.

SMEAR SLIDE SUMMARY (%):

	1, 33 D	2, 47 D	CC, 14 D
TEXTURE:			
Sand	5	15	—
Silt	80	20	60
Clay	15	65	40
COMPOSITION:			
Amphibole	Tr	—	—
Clay	25	30	12
Diatoms	—	3	3
Epidote	—	Tr	—
Feldspar	5	Tr	—
Foraminifers	2	2	—
Glass	15	10	20
Micrite	—	12	—
Nannofossils	50	35	60
Quartz	—	Tr	—
Radiolarians	3	8	5

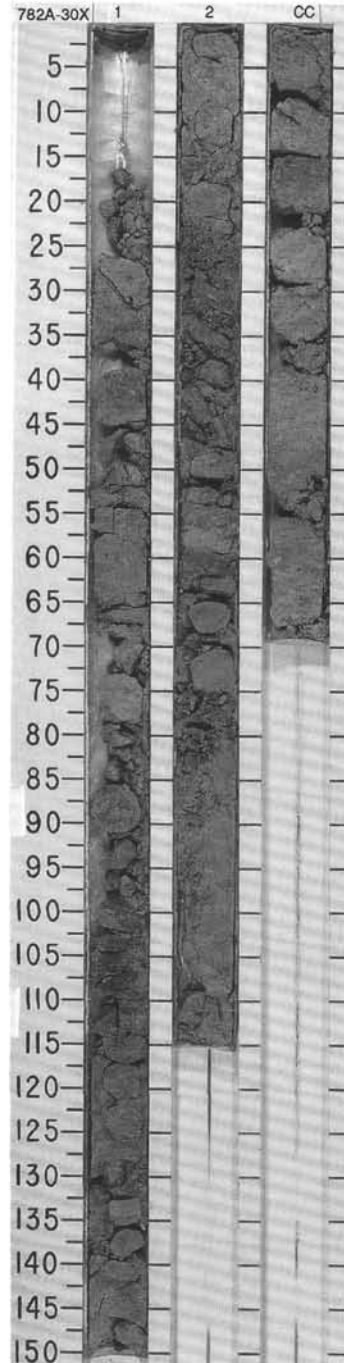
SITE 782 HOLE A CORE 28X CORED INTERVAL 3218.5-3228.1 mbsl; 259.6-269.2 mbsf





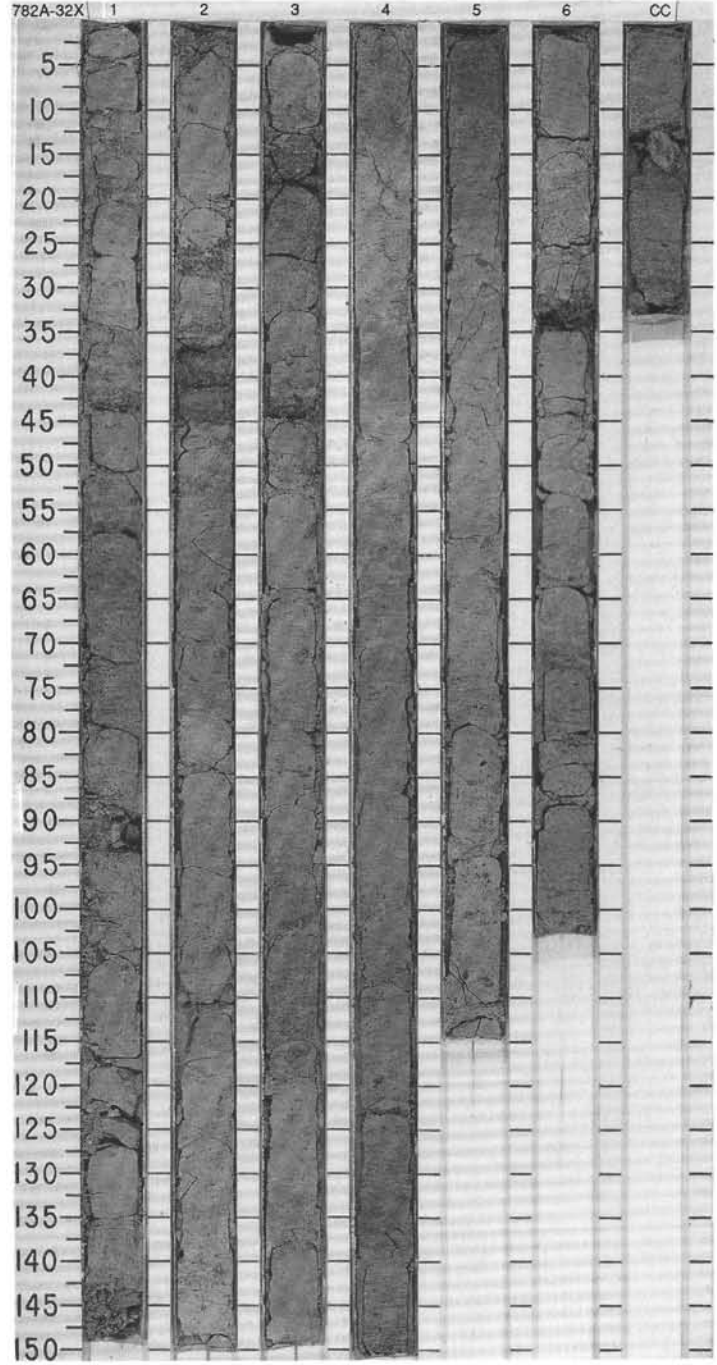
SITE 782 HOLE A CORE 30X CORED INTERVAL 3237.7-3247.4 mbsl; 278.8-288.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																								
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS																																																																		
	B	A/M	R/P						0-56.4 1-1.81 45.7					<p>FELDSPAR AND NANNOFOSSIL-RICH VITRIC SILTY SAND, GLASS-AND NANNOFOSSIL-RICH SILTY CLAY, and NANNOFOSSIL MARL</p> <p>The entire core is highly disrupted by drilling producing drilling biscuits.</p> <p>Major lithologies: FELDSPAR AND NANNOFOSSIL-RICH VITRIC SILTY SAND, grayish green (5GY 6/1), contains scattered angular lithics (>1 cm in size) and is underlain by GLASS- AND NANNOFOSSIL-RICH SILTY CLAY, grayish green (5GY 5/1), containing scattered black sand-size ash, which is underlain by NANNOFOSSIL MARL, grayish green (5GY 6/1). All contacts and color changes are gradational. All sections are intensely bioturbated; Planolites and Chondrites are present.</p> <p>Minor lithology: Ash layers, 1 cm thick, are present in Section CC at 9 and 30 cm. Coarse sand-sized ash and angular pumice grains are scattered in the sediment in Section CC at 30-35 cm.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 106</td> <td>2, 20</td> <td>CC, 45</td> </tr> <tr> <td>M</td> <td></td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>65</td> <td>10</td> <td>—</td> </tr> <tr> <td>Silt</td> <td>25</td> <td>30</td> <td>70</td> </tr> <tr> <td>Clay</td> <td>10</td> <td>60</td> <td>30</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Chlorite</td> <td>—</td> <td>—</td> <td>1</td> </tr> <tr> <td>Clay</td> <td>13</td> <td>50</td> <td>26</td> </tr> <tr> <td>Feldspar</td> <td>12</td> <td>3</td> <td>2</td> </tr> <tr> <td>Foraminifers</td> <td>—</td> <td>Tr</td> <td>2</td> </tr> <tr> <td>Glass</td> <td>60</td> <td>15</td> <td>10</td> </tr> <tr> <td>Nannofossils</td> <td>15</td> <td>25</td> <td>50</td> </tr> <tr> <td>Opaques</td> <td>—</td> <td>2</td> <td>—</td> </tr> <tr> <td>Radiolarians</td> <td>—</td> <td>5</td> <td>7</td> </tr> <tr> <td>Spicules</td> <td>—</td> <td>—</td> <td>2</td> </tr> </table>		1, 106	2, 20	CC, 45	M		D	D	Sand	65	10	—	Silt	25	30	70	Clay	10	60	30	Chlorite	—	—	1	Clay	13	50	26	Feldspar	12	3	2	Foraminifers	—	Tr	2	Glass	60	15	10	Nannofossils	15	25	50	Opaques	—	2	—	Radiolarians	—	5	7	Spicules	—	—	2
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					0-56.4 1-1.81 45.7			2	1.0																																																													



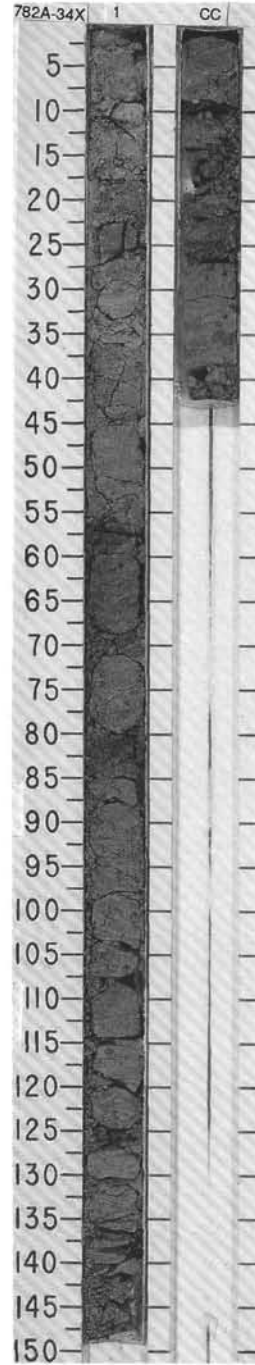
SITE 782 HOLE A CORE 32X CORED INTERVAL 3252.9-3262.4 mbsl; 294.0-303.5

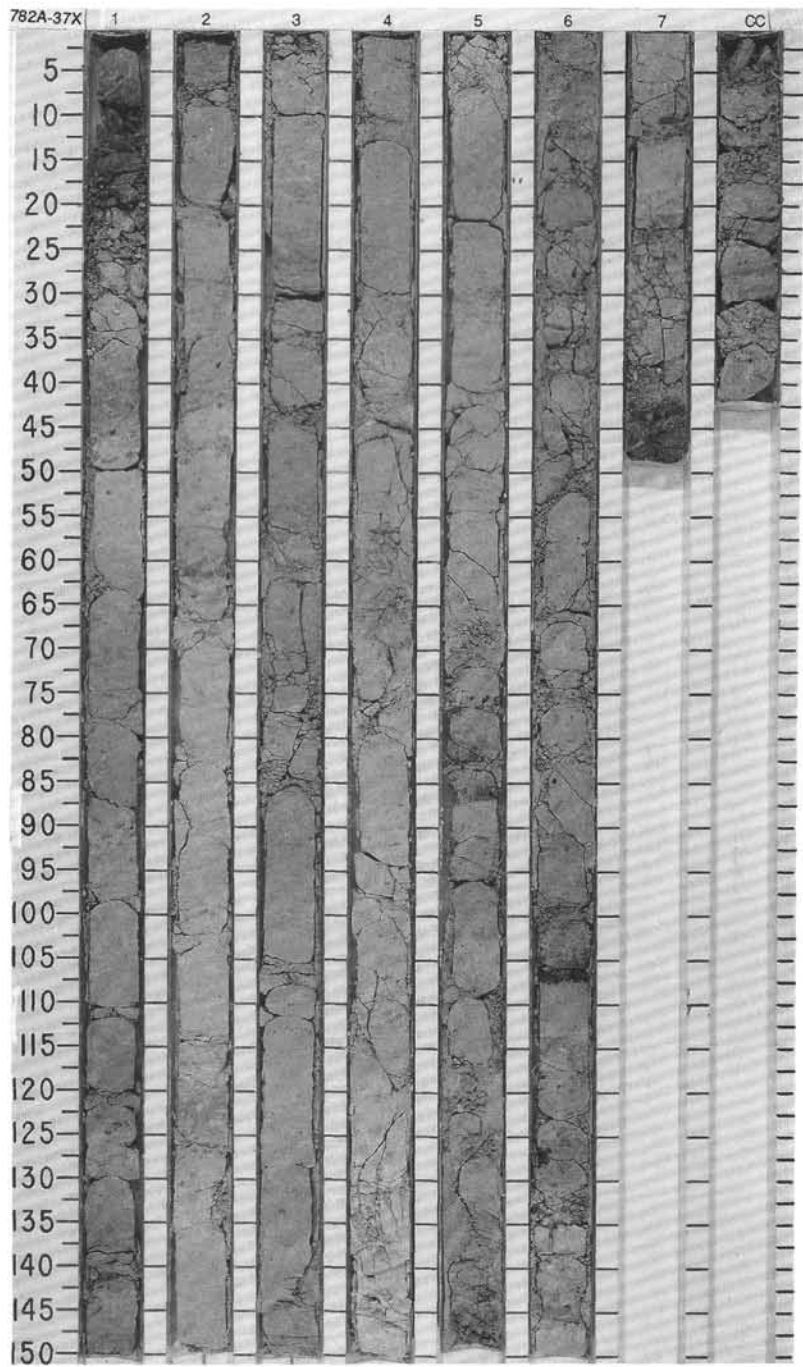
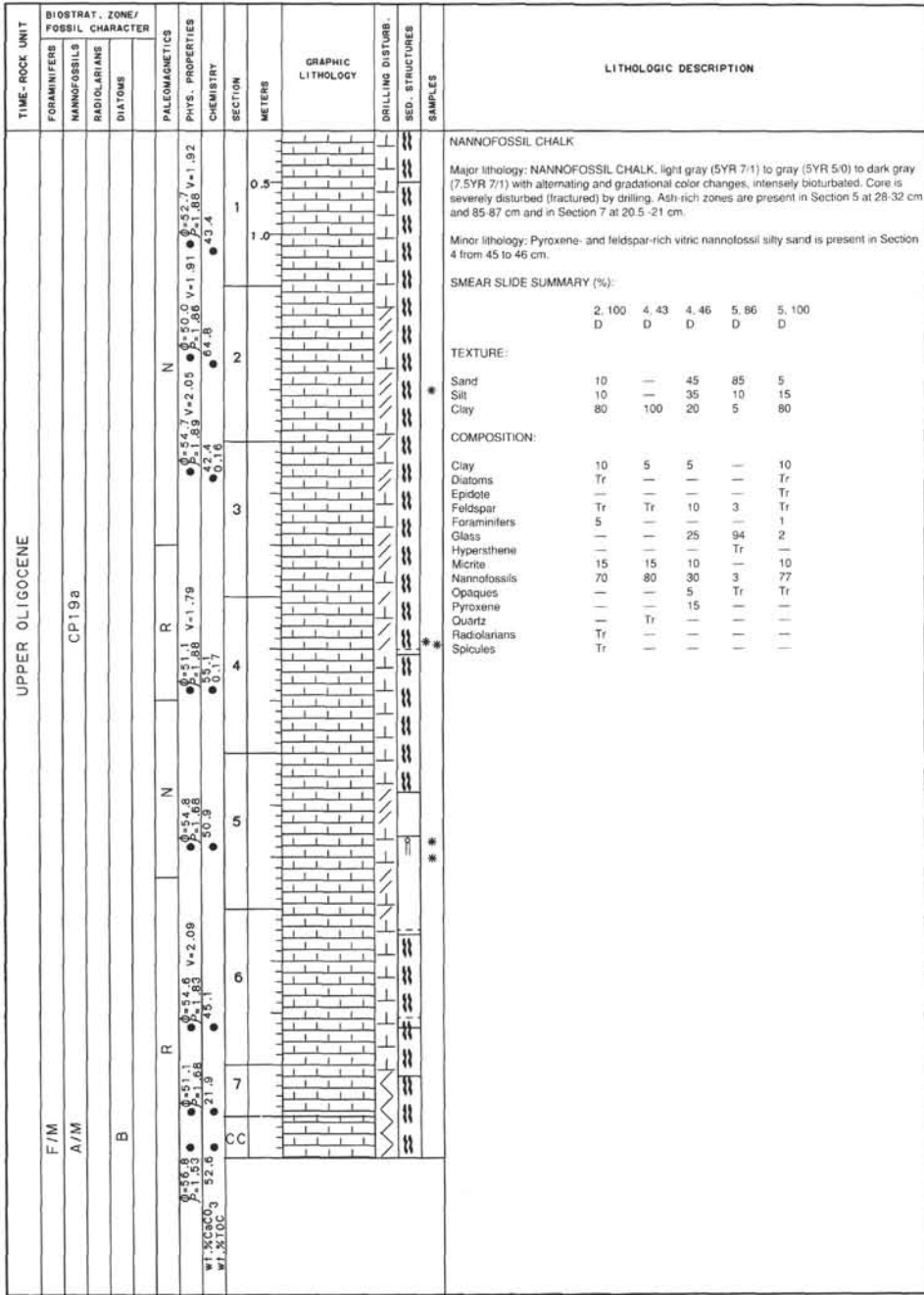
TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																																
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS																																																																																																									
MIDDLE MIOCENE	<i>Coscinodiscus lewisianus</i> / <i>C. gigas</i> var. <i>diorama</i>				N																																																																																																								
R/M						V=1.83 ● 54.5 P=1.75 ● 21.3		1					<p>NANNOFOSSIL CHALK and NANNOFOSSIL MARLSTONE</p> <p>Major lithologies: NANNOFOSSIL CHALK, greenish gray (5GY 6/1), in Section 1 gradually changes to NANNOFOSSIL MARLSTONE in the remainder of the core. The nannofossil marlstone alternates from a slightly lighter greenish gray (5GY 6/1) to a slightly darker greenish gray (5GY 5/1); color changes are gradational. All sections are intensely bioturbated. Planolites and Chondrites are present. Sand-sized ash grains and granule-sized lithics are scattered throughout the core. Normal graded beds of ash are overlain by sediment that fines upward in Section 1 at 0-25, 25-44, 85-90, and 140-150 cm, in Section 2 at 0-27 cm, in Section 3 at 41-44 cm. Ash layers are present in Section 2 at 41-46 cm, Section 4 at 124 cm, and Section 6 at 32-35 cm. Planar laminations of black (10YR 2/1) ash are present in Section 4 at 140-150 cm, in Section 6 at 19-20, and 77-79 cm, and disrupted by burrowing in Section 2 at 140-143 cm, and in Section 5 at 0-26 cm.</p> <p>Minor lithologies: a. Pumice, 3.5 cm-sized clast, with an alteration rim is located in Section 3 at 102-105 cm. b. Coarse sand to granule-sized lithics of pumice and ash are located in Section 5 at 80-115 cm.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 30</td> <td>2, 44</td> <td>4, 136</td> <td>5, 36</td> <td>6, 87</td> </tr> <tr> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Sand</td> <td>5</td> <td>5</td> <td>5</td> <td>10</td> <td>3</td> </tr> <tr> <td>Silt</td> <td>55</td> <td>70</td> <td>55</td> <td>40</td> <td>72</td> </tr> <tr> <td>Clay</td> <td>40</td> <td>25</td> <td>40</td> <td>50</td> <td>25</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Carbonate grains</td> <td>3</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Chlorite</td> <td>—</td> <td>Tr</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Clay</td> <td>30</td> <td>20</td> <td>31</td> <td>40</td> <td>43</td> </tr> <tr> <td>Diatoms</td> <td>—</td> <td>1</td> <td>—</td> <td>—</td> <td>1</td> </tr> <tr> <td>Feldspar</td> <td>2</td> <td>7</td> <td>10</td> <td>5</td> <td>3</td> </tr> <tr> <td>Glass</td> <td>3</td> <td>5</td> <td>10</td> <td>3</td> <td>5</td> </tr> <tr> <td>Nannofossils</td> <td>60</td> <td>52</td> <td>40</td> <td>50</td> <td>40</td> </tr> <tr> <td>Opaques</td> <td>2</td> <td>10</td> <td>6</td> <td>2</td> <td>5</td> </tr> <tr> <td>Pyroxene</td> <td>—</td> <td>2</td> <td>3</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Radiolarians</td> <td>—</td> <td>3</td> <td>—</td> <td>Tr</td> <td>3</td> </tr> <tr> <td>Spicules</td> <td>—</td> <td>—</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> </table>		1, 30	2, 44	4, 136	5, 36	6, 87	D	D	D	D	D	D	Sand	5	5	5	10	3	Silt	55	70	55	40	72	Clay	40	25	40	50	25	Carbonate grains	3	—	—	—	—	Chlorite	—	Tr	—	—	—	Clay	30	20	31	40	43	Diatoms	—	1	—	—	1	Feldspar	2	7	10	5	3	Glass	3	5	10	3	5	Nannofossils	60	52	40	50	40	Opaques	2	10	6	2	5	Pyroxene	—	2	3	—	Tr	Radiolarians	—	3	—	Tr	3	Spicules	—	—	—	Tr	—
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A/G						V=1.84 ● 52.5 P=1.81 ● 20.2		2																																																																																																					
C/G						V=1.82 ● 42.5 P=1.82 ● 33.6 ● 0.70		3																																																																																																					
						V=1.82 ● 57.4 P=1.78 ● 21.7 ● 0.25		4																																																																																																					
						V=1.83 ● 59.3 P=1.83 ● 31.1		5																																																																																																					
						V=1.73 ● 57.2 P=1.74 ● 33.9		6																																																																																																					
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SITE 782 HOLE A CORE 34X CORED INTERVAL 3272.0-3281.4 mbsl; 313.1-322.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																							
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIAZONS																																																	
B								1	0.5					<p>GLASS-RICH SILTY CLAYSTONE</p> <p>Core is highly disrupted by drilling producing drilling biscuits.</p> <p>Major lithology: GLASS-RICH SILTY CLAYSTONE, gray (5Y 6/1 - 5/1), is intensely bioturbated; Planolites and Chondrites are present Sand-sized volcanic debris are scattered throughout the core. Pumice-rich zone is located in Section 1 at 0-22 cm. Feldspar-rich vitric ash layers are present in Section 1 at 56-58 cm, and Section CC at 20-26.5 cm. Zone enriched in angular volcanic fragments and ash are in Section CC at 33-39 cm.</p> <p>SMEAR SLIDE SUMMARY (%):</p> <table border="1"> <tr> <td></td> <td>1, 60</td> <td>1, 112</td> </tr> <tr> <td>M</td> <td></td> <td>D</td> </tr> </table> <p>TEXTURE:</p> <table border="1"> <tr> <td>Silt</td> <td>100</td> <td>60</td> </tr> <tr> <td>Clay</td> <td>—</td> <td>40</td> </tr> </table> <p>COMPOSITION:</p> <table border="1"> <tr> <td>Chlorite</td> <td>2</td> <td>—</td> </tr> <tr> <td>Clay</td> <td>—</td> <td>33</td> </tr> <tr> <td>Feldspar</td> <td>10</td> <td>15</td> </tr> <tr> <td>Foraminifers</td> <td>—</td> <td>Tr</td> </tr> <tr> <td>Glass</td> <td>86</td> <td>25</td> </tr> <tr> <td>Nannofossils</td> <td>1</td> <td>12</td> </tr> <tr> <td>Pyroxene</td> <td>—</td> <td>5</td> </tr> <tr> <td>Radiolarians</td> <td>—</td> <td>9</td> </tr> <tr> <td>Spicules</td> <td>—</td> <td>1</td> </tr> </table>		1, 60	1, 112	M		D	Silt	100	60	Clay	—	40	Chlorite	2	—	Clay	—	33	Feldspar	10	15	Foraminifers	—	Tr	Glass	86	25	Nannofossils	1	12	Pyroxene	—	5	Radiolarians	—	9	Spicules	—	1
	1, 60	1, 112																																																			
M		D																																																			
Silt	100	60																																																			
Clay	—	40																																																			
Chlorite	2	—																																																			
Clay	—	33																																																			
Feldspar	10	15																																																			
Foraminifers	—	Tr																																																			
Glass	86	25																																																			
Nannofossils	1	12																																																			
Pyroxene	—	5																																																			
Radiolarians	—	9																																																			
Spicules	—	1																																																			
R/P								CC	1.0																																												

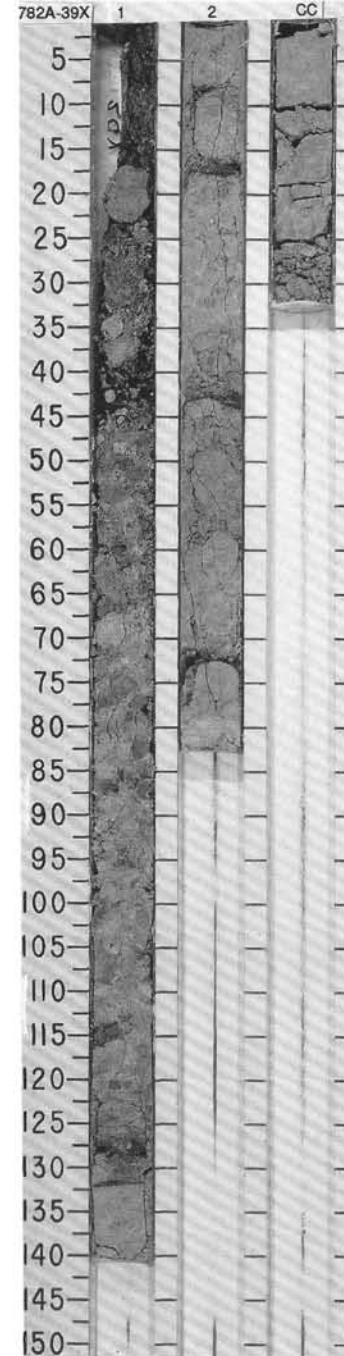




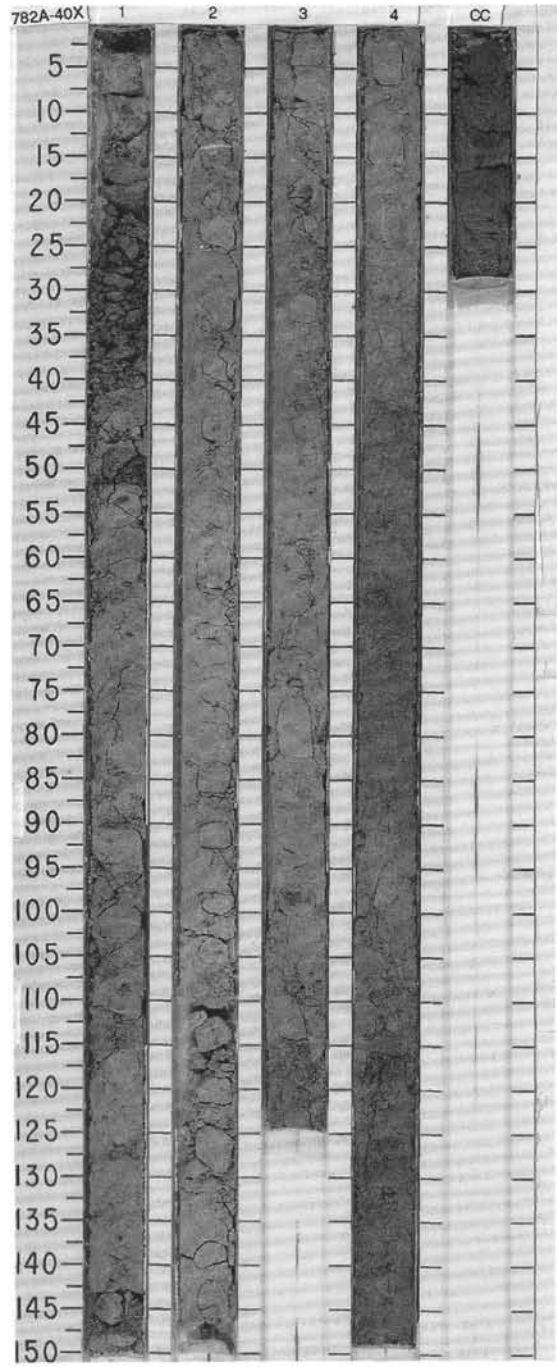
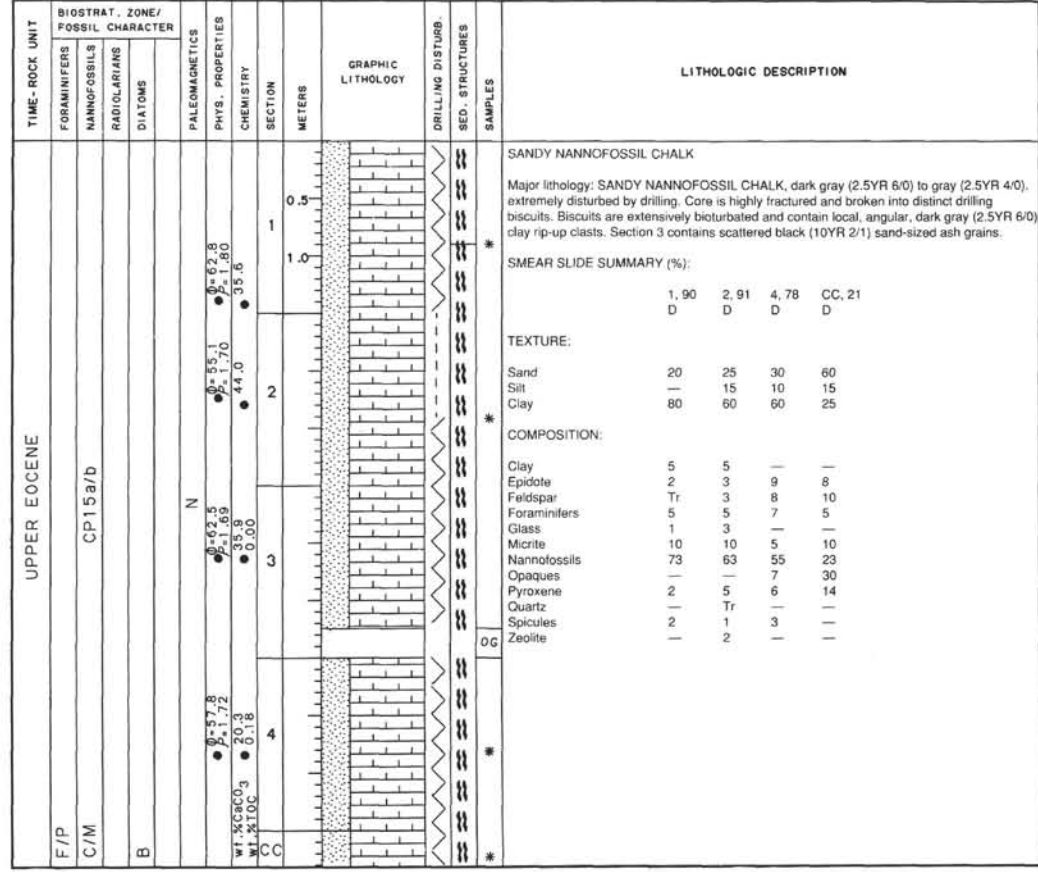
782 A 38X NO RECOVERY

SITE 782 HOLE A CORE 39X CORED INTERVAL 3319.8-3329.4 mbsl; 360.9-370.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																								
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS											DIATOMS																																																																							
LOWER OLIGOCENE	F/P	A/G	CP16	B	?	0-58.1 1.9-2.2 4.78 0-54.2 7-1.84 57.7 V=2.10	1	0.5 1.0					NANNOFOSSIL CHALK Major lithology: NANNOFOSSIL CHALK, greenish gray (5Y 6/1) to light greenish gray (10Y 7/1), disrupted by drilling (many drilling biscuits present), intensely bioturbated. Ash-rich layers are present in Section 1 at 129-132 cm and in Section 2 at 10-11, 40-41, and 70-71 cm. A brecciated interval in Section 1 from 21 to 129 cm may be the result of drilling disturbance. SMEAR SLIDE SUMMARY (%): <table border="1"> <tr> <td></td> <td>1, 137</td> <td>2, 65</td> <td>CC, 19</td> </tr> <tr> <td></td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> TEXTURE: <table border="1"> <tr> <td>Sand</td> <td>10</td> <td>10</td> <td>65</td> </tr> <tr> <td>Silt</td> <td>20</td> <td>10</td> <td>5</td> </tr> <tr> <td>Clay</td> <td>70</td> <td>80</td> <td>30</td> </tr> </table> COMPOSITION: <table border="1"> <tr> <td>Clay</td> <td>10</td> <td>5</td> <td>—</td> </tr> <tr> <td>Diatoms</td> <td>2</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Epidote</td> <td>Tr</td> <td>—</td> <td>10</td> </tr> <tr> <td>Feldspar</td> <td>3</td> <td>—</td> <td>10</td> </tr> <tr> <td>Foraminifers</td> <td>2</td> <td>12</td> <td>5</td> </tr> <tr> <td>Glass</td> <td>1</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Micrite</td> <td>20</td> <td>10</td> <td>3</td> </tr> <tr> <td>Nannofossils</td> <td>62</td> <td>73</td> <td>27</td> </tr> <tr> <td>Opaques</td> <td>—</td> <td>—</td> <td>35</td> </tr> <tr> <td>Pyroxene</td> <td>Tr</td> <td>—</td> <td>10</td> </tr> <tr> <td>Radiolarians</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Spicules</td> <td>—</td> <td>Tr</td> <td>—</td> </tr> <tr> <td>Zoisite</td> <td>Tr</td> <td>—</td> <td>—</td> </tr> </table>		1, 137	2, 65	CC, 19		D	D	D	Sand	10	10	65	Silt	20	10	5	Clay	70	80	30	Clay	10	5	—	Diatoms	2	Tr	—	Epidote	Tr	—	10	Feldspar	3	—	10	Foraminifers	2	12	5	Glass	1	Tr	—	Micrite	20	10	3	Nannofossils	62	73	27	Opaques	—	—	35	Pyroxene	Tr	—	10	Radiolarians	—	Tr	—	Spicules	—	Tr	—	Zoisite	Tr	—	—
	1, 137	2, 65	CC, 19																																																																																		
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Spicules	—	Tr	—																																																																																		
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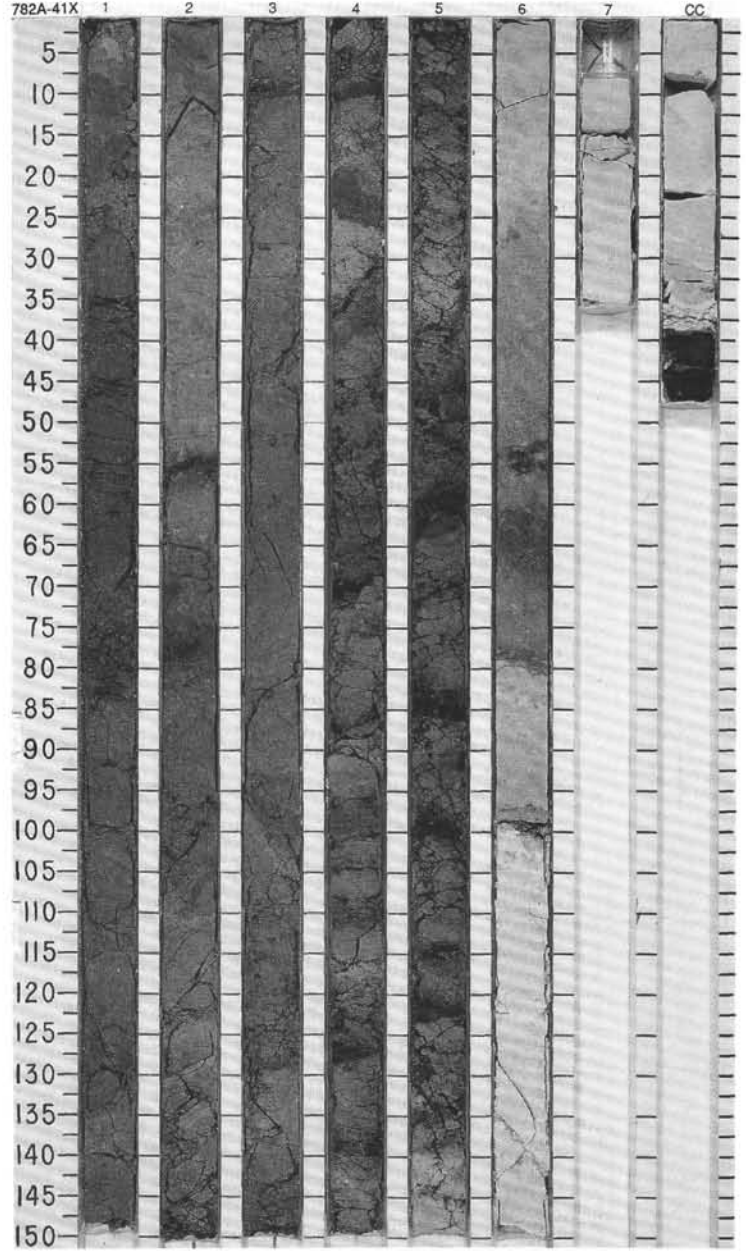


SITE 782 HOLE A CORE 40X CORED INTERVAL 3329.4-3339.1 mbsf; 370.5-380.2 mbsf



SITE 782 HOLE A CORE 41X CORED INTERVAL 3339.1-3348.7 mbsi; 380.2-389.8 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER			PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS										
UPPER EOCENE													
C/M													
C/P		CP15b											
B													
				N									
					V-2.23 ● 0-33.3 P-1.81 ● 0-33.3 ● 17.1		1	0.5 1.0					
					V-2.23 ● 0-33.3 P-1.81 ● 0-33.3 ● 17.1		2						
					V-2.37 ● 0-56.7 P-1.76 ● 0-56.7 ● 18.2		3						
					V-2.37 ● 0-56.7 P-1.97 ● 0-57.7 ● 20.3		4						
					V-2.00 ● 0-57.2 P-1.83 ● 0-57.2 ● 18.2		5						
					V-2.00 ● 0-57.2 P-1.83 ● 0-57.2 ● 18.2		6						
					V-2.00 ● 0-48.0 P-1.85 ● 0-48.0 ● 18.2		7						
					V-2.00 ● 0-48.0 P-1.85 ● 0-48.0 ● 18.2		CC						

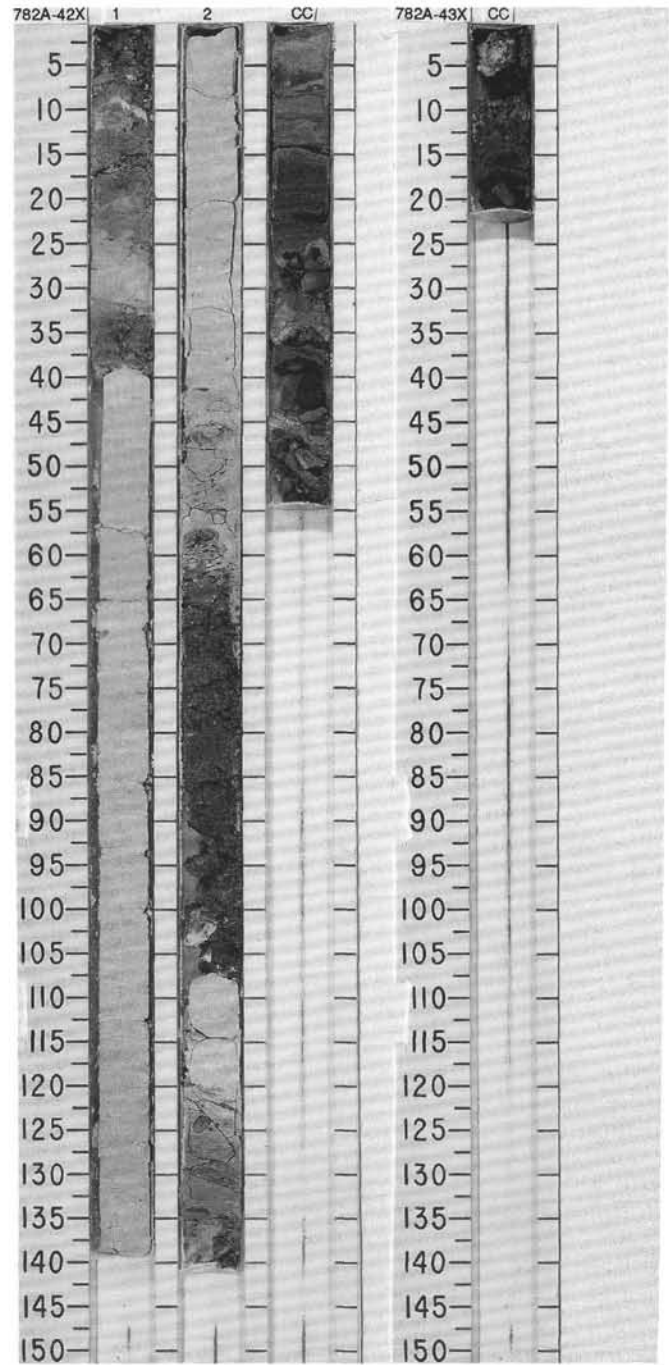


SITE 782 HOLE A CORE 42X CORED INTERVAL 3348.7-3358.4 mbsf; 389.8-399.5 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION																																																																																																																																																							
	FORAMINIFERS	MANNOFOSSILS	RADIOLARIANS	DIATOMS																																																																																																																																																																	
MIDDLE EOCENE	R/M	B	B		N?	V=2.07 V=1.84 V=1.89 V=1.43 V=1.84 V=1.89 V=1.43	WT.%CaCO ₃ 76.6 WT.%SiO ₂ 0.07	1	0.5 1.0				NANNOFOSSIL CHALK Major lithology: NANNOFOSSIL CHALK, dark green (5G 5/2 and 5G 4/2) to very light green (5G 8/2), faintly laminated and heavily mottled by bioturbation. Core is severely disturbed by drilling. Local intervals of wavy laminations are present in Section 1 at 12-40 cm and in Section 2 at 122-137 cm. An interval of pebbly mud with local, crude laminations and serpentine veins is present in Section CC at 24-54 cm. The pebbles are probably andesitic. Minor lithologies: a. Zeolite-bearing vitric sandy silt occurs in isolated laminations in Section 1 at 37-38 cm and in Section CC at 6-7 cm. b. Clay-sized serpentine, white, occurs in veins in the interval 24-54 cm in Section CC. SMEAR SLIDE SUMMARY (%): <table border="1"> <tr> <td></td> <td>1, 19</td> <td>1, 37</td> <td>1, 105</td> <td>2, 132</td> <td>CC, 6</td> <td>CC, 36</td> <td>CC, 45</td> </tr> <tr> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> <td>D</td> </tr> </table> TEXTURE: <table border="1"> <tr> <td>Sand</td> <td>20</td> <td>50</td> <td>5</td> <td>3</td> <td>10</td> <td>25</td> <td>—</td> </tr> <tr> <td>Silt</td> <td>60</td> <td>40</td> <td>70</td> <td>65</td> <td>80</td> <td>50</td> <td>20</td> </tr> <tr> <td>Clay</td> <td>20</td> <td>10</td> <td>25</td> <td>32</td> <td>10</td> <td>25</td> <td>80</td> </tr> </table> COMPOSITION: <table border="1"> <tr> <td>Amphibole</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>2</td> </tr> <tr> <td>Chlorite</td> <td>—</td> <td>Tr</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Clay</td> <td>29</td> <td>10</td> <td>25</td> <td>30</td> <td>—</td> <td>—</td> <td>18</td> </tr> <tr> <td>Feldspar</td> <td>20</td> <td>10</td> <td>—</td> <td>5</td> <td>15</td> <td>15</td> <td>—</td> </tr> <tr> <td>Foraminifers</td> <td>—</td> <td>—</td> <td>7</td> <td>3</td> <td>2</td> <td>—</td> <td>—</td> </tr> <tr> <td>Glass</td> <td>40</td> <td>80</td> <td>3</td> <td>10</td> <td>53</td> <td>24</td> <td>—</td> </tr> <tr> <td>Micrite</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>5</td> <td>—</td> <td>—</td> </tr> <tr> <td>Nannofossils</td> <td>Tr</td> <td>—</td> <td>60</td> <td>50</td> <td>10</td> <td>—</td> <td>—</td> </tr> <tr> <td>Opacques</td> <td>10</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>3</td> <td>—</td> </tr> <tr> <td>Pyroxene</td> <td>Tr</td> <td>—</td> <td>—</td> <td>Tr</td> <td>15</td> <td>5</td> <td>—</td> </tr> <tr> <td>Radiolarians</td> <td>—</td> <td>—</td> <td>5</td> <td>2</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>Serpentine</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>80</td> </tr> <tr> <td>Zeolite</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>50</td> <td>—</td> </tr> <tr> <td>Epidote</td> <td>1</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>3</td> <td>—</td> </tr> </table>		1, 19	1, 37	1, 105	2, 132	CC, 6	CC, 36	CC, 45	D	D	D	D	D	D	D	D	Sand	20	50	5	3	10	25	—	Silt	60	40	70	65	80	50	20	Clay	20	10	25	32	10	25	80	Amphibole	—	—	—	—	—	—	2	Chlorite	—	Tr	—	—	—	—	—	Clay	29	10	25	30	—	—	18	Feldspar	20	10	—	5	15	15	—	Foraminifers	—	—	7	3	2	—	—	Glass	40	80	3	10	53	24	—	Micrite	—	—	—	—	5	—	—	Nannofossils	Tr	—	60	50	10	—	—	Opacques	10	—	—	—	—	3	—	Pyroxene	Tr	—	—	Tr	15	5	—	Radiolarians	—	—	5	2	—	—	—	Serpentine	—	—	—	—	—	—	80	Zeolite	—	—	—	—	—	50	—	Epidote	1	—	—	—	—	3	—
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Silt	60	40	70	65	80	50	20																																																																																																																																																														
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Glass	40	80	3	10	53	24	—																																																																																																																																																														
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Epidote	1	—	—	—	—	3	—																																																																																																																																																														

SITE 782 HOLE A CORE 43X CORED INTERVAL 3358.4-3368.1 mbsf; 399.5-409.2 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB.	SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	MANNOFOSSILS	RADIOLARIANS	DIATOMS										
MIDDLE EOCENE	B	C/M	B				CC						ANDESITIC SANDSTONE AND CONGLOMERATE Major lithology: ANDESITIC SANDSTONE AND CONGLOMERATE, predominantly black (10YR 2/1). Immediately overlies andesitic basement rock. Matrix of sand and conglomerate is tuffaceous.	

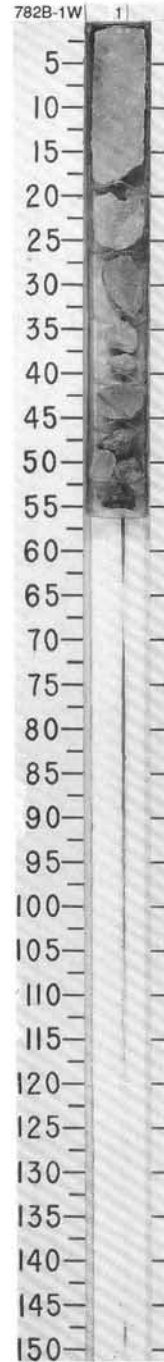


782A 44X NO RECOVERY
 782A 45X NO RECOVERY
 782A 46X NO RECOVERY
 782A 47X NO RECOVERY
 782A 48X NO RECOVERY
 782A 49X NO RECOVERY
 782A 50X NO RECOVERY

SITE 782 HOLE B CORE 1W CORED INTERVAL 2965.9-3428.2 mbsi; 0.0-459.3 mbsf

TIME-ROCK UNIT	BIOSTRAT. ZONE/ FOSSIL CHARACTER				PALEOMAGNETICS	PHYS. PROPERTIES	CHEMISTRY	SECTION	METERS	GRAPHIC LITHOLOGY	DRILLING DISTURB. SED. STRUCTURES	SAMPLES	LITHOLOGIC DESCRIPTION
	FORAMINIFERS	NANNOFOSSILS	RADIOLARIANS	DIATOMS									
								1	0.5				<p>NANNOFOSSIL CHALK and NANNOFOSSIL-RICH CHALK</p> <p>Major lithologies: NANNOFOSSIL CHALK, gray (5Y 6/1), is present in Section 1 from 0-25, and 34-40 cm. NANNOFOSSIL-RICH CHALK, gray (5Y 5/1), is present in Section 1 from 26-34 cm. All of the chalk is bioturbated.</p>

782B 2R NO RECOVERY

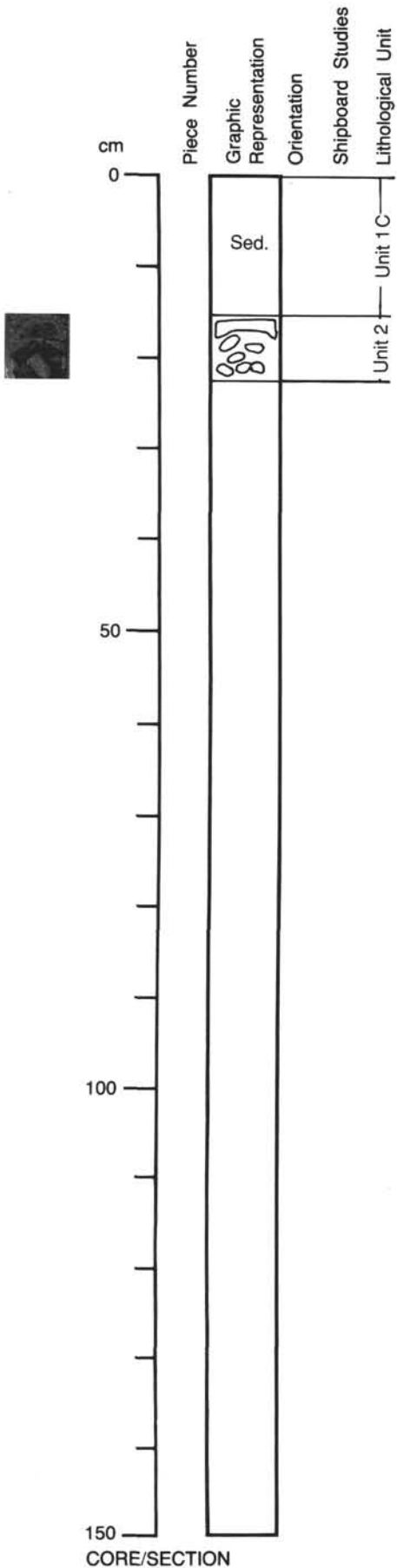


125-782A-43X-CC

UNIT 2: PLAGIOCLASE-HYPERSTHENE ANDESITE

Pieces multiple fragments

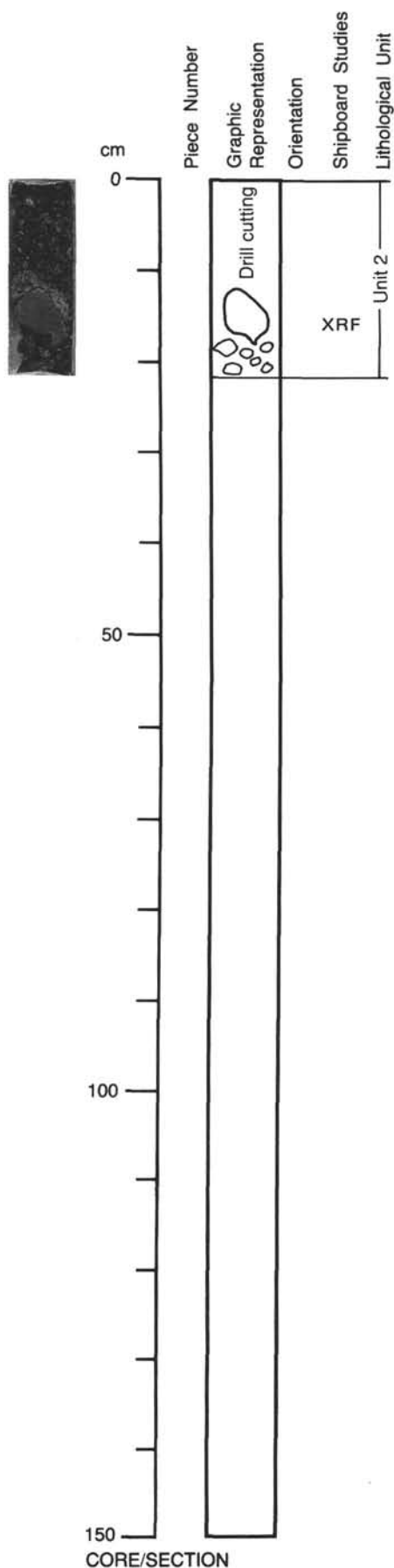
CONTACTS: Not visible.
PHENOCRYSTS: Plagioclase and pyroxene in glomerocrysts.
 Plagioclase 10%; <2 mm; euhedral, also in glomerocrysts.
 Hypersthene - 5%; <1 mm; euhedral, also in glomerocrysts.
 Augite - 3%; <2 mm; euhedral, with hypersthene in glomerocrysts.
 Magnetite - 1%; <0.5 mm; octahedral shape.
GROUNDMASS: No crystals visible.
VESICLES: 2%; <3 mm; may be interconnected; random.
 Miaroles: None.
COLOR: Gray (2.5Y 5/0).
STRUCTURE: None
ALTERATION: Fresh.
VEINS/FRACTURES: Not present.



125-782A-44X-CC

UNIT 2: PLAGIOCLASE-HYPERSTHENE PHYRIC ANDESITE

Pieces cuttings and large fragment



CONTACTS: Not visible.
PHENOCRYSTS: Glomerocrysts are common, especially plagioclase and pyroxene.
 Plagioclase - 10%; <2 mm; single phenocrysts and glomerocrysts.
 Hypersthene - 5%; <1 mm; pheno- and glomerocrysts, golden green, altering to green-bluish zeolite?
 Magnetite - 1%; <0.5 mm; octahedral shape.
GROUNDMASS: No crystals visible, very vesiculated.
VESICLES: 5%; <3 mm; elongated; perhaps interconnected; locally concentrated.
 Miaroles: None.
COLOR: Greenish black (5G 3/2).
STRUCTURE: None.
ALTERATION: Groundmass is altered.
VEINS/FRACTURES: Not present.

125-782A-45X-1

UNIT 2: ANDESITE

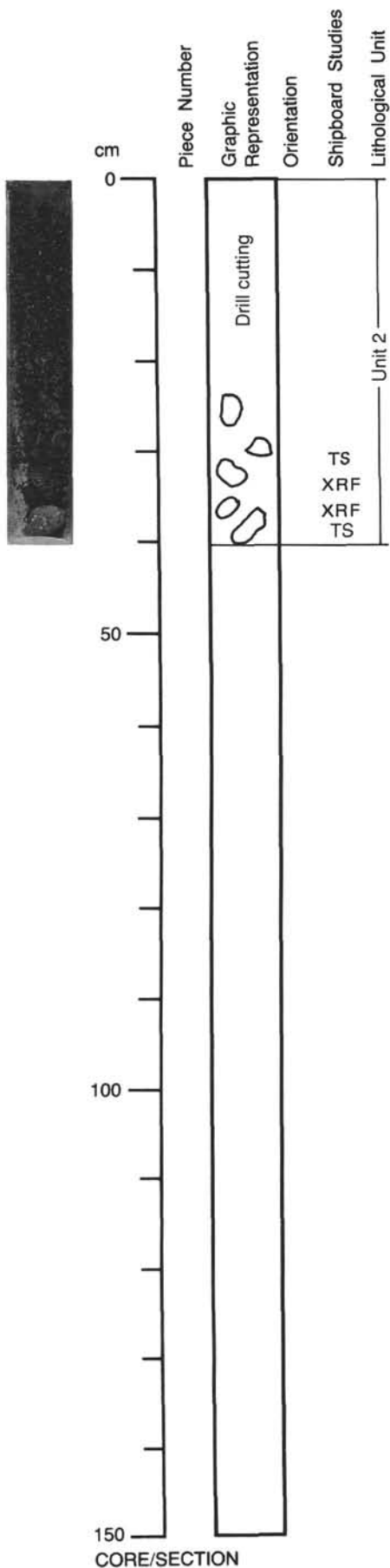
Pieces drill cuttings

CONTACTS: Not visible.
PHENOCRYSTS: Glomerocrysts.
 Plagioclase - 10%; <2 mm; euhedral.
 Hypersthene - 1%; <1 mm; euhedral.
 Magnetite - <1%; < 0.5 mm; octahedral.
 Augite - 5%; <2 mm; euhedral.
GROUNDMASS: Approximately 30-40%, no crystals visible.
VESICLES: 1%; <1 mm; irregular; random.
 Miaroles: None.
COLOR: Brownish gray (2.5Y 3/2).
STRUCTURE: None.
ALTERATION: Pyroxene altered to an unidentified greenish phase.
VEINS/FRACTURES: 1%; 1 mm diameter; none; sugary white material with silky luster.

UNIT 2: PYROXENE PHYRIC DACITE

Pieces various, drill cuttings

CONTACTS: None visible.
PHENOCRYSTS:
 Plagioclase - 25%; 2-4 mm.
 Pyroxene - <5%; <2 mm.
GROUNDMASS: Approximately 65-70%, no matrix phases visible.
VESICLES: 10%; <3 mm; irregular; random.
 Miaroles: None.
COLOR: Brownish gray (2.5Y 3/2).
STRUCTURE: None visible.
ALTERATION: Minor (<2-5%) chloritization.
VEINS/FRACTURES: None visible.



125-782A-49X-CC

UNIT 2: PLAGIOCLASE PHYRIC ANDESITE

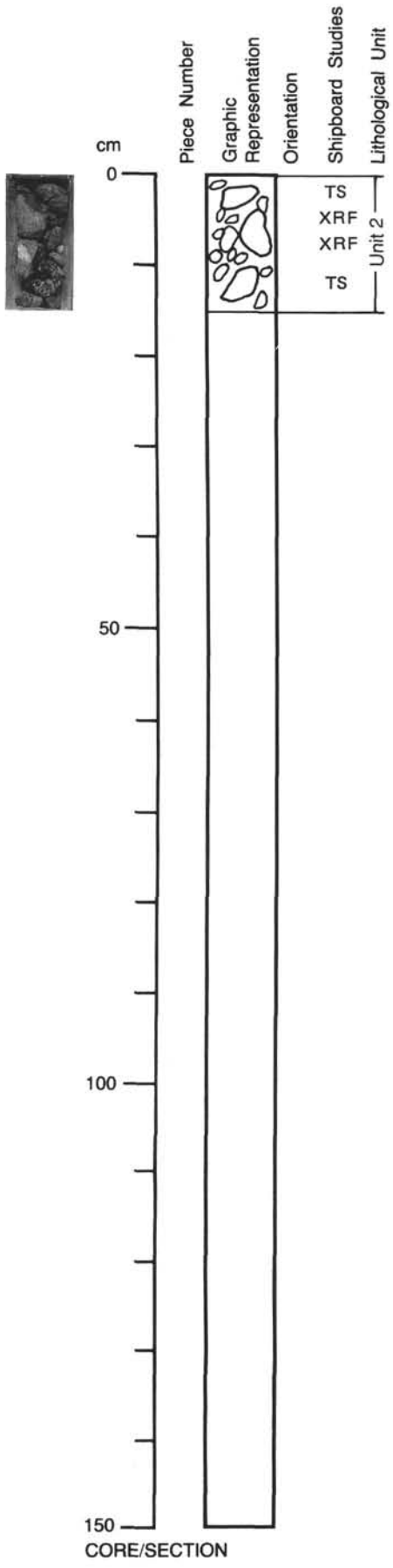
Pieces multiple rounded fragments

CONTACTS: Not visible.
PHENOCRYSTS:
 Plagioclase - 5%; <2 mm; elongate, tabular.
 Pyroxene - <3%; <1 mm.
GROUNDMASS: Approximately 65-75% matrix/glass, no crystals visible.
VESICLES: 3-5%; 3 to 15 mm; round; random; appear as trains of bubbles (pipe vesicles?).
 Microles: None present.
COLOR: Gray (2.5Y 2/0).
STRUCTURE: None.
ALTERATION: Fresh.
VEINS/FRACTURES: Not present.

UNIT 2: ANDESITE GLASS

Pieces multiple fragments

CONTACTS: Not visible.
PHENOCRYSTS:
 Plagioclase - 20%; <3 mm; euhedral.
 Augite - 10%; <2 mm; euhedral.
 Hypersthene - 10%; <2 mm; euhedral.
GROUNDMASS: Glass.
VESICLES: 20%; <3 mm in diameter; elongate, interconnected; random; like parallel tubes.
COLOR: Black.
STRUCTURE: None.
ALTERATION: Some alteration of orthopyroxene.
VEINS/FRACTURES: None.



125-782A-50X-1

UNIT 2: PLAGIOCLASE PHYRIC ANDESITE

Pieces multiple rounded fragments

CONTACTS: None visible.

PHENOCRYSTS:

Plagioclase - 5%; <2 mm; elongate, tabular.

Pyroxene - <3%; <1 mm.

GROUNDMASS: Approximately 65-75% matrix/glass, no crystals visible

VESICLES: 3-5%; 3 to 5 mm; round; random; appear as trains of bubbles (pipe vesicles?).

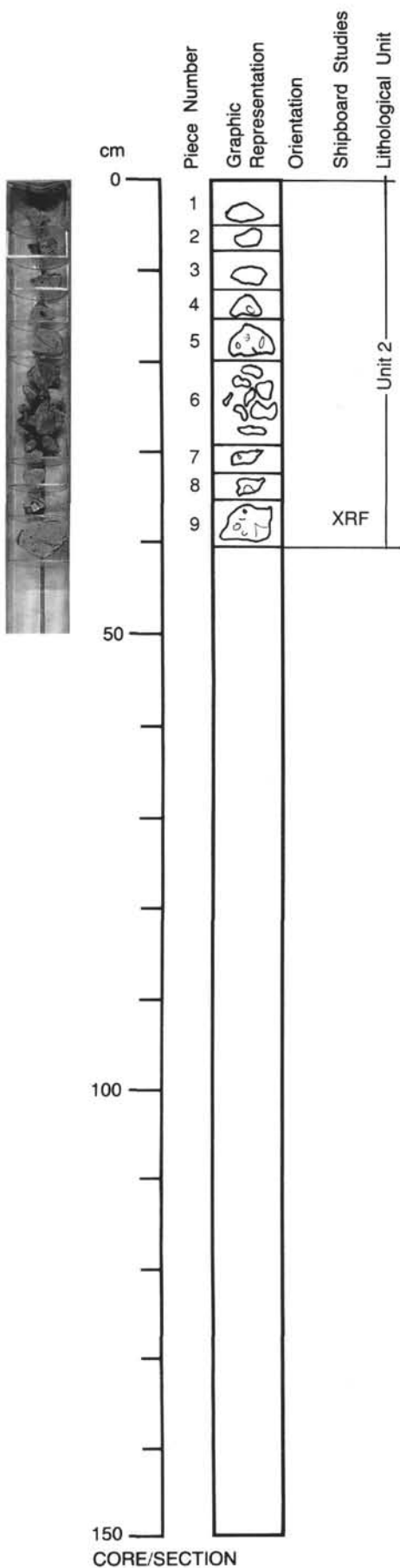
Miaroles: None present.

COLOR: Gray (2.5Y 2/0).

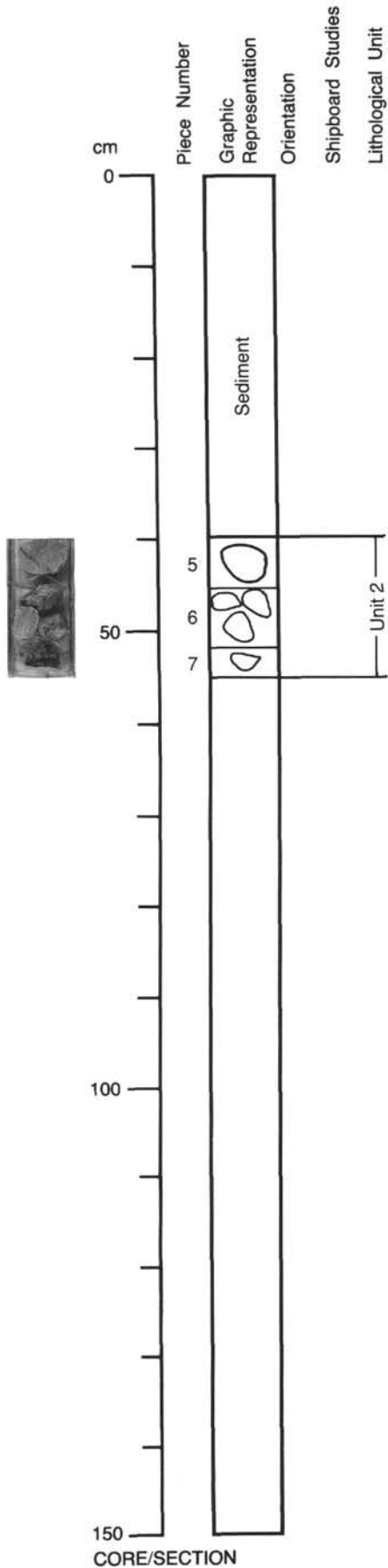
STRUCTURE: None.

ALTERATION: Fresh.

VEINS/FRACTURES: Not present.



125-782B-1W-1



UNIT 2: ANDESITE

Pieces 5, 6A, B, C

CONTACTS: Not visible.
PHENOCRYSTS: Plagioclase and augite in glomerocrysts.
 Plagioclase - 10-20%; 1-3 mm; euhedral; also in glomerocrysts.
 Augite - 1-3%; <1 mm; euhedral.
 Magnetite - <1%; <1 mm; octahedral.
GROUNDMASS: No crystals visible.
VESICLES: <5%; <2 mm; elongate, irregular; random.
COLOR: Light gray to gray (7.5YR 5/0 to 7.5YR 4/0).
STRUCTURE: None.
ALTERATION: Not visible.
VEINS/FRACTURES: Not present.

UNIT 2: GLASSY ANDESITE

Piece 7

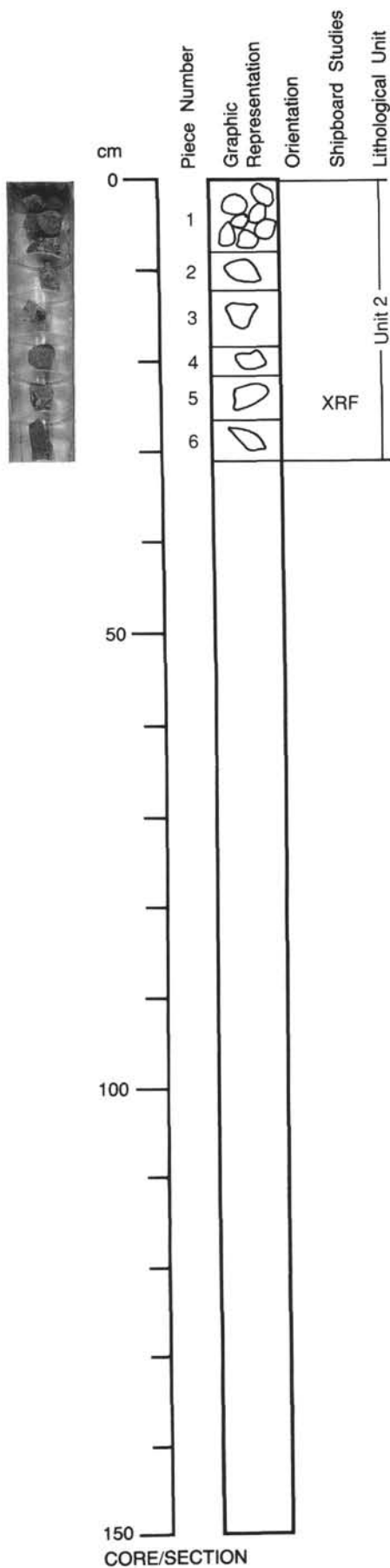
CONTACTS: Not visible.
PHENOCRYSTS:
 Plagioclase - 15%; 1-2 mm; euhedral.
GROUNDMASS: Black to golden glass.
VESICLES: 30%; up to 1 cm; elongate, parallel; random; collapsed?
COLOR: Black (10YR 2/1).
STRUCTURE: Trachytic plagioclase in glass.
ALTERATION: None.
VEINS/FRACTURES: Not present.

125-782B-2R-1

UNIT 2: ANDESITE

Pieces 1-6

CONTACTS: Not visible.
PHENOCRYSTS:
 Plagioclase - 10-15%; 1-3 mm; euhedral.
 Augite - 1%; <2 mm; euhedral.
 Magnetite - trace; <0.3 mm; octahedral.
GROUNDMASS: No crystals visible.
VESICLES: 5%; <3 mm; round; random.
 Miaroles: With plagioclase.
COLOR: Gray (2.5Y 5/0).
STRUCTURE: None.
ALTERATION: Not visible.
VEINS/FRACTURES: Absent.



SITE 782

125-782A-31X-02 (71-75 cm)

OBSERVER: ARC

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Clasts in calcareous sediment

GRAIN SIZE: Fine-grained, <0.5 mm

TEXTURE: Highly phyrlic to aphyric

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Clinopyroxene	5	5	0.2-0.5		Elongate	Fresh
Orthopyroxene	5	5	0.2		Elongate	Some with quench overgrowths.
GROUNDMASS						
Glass	N/A	<60	N/A		N/A	
Plagioclase	N/A	<30	<0.02		Quench	

VESICLES/CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	10	Random	<0.1	None	Circular-e longate.	Numerous elongate vesicles.

COMMENTS: Several rounded to subangular clasts, <3 mm in diameter. 1) Clinopyroxene-phyric in light brown glass with quench crystals of feldspar. 2) Clinopyroxene-orthopyroxene (<0.2 mm long)-phyric in light brown glass with quench (swallowtailed) plagioclase. 3) Orthopyroxene-clinopyroxene-plagioclase-phyric in light brown glass with quench crystals of feldspar (crystals: <0.2 mm) plus individual crystals of plagioclase and clinopyroxene <0.5 mm across, some with fluid-filled inclusions. 4) Laminated highly phyrlic with ~45% plagioclase, 50% clinopyroxene, 5% Fe-Ti oxide. 5) Some chloritized pyroxene; <0.01-mm angular crystals. No piece number given.

125-782A-32X-04 (144-146 cm)

OBSERVER: ARC

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Clasts in sediment

GRAIN SIZE: Fine-grained, <0.02 mm

TEXTURE: Highly phyrlic to aphyric

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	20	20	0.02		Euhedral	Elongate.
Orthopyroxene	<5	<5	0.01		Euhedral	Elongate with quench tails.
GROUNDMASS						
Glass	<70	<70	N/A		N/A	Light brown, variable alteration.
Plagioclase	5	5	<0.01		Acicular	Quench shapes.
Fe-Ti oxide	Trace	Trace	<0.01		Euhedral	Variable amounts.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Clays	<80	Glass	Variable degree of alteration of glass in groundmass.
Chlorite	Trace	Glass	

VESICLES/CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	<20	Random	<0.2	Some clays	Circular	Some vesicle-poor, some contain 20% vesicles.

COMMENTS: Numerous angular to semirounded clasts (<0.5 mm mostly, a few <2 mm across). 1) Microphyric with elongate plagioclase <0.1-mm long 20%; clinopyroxene trace (<0.1 mm) in glass; trace euhedral magnetite <0.05 mm in size. 2) Plagioclase-feldspar granular-structured <0.04 mm across. 3) Microgabbro - 40% elongate plagioclase, 55% clinopyroxene, 5% Fe-Ti oxide. 4) Individual clinopyroxene and plagioclase crystals <0.5 mm, some with fresh light brown glass inclusions, both circular and as negative crystal outlines. Some clinopyroxene is chloritized. No piece number given.

125-782A-41X-CC (40-42 cm)

OBSERVER: VAN

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Andesite

GRAIN SIZE: Fine-grained

TEXTURE: Porphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	5	5	<0.4		Euhedral to anhedral, often rounded	Often fractured (preparation?).
GROUNDMASS						
Plagioclase	0	20	<0.008		Euhedral	Completely albitized based on parallel extinction.
Opagues	10	10	<0.02		Euhedral	
Pyroxene	0	30	<0.005		Euhedral	Altered to greenschist minerals.
Glass	0	35	N/A		N/A	
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	35	Glass				
Clays	10	Pyroxene				
Chlorite	20	Pyroxene				
Albite	20	Plagioclase			Pseudomorphic.	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	15	Throughout	<1	None	Irregular

COMMENTS: No piece number given.

125-782A-42X-02 (101-105 cm)

OBSERVER: JOH

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Plagioclase-phyric basalt

GRAIN SIZE: Fine-grained, glassy, 0.1-0.3 mm

TEXTURE: Glassy

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	2-3	2-3	0.5-1		Euhedral-subhedral	Opaque and glass inclusions, Carlsbad twinning.
Clinopyroxene	<1	<1	1		Subhedral	Rim around crystals of different extinction may be out of equilibrium or product of alteration.
GROUNDMASS						
Plagioclase	15-20	15-25	0.05-0.2		Euhedral, laths	Irregular shaped (blobs) glass inclusions.
Clinopyroxene	2-5	2-5	0.1-0.15		Euhedral-subhedral	
Magnetite	1-2	1-2	0.01-0.03		Euhedral	
Glass	60-70	70-80	N/A		N/A	Deep brown, recrystallized, slightly chloritized.
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	10-25	Glass			Brown, amorphous.	
Chlorite	2-5	Glass, clinopyroxene			Slightly green.	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	15-20	Throughout	0.1-1.5	Glass, magnetite	Round-elongate	Some glass and opaque filling, maybe some fluid.

COMMENTS: Plagioclase laths in glassy matrix show preferred orientation locally - may be flow banding. No piece number given.

SITE 782

125-782A-45X-01 (30-32 cm)

OBSERVER: VAN

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Andesite

GRAIN SIZE: <2 mm

TEXTURE: Porphyritic, trachytic groundmass

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	10	10	<2		Euhedral	Zoned; glass + vapor phase inclusions. Green color; not pleochroic; only in glomerocrysts with plagioclase.
Clinopyroxene	1	1	<1		Anhedral to subhedral	
Spinel	Trace	Trace	N/A		Euhedral	
Orthopyroxene	1	1	<1		Euhedral	Inclusions in plagioclase. Yellow-green pleochroism; in glomerocrysts with plagioclase.
Magnetite	N/A	N/A	<0.3		Euhedral	Also as single phenocrysts.
GROUNDMASS						
Glass	Trace	36	N/A		N/A	Present in and near glomerocrysts, brown color.
Magnetite	2	2	N/A		N/A	Largely albitized. Altered to greenschist faces minerals.
Plagioclase	Trace	20	<0.05		N/A	
Pyroxene	0	30	N/A		N/A	
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	36	Glass				With clay; submicroscopic size; replacing pyroxene in groundmass.
Clays	15	Pyroxene				
Chlorite	15	Pyroxene				
Albite	20	Groundmass/plagioclase				
VESICLES/CAVITIES						
	PERCENT	LOCATION	SIZE (mm)		FILLING	SHAPE
Vesicles	2	Random	<1		None	Irregular

COMMENTS: No piece number given.

125-782A-45X-01 (37-39 cm)

OBSERVER: ARC

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Two pyroxene dacite

GRAIN SIZE: 1-4 mm

TEXTURE: Moderately phyrlic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	25	25	2-4		Euhedral	Oscillatory zoned; contain fresh brown glass inclusions.
Clinopyroxene	3	3	<2		Tabular, euhedral	Some small crystal enclosed in plagioclase.
Spinel (magnetite)	1	1	<1		Euhedral	
Orthopyroxene	1	1	<2		Tabular, euhedral	Strong pink-brown-green pleochroism; contain glass inclusions.
Apatite	Trace	Trace	<0.2		Euhedral	Enclosed in plagioclase and as microphenocrysts.
GROUNDMASS						
Glass	68	70	N/A		N/A	Contains numerous quench feldspar laths; some chloritic alteration along anastomosing fractures.
SECONDARY MINERALOGY						
Clays	1	REPLACING/ FILLING Glass				Occurs along fractures in glass.
Chlorite	2	Glass				Occurs along fractures.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	10	Random	<3	Some chlorite	Irregular	No preferred orientation.

COMMENTS: Glomerocrystic clusters of plagioclase, clinopyroxene and orthopyroxene and magnetite; quench-feldspar-free glass is trapped interstitially in these clusters. Magnetite has minor reaction rims, otherwise unexsolved. Appear to be traces of ilmenite and sulfide (enclosed in magnetite). No piece number given.

125-782A-49X-CC (3-5 cm)

OBSERVER: JOH

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Basalt

GRAIN SIZE: Fine-grained

TEXTURE: Quench, microphyric

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	5-7	5-7	0.3-1		Euhedral-subhedral, laths	Occurs as glomerocrysts.
Clinopyroxene	1-3	1-3	0.1-0.3		Euhedral-subhedral, equant	
Spinel	<1	<1	0.2-0.3		Euhedral	In plagioclase, clinopyroxene glomerocrysts.
GROUNDMASS						
Glass	50-65	60-70	N/A		N/A	Light yellow-brown fresh.
Plagioclase	20-25	20-25	0.01-0.04		Laths, subhedral	Quench locally aligned, spherulites.
Clinopyroxene	2-3	2-3	0.02-0.04		Subhedral, equant	Elongate, quench.
Opaque	<1	<1	<0.1		Euhedral	Disseminated, as inclusions.
SECONDARY MINERALOGY						
Clays	<5-10	REPLACING/ FILLING Glass				Brown amorphous clay disseminated through rock but concentrated more highly at one end.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	3-4	Throughout	0.02-1	None	Round-oblone	ng.

COMMENTS: Opaque microcrystals are concentrated in glassy patches and occur as inclusions in plagioclase and clinopyroxene phenocrysts. Plagioclase matrix crystals locally "flow" around phenocryst. No piece number given.

SITE 782

125-782A-49X-CC (11-15 cm)

OBSERVER: ARC

WHERE SAMPLED: Izu-Bonin outer-arc high

ROCK NAME: Two pyroxene andesite

GRAIN SIZE: 0.03-1.5 mm phenocrysts

TEXTURE: Porphyritic (moderately phyric)

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Plagioclase	5	5	<1.5	An60	Euhedral, tabular	Oscillatory zoned; albite twinned; contain glass inclusions.
Clinopyroxene	2	2	<0.6		Euhedral	Some are Carlsbad twinned.
Orthopyroxene	1	1	<0.3		Euhedral	
GROUNDMASS						
Glass	70	70	N/A		N/A	Fresh, brown with quench crystals.
Plagioclase	10	10	<0.3		Elongate	Elongate quench texture; needles.
Clinopyroxene	9	9	<0.3		Elongate	
Magnetite	3	3	<0.01-0.1		Euhedral	Dusty.
SECONDARY MINERALOGY						
Chlorite	Trace		REPLACING/ FILLING			COMMENTS Minor amount along fracture.
VESICLES/CAVITIES						
Vesicles	PERCENT 2	LOCATION Random	SIZE (mm) 15	FILLING None	SHAPE Circular-e longate	COMMENTS Appear to form trains of bubbles.

COMMENTS: Glomerocrystic clusters of plagioclase, clinopyroxene and orthopyroxene occur as well as isolated phenocrysts of these species. Fresh abundant glass dominates the groundmass with much quench-textured feldspar and pyroxene. No piece number given.