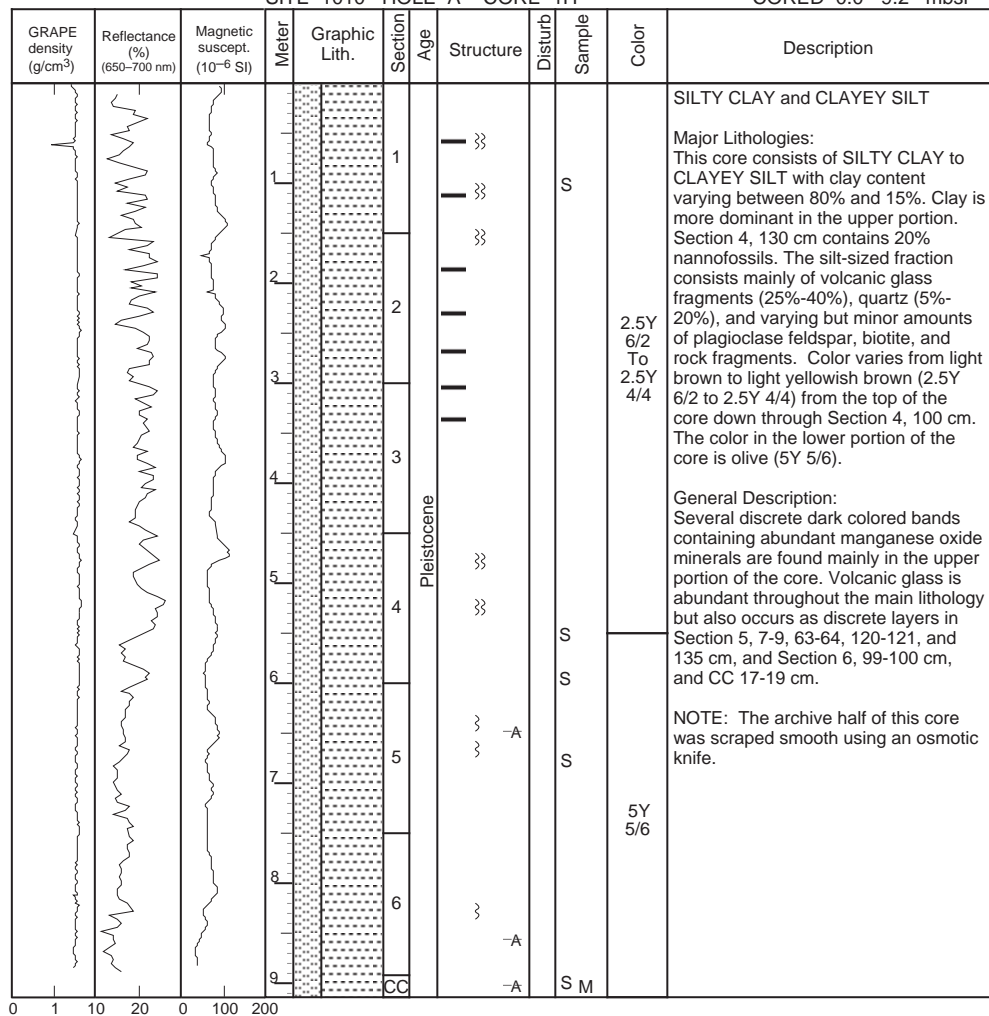


SITE 1010 HOLE A CORE 1H

CORED 0.0 - 9.2 mbsf

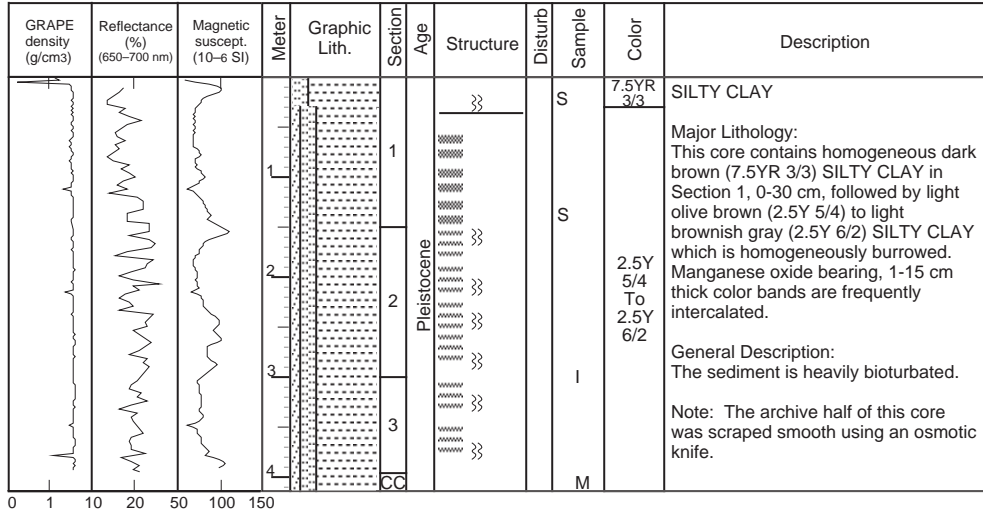


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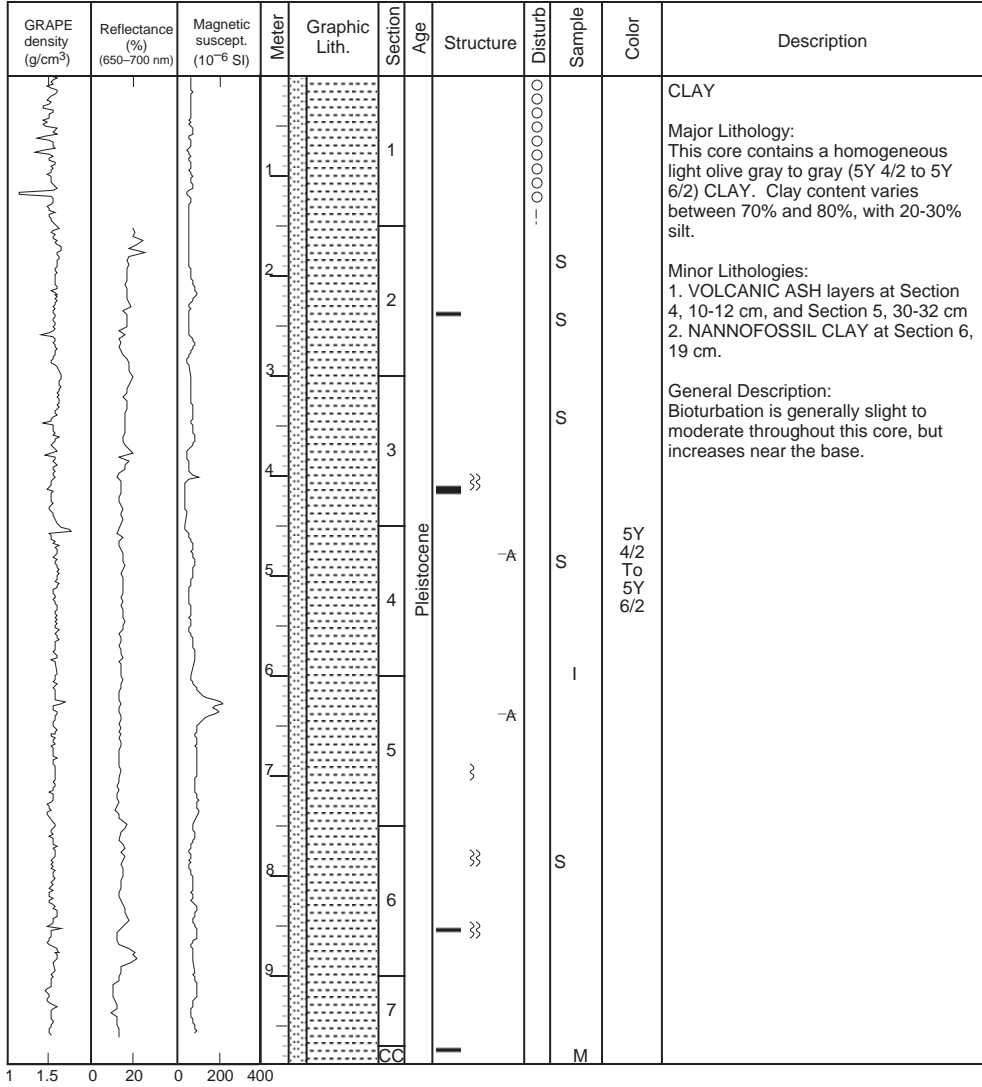
Next Chapter

SITE 1010 HOLE B CORE 1H CORED 0.0 - 4.2 mbsf

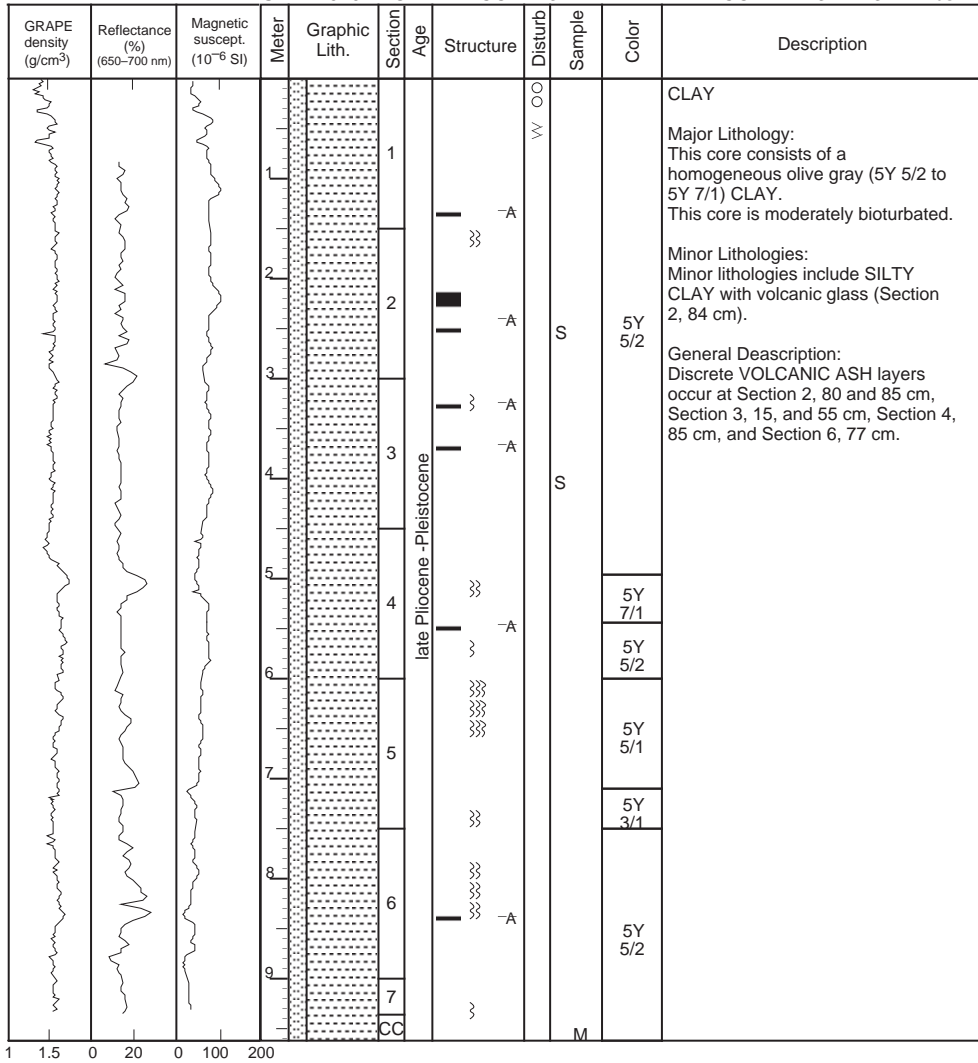


SITE 1010 HOLE B CORE 2H

CORED 4.2 - 13.7 mbsf

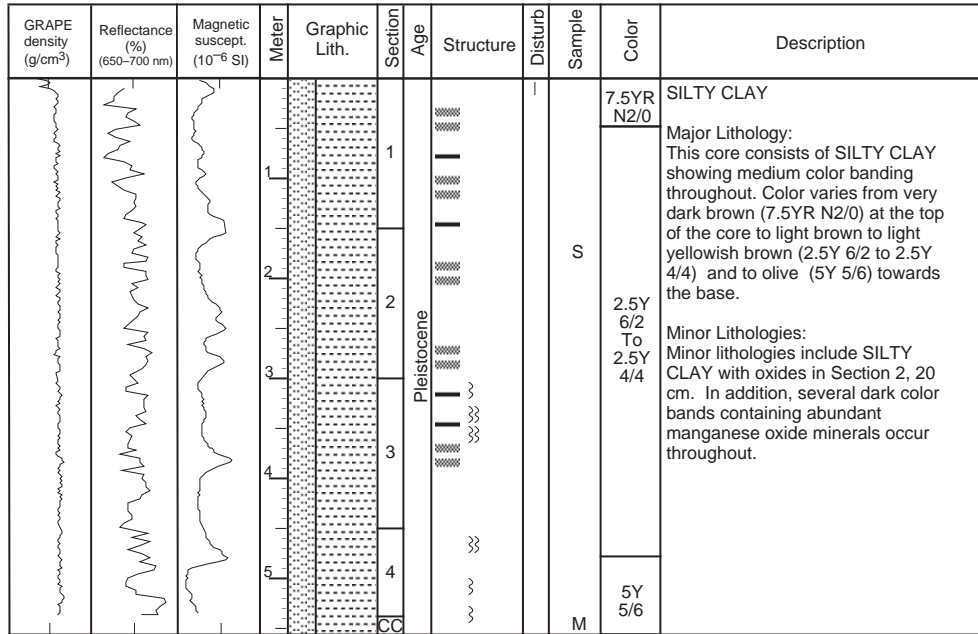


SITE 1010 HOLE B CORE 3H CORED 13.7 - 23.2 mbsf



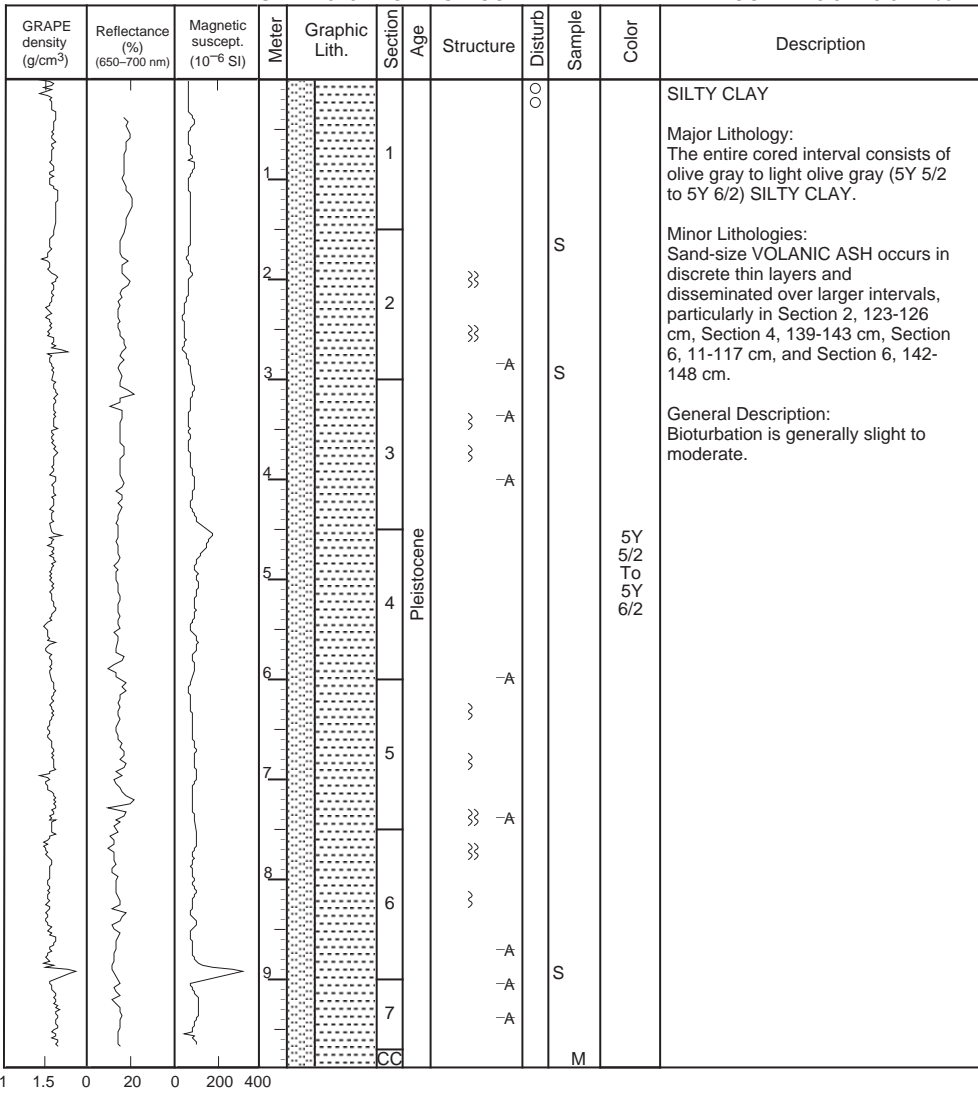
SITE 1010 HOLE C CORE 1H

CORED 0.0 - 5.5 mbsf



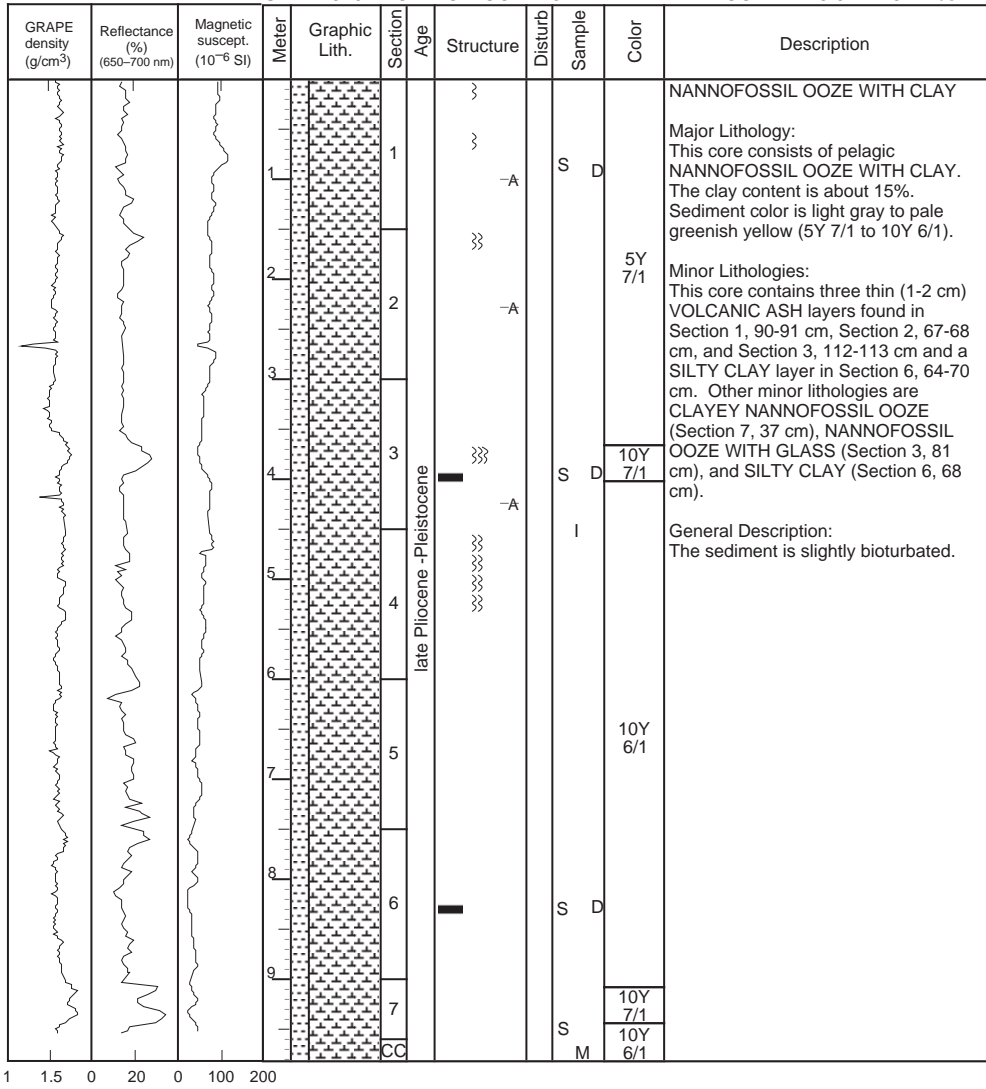
1 1.5 0 20 0 100 150

SITE 1010 HOLE C CORE 2H CORED 5.5 - 15.0 mbsf



SITE 1010 HOLE C CORE 3H

CORED 15.0 - 24.5 mbsf

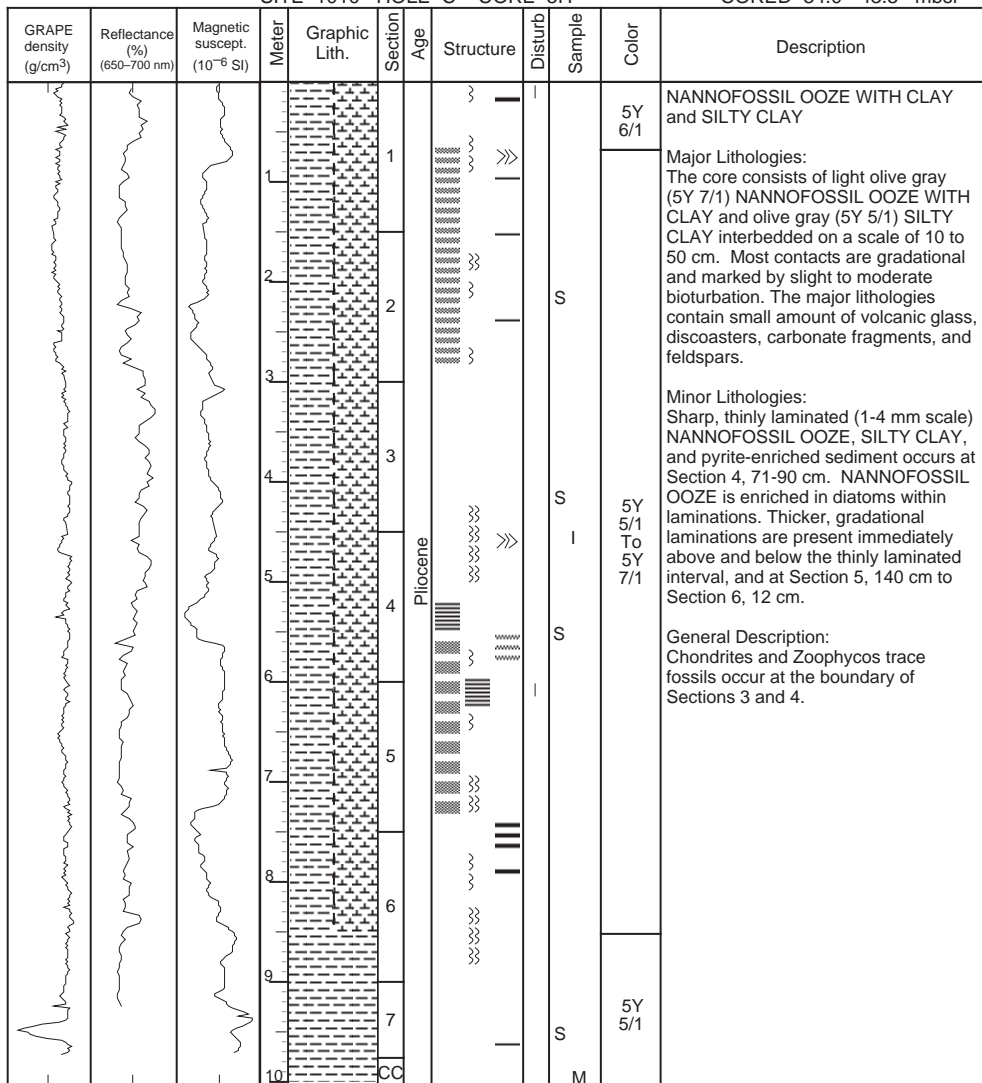


SITE 1010 HOLE C CORE 4H CORED 24.5 - 34.0 mbsf

GRAPE density (g/cm ³)	Reflectance (%) (650-700 nm)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description	
1 1.5 0 20 0 50 100			1		1						5Y 5/1	<p>SILTY CLAY, CLAYEY SILT WITH NANNOFOSSILS, NANNOFOSSIL OOZE WITH CLAY and CLAYEY NANNOFOSSIL OOZE</p> <p>Major Lithologies: Sediments alternate between gray (5Y 5/1) SILTY CLAY to CLAYEY SILT WITH NANNOFOSSILS and light gray (5Y 7/1) NANNOFOSSIL OOZE WITH CLAY and CLAYEY NANNOFOSSIL OOZE. Lithologies are interbedded on a scale of 30-70 cm.</p> <p>Minor Lithology: Several darker bands containing abundant VOLCANIC ASH occur throughout Sections 2 through 4.</p> <p>General Description: The sediments show only slight bioturbation.</p>
			2							5Y 6/1		
			3		S			5Y 5/1				
			4									
			5		I			5Y 7/1				
			6		S D							
			7		S			5Y 5/1				
			8									
			9					5Y 6/1				
			10		S			5Y 5/1				

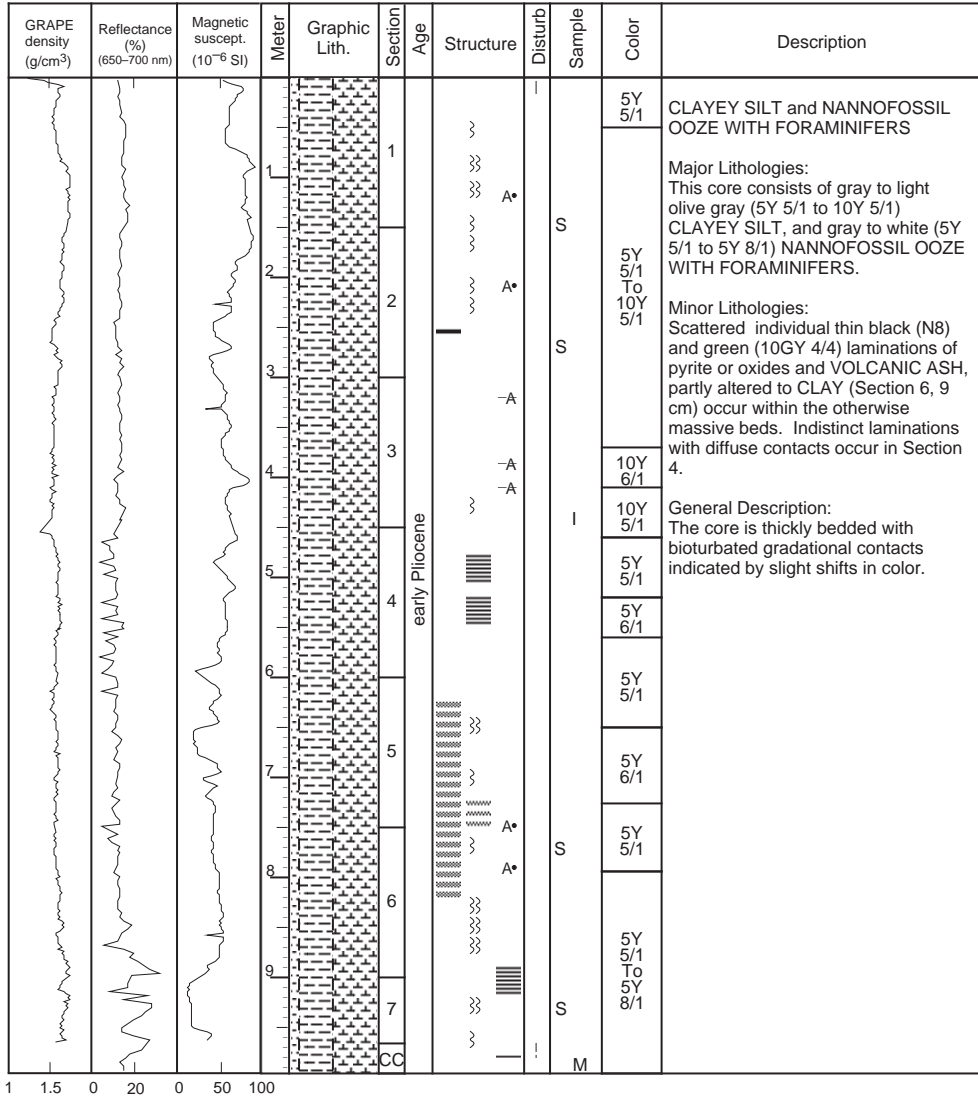
1 1.5 0 20 0 50 100

SITE 1010 HOLE C CORE 5H CORED 34.0 - 43.5 mbsf



1 1.5 0 20 0 50 100

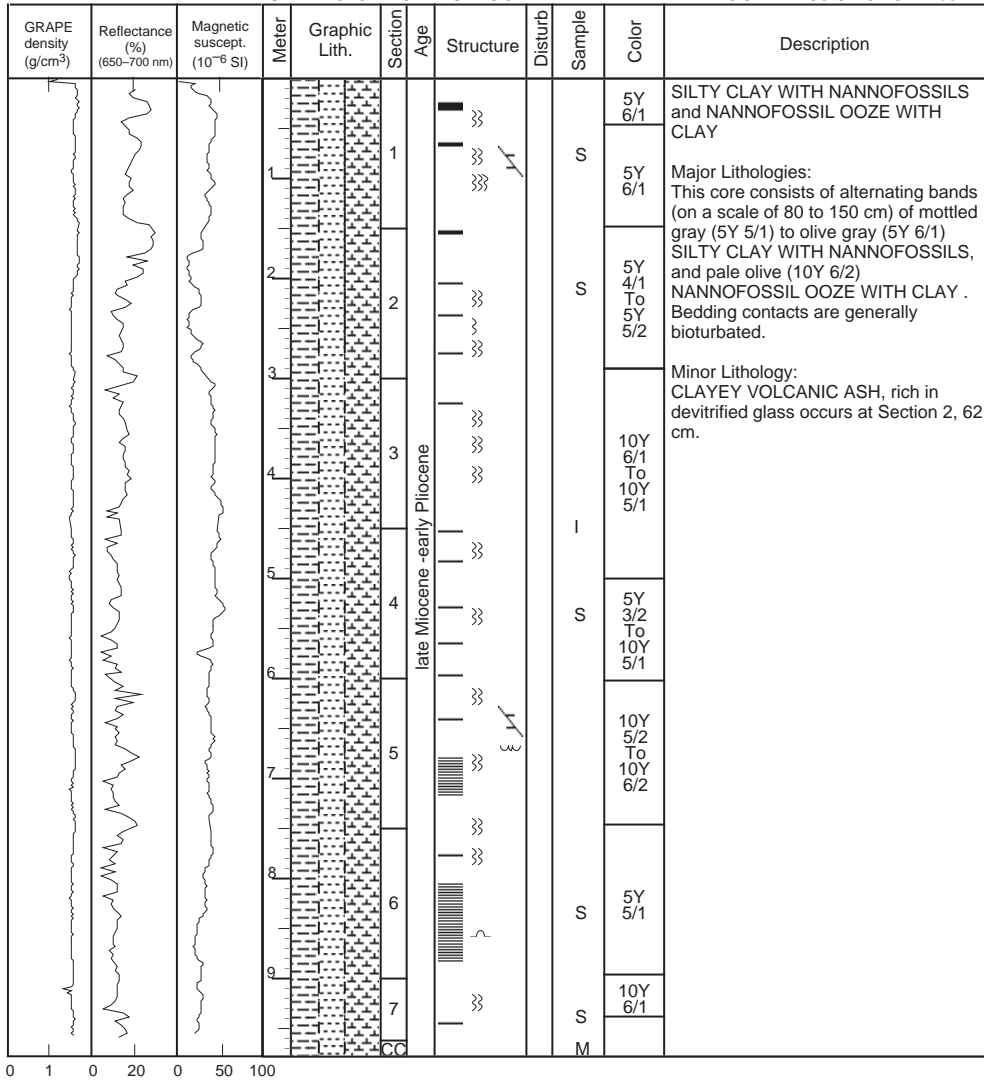
SITE 1010 HOLE C CORE 6H CORED 43.5 - 53.0 mbsf



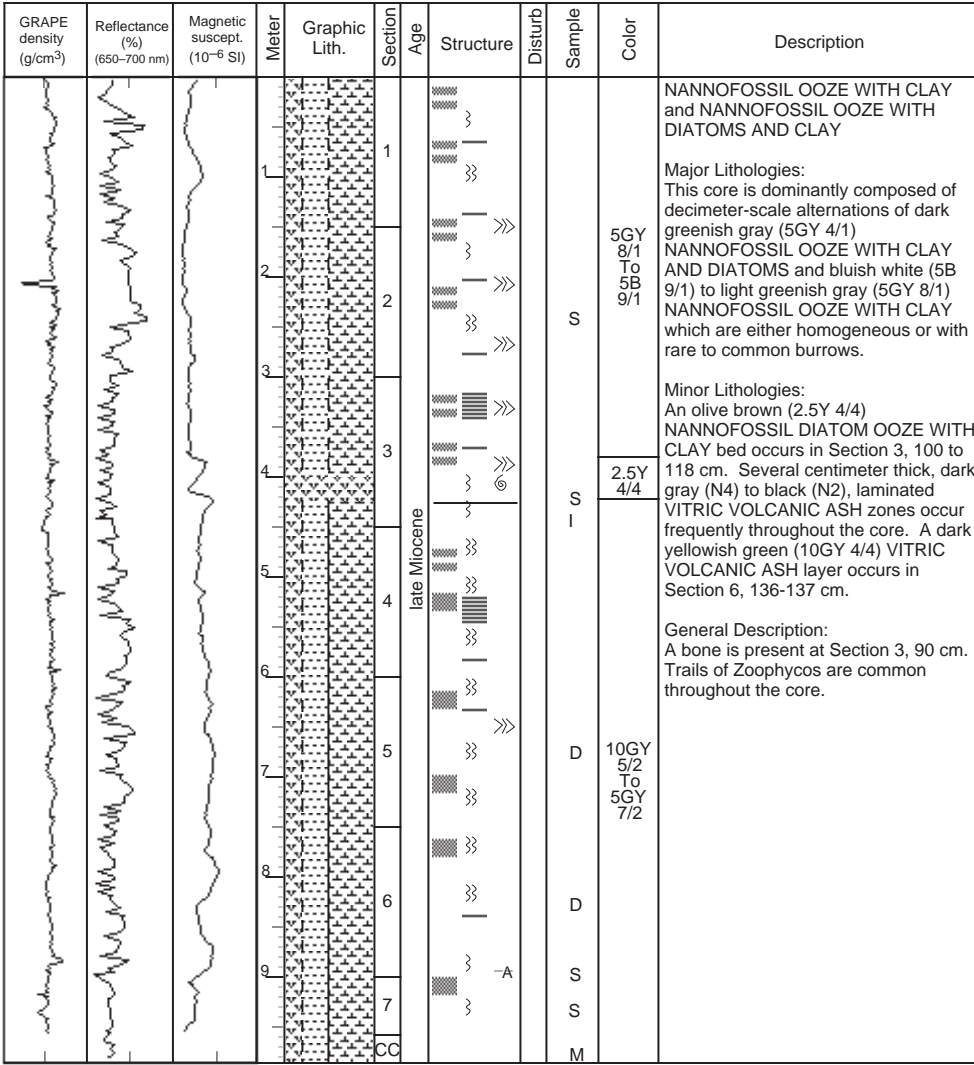
early Pliocene

SITE 1010 HOLE C CORE 7H

CORED 53.0 - 62.5 mbsf



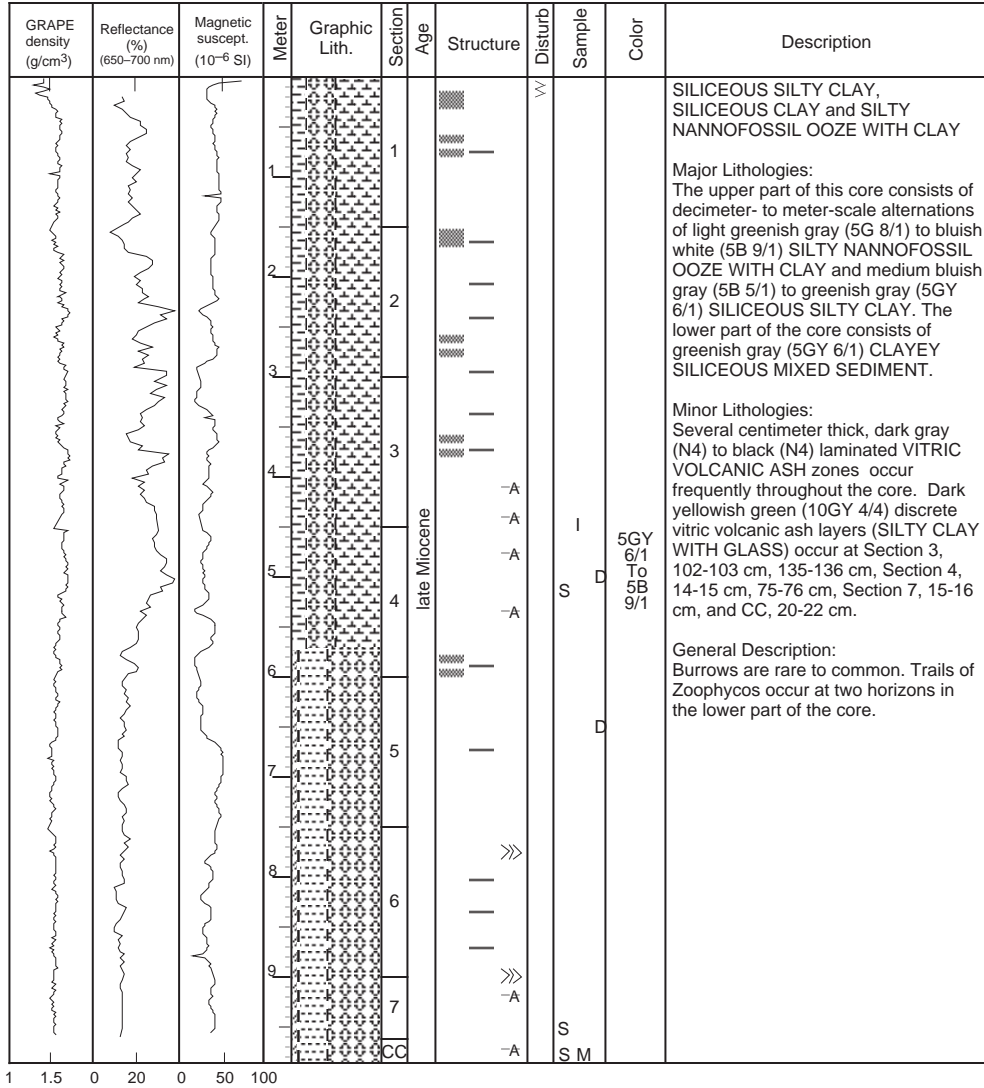
SITE 1010 HOLE C CORE 8H CORED 62.5 - 72.0 mbsf



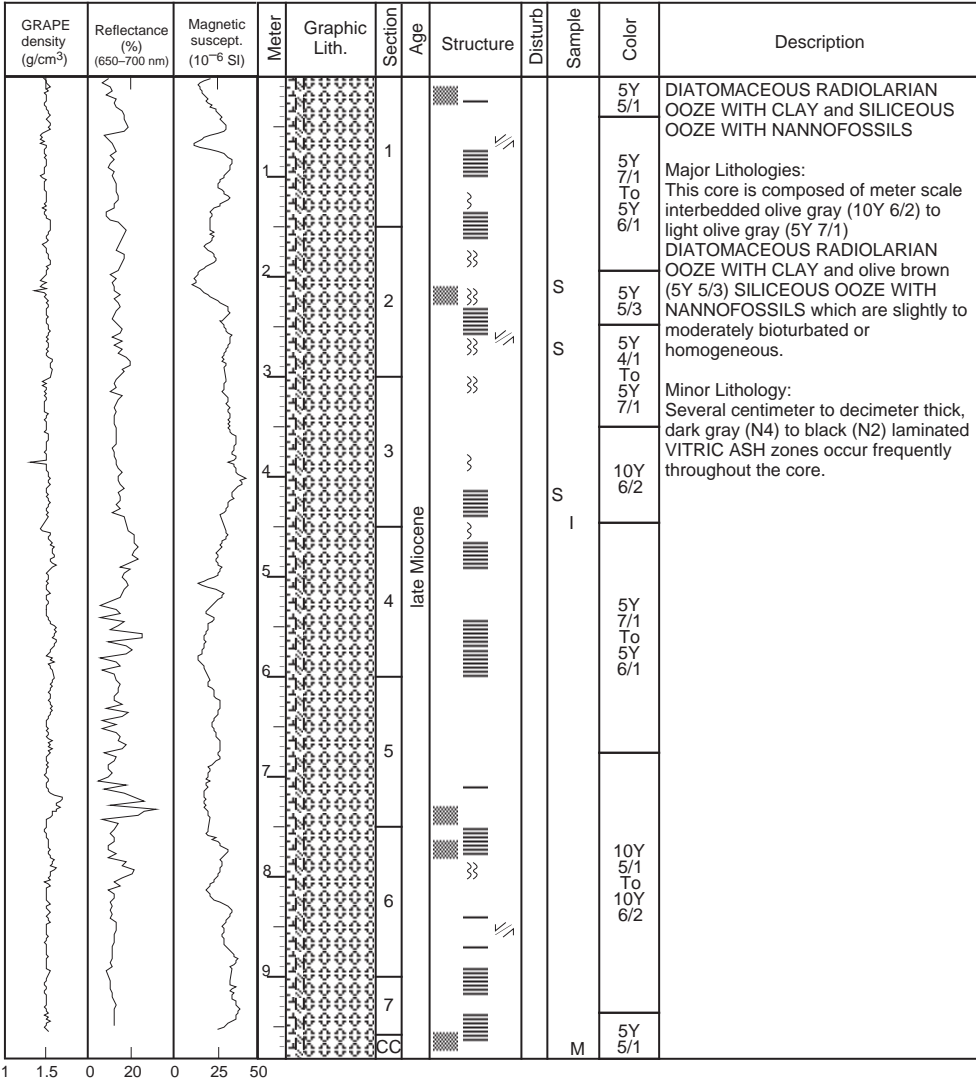
1 1.5 0 20 0 50 100

SITE 1010 HOLE C CORE 9H

CORED 72.0 - 81.5 mbsf

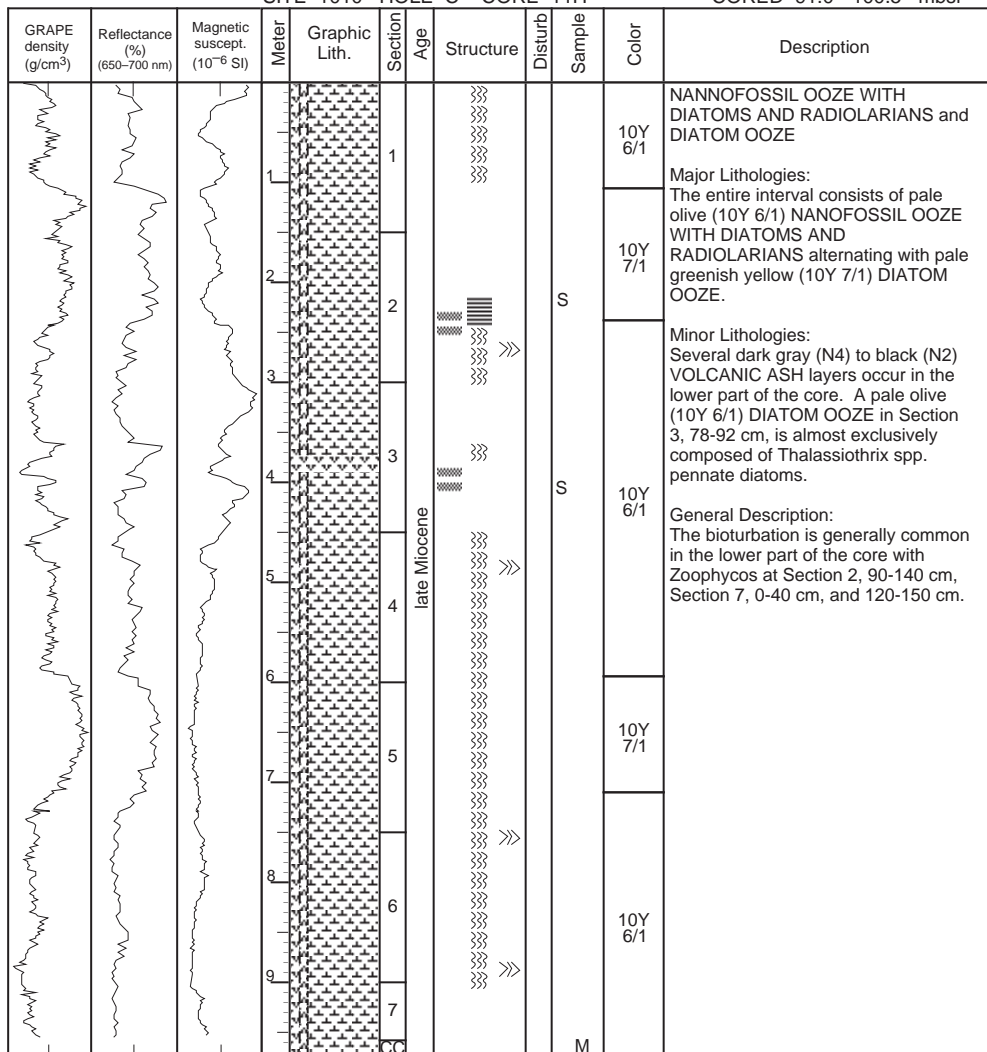


SITE 1010 HOLE C CORE 10H CORED 81.5 - 91.0 mbsf

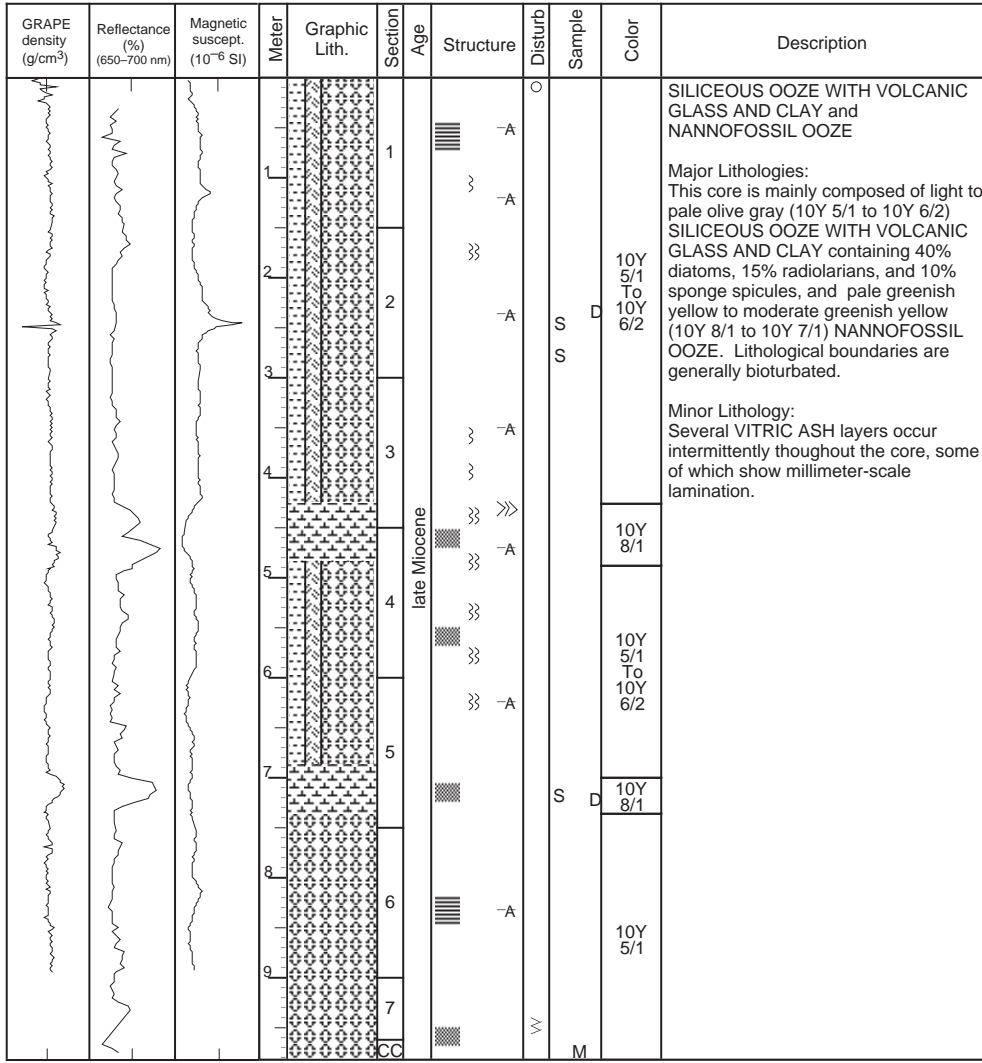


SITE 1010 HOLE C CORE 11H

CORED 91.0 - 100.5 mbsf

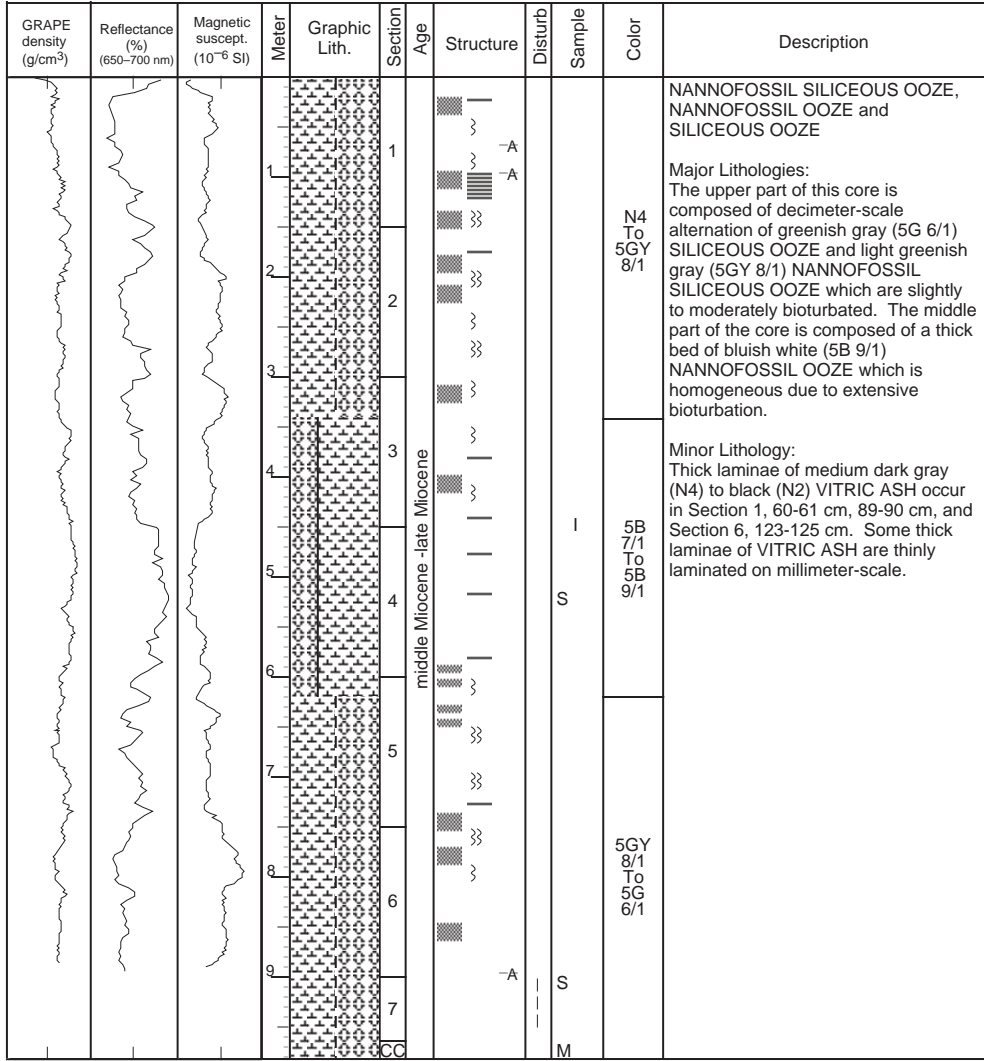


SITE 1010 HOLE C CORE 12H CORED 100.5 - 110.0 mbsf



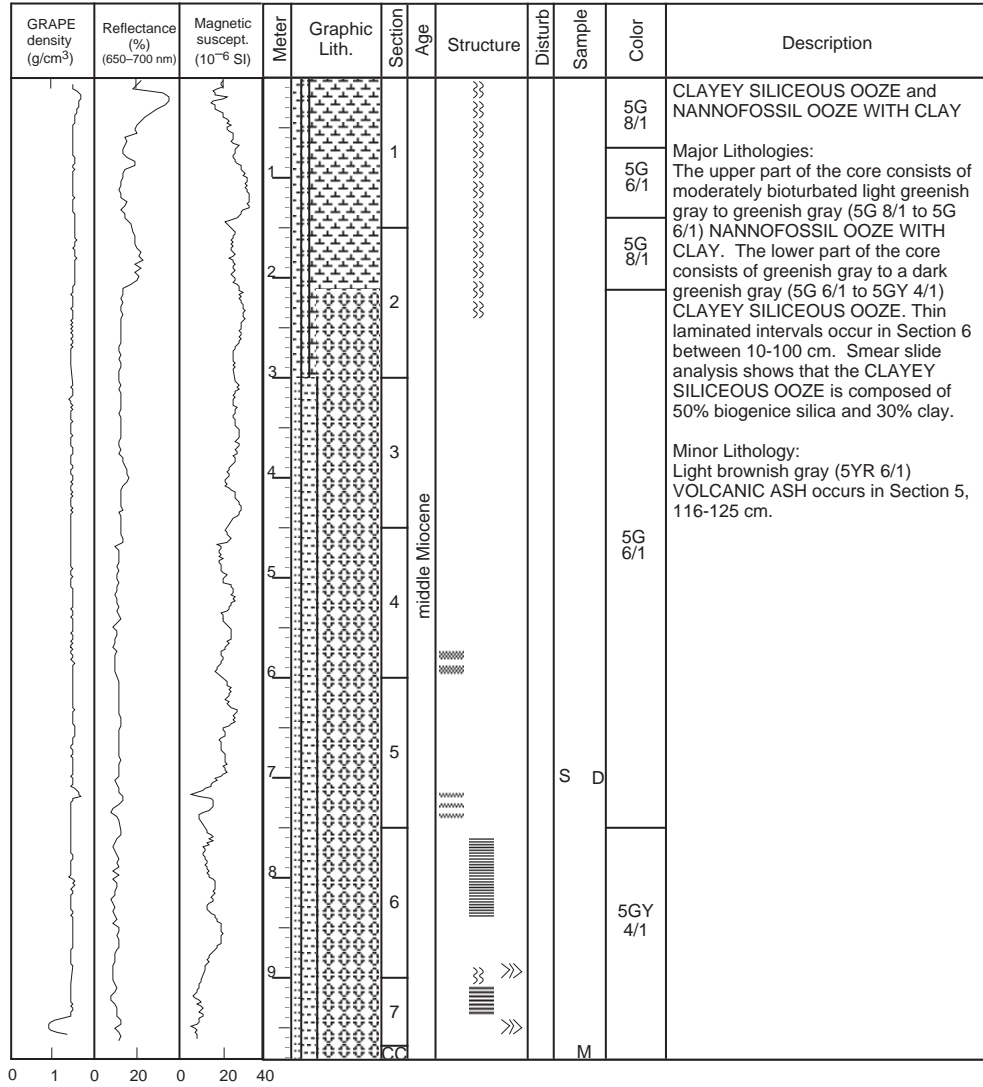
1 1.5 0 25 0 50 100

SITE 1010 HOLE C CORE 13H CORED 110.0 - 119.5 mbsf



1 1.5 0 25 0 20 40

SITE 1010 HOLE C CORE 14H CORED 119.5 - 129.0 mbsf

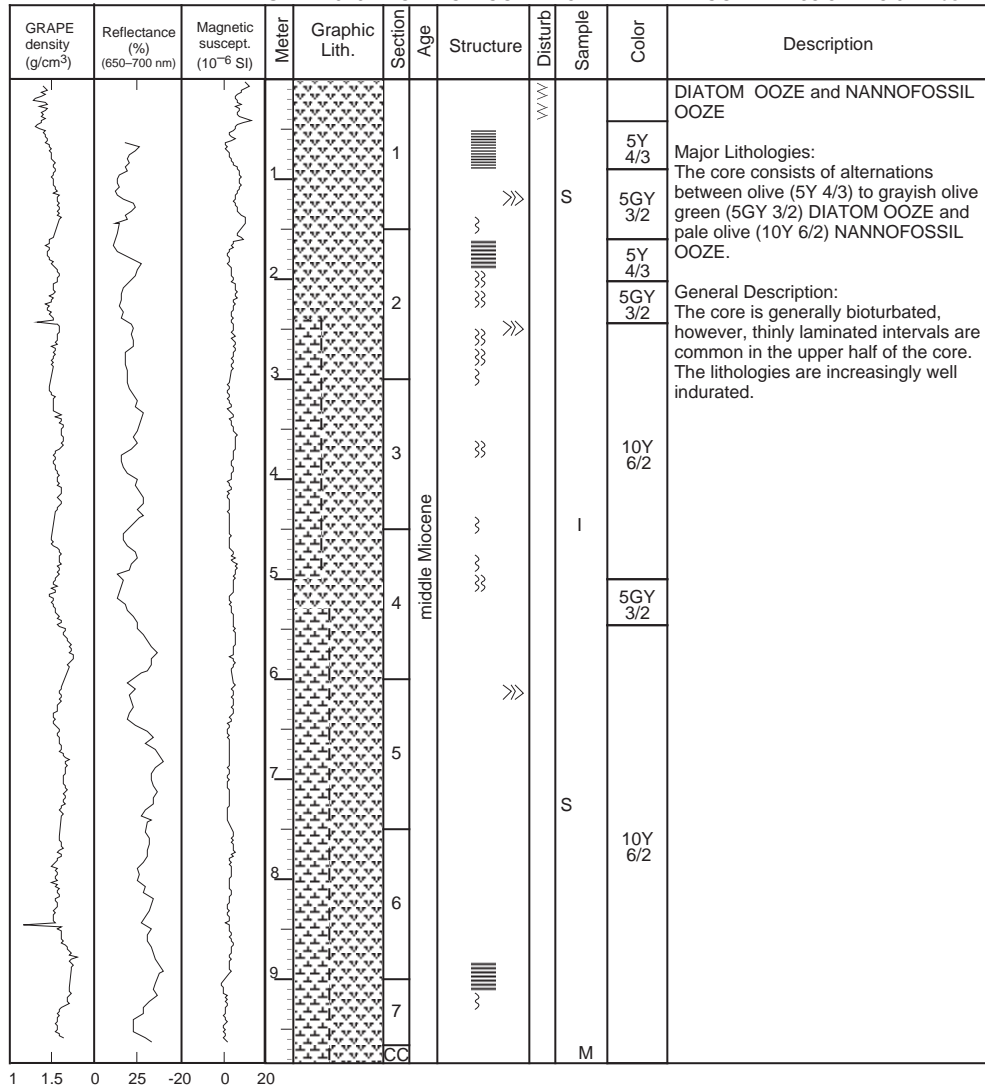


SITE 1010 HOLE C CORE 15H CORED 129.0 - 138.5 mbsf

GRAPE density (g/cm ³)	Reflectance (%) (650-700 nm)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
			1		1		}}				<p>SILICEOUS CLAYEY MIXED SEDIMENT and CLAYEY SILICEOUS OOZE</p> <p>Major Lithologies: This core consists of gradationally interbedded grayish green (5G 5/2) CLAYEY SILICEOUS MIXED SEDIMENT and (5Y 4/2 to 5Y 5/2) CLAYEY SILICEOUS OOZE.</p> <p>Minor Lithologies: Thin beds of dusky yellowish green (5Y 4/2) DIATOM OOZE WITH CLAY occur in Sections 2, 3, and 6. These have gradational boundaries. A single bed of light gray (5Y 7/1) NANNOFOSSIL OOZE WITH CLAY occurs in Section 4. A 5 cm-thick black graded VITRIC ASH WITH PYRITE bed with a sharp lower contact is present at Section 6, 123-128 cm. This bed is characterized by volcanic glass shards coated in pyrite. Other VOLCANIC ASH beds occur in Sections 1, 2, and 6.</p> <p>General Description: The core is mottled in appearance, often with reduction haloes surrounding burrows.</p>
			2		2		}}			5G 7/2	
			3		3		}}			5Y 4/3	
			4		3		}}			5G 5/2	
			5		4		}}			5Y 4/2	
			6		4		}}			5Y 4/3 To 5G 6/2	
			7		5		}}				
			8		6		}}			5Y 4/2 To 5Y 7/1	
			9		6		}}			5Y 4/3	
			10		7		}}			5GY 4/2	
					7		}}			5G 5/2	
					CC		}}				M

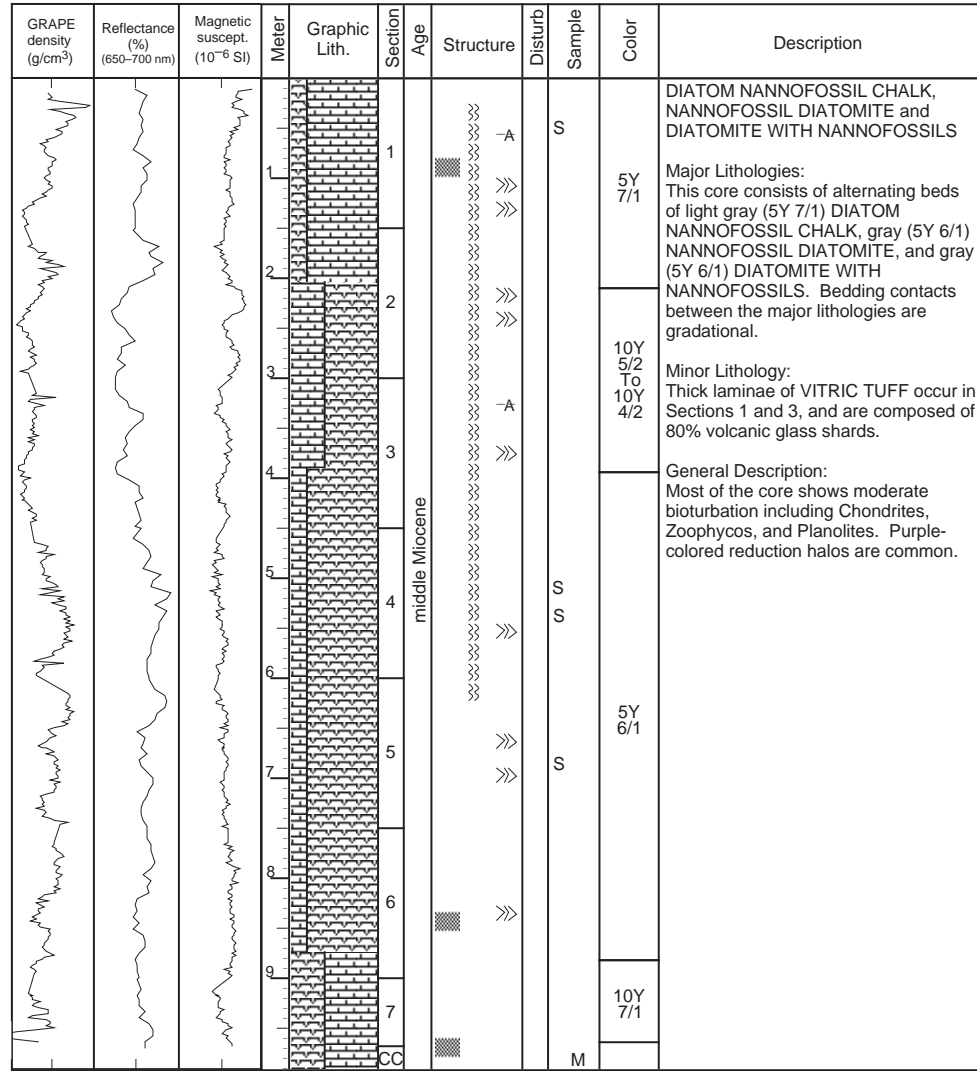
1 1.5 0 20 0 12.5 25

SITE 1010 HOLE C CORE 16H CORED 138.5 - 148.0 mbsf



SITE 1010 HOLE C CORE 17H

CORED 148.0 - 157.5 mbsf



1.5 0 25 -10 0 10

SITE 1010 HOLE C CORE 18X CORED 157.5 - 165.2 mbsf

GRAPE density (g/cm ³)	Reflectance (%) (650-700 nm)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description			
			1		1				S		DIATOM NANNOFOSSIL OOZE and DIATOM OOZE WITH NANNOFOSSILS			
			2							S	10Y 7/1	Major Lithologies: This core is composed of thickly interbedded pale olive gray (10Y 7/1) DIATOM NANNOFOSSIL OOZE and greenish gray (5GY 5/2) DIATOM OOZE WITH NANNOFOSSILS.		
			3							S	5GY 5/2	Minor Lithologies: The minor lithologies consist of pale olive gray (10Y 7/1) NANNOFOSSIL OOZE WITH DIATOMS and light olive gray (5Y 6/2) NANNOFOSSIL DIATOM OOZE. These lithologies are gradationally interbedded between the DIATOM NANNOFOSSIL OOZE AND DIATOM OOZE WITH NANNOFOSSILS		
			4									10Y 7/1		
			5									5Y 5/2	General Description: The sediments are generally moderately bioturbated.	
			6									10Y 7/1	Note: The cores were split by sawing.	
			7									5Y 5/2		
			8									10Y 7/1		
			9									S	5Y 6/2	
			CC									M		

1 1.5 0 50 0 12.5 25

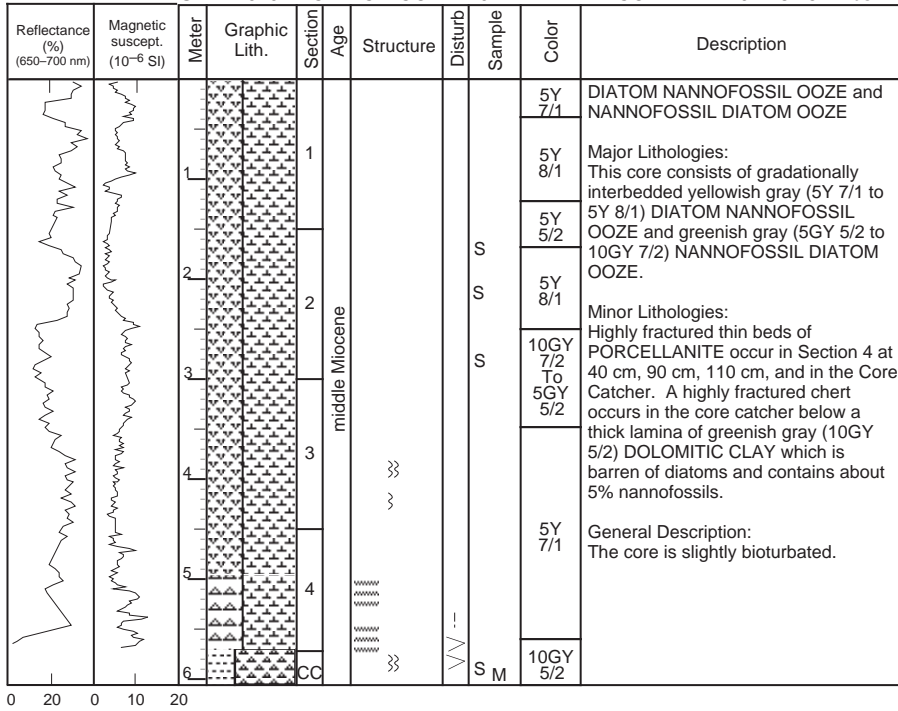
SITE 1010 HOLE C CORE 19X

CORED 165.2 - 174.9 mbsf

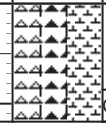
GRAPE density (g/cm ³)	Reflectance (%) (650-700 nm)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description				
			1		1		}}			10GY 5/2	NANNOFOSSIL DIATOM OOZE and DIATOM NANNOFOSSIL OOZE Major Lithologies: This core is mottled throughout and consists of gradationally interbedded greenish gray (10GY 5/2) NANNOFOSSIL DIATOM OOZE and light greenish gray (5GY 8/1) DIATOM NANNOFOSSIL OOZE.				
			2			}}	S	5GY 8/1	General Description: Burrowing is especially distinct at lithological contacts where burrows in the underlying lithology are filled it sediment from above.						
			3			}}									
			4			}}									
							5		Middle Miocene	}}			I	5GY 6/1 To 5GY 8/1	
							6			}}			S	5GY 8/1	
							7			}}			S	10GY 5/2	
							8			}}				5GY 8/1	
							9			}}				5G 8/1	
					CC				M						

1 1.5 0 20 -10 0 10

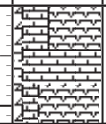
SITE 1010 HOLE C CORE 20X CORED 174.9 - 184.6 mbsf





SITE 1010 HOLE C CORE 21X CORED 184.6 - 194.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1		⊕ ⊃ ⊃ ⊕ ⊃ ⊕	∇ ∇ ∇	S S S M	10GY 5/2 To 5GY 8/1	<p>DOLOMITIC NANNOFOSSIL OOZE and PORCELLANITE</p> <p>Major Lithologies: This core consists of bioturbated grayish green to greenish gray (10GY 5/2 to 5GY 8/1) DOLOMITIC NANNOFOSSIL OOZE with thin interbeds or concretions of PORCELLANITE. The DOLOMITIC NANNOFOSSIL OOZE is composed of up to 35% dolomite. The PORCELLANITE is highly fractured and disturbs the surrounding less consolidated sediments.</p> <p>Minor Lithology: Thin beds of greenish black (5GY 2/1) CHERT occur at top of Section 1. A dewatering structure occurs in Section 1 between 19-20 cm, which has been silicified in PORCELLANITE.</p>
			middle Miocene					


SITE 1010 HOLE C CORE 22X CORED 194.2 - 203.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1		⊃ ⊃ ⊃	∇ ∇ ∇	S S M	5G 5/2 10Y 5/1 5G 5/2	<p>NANNOFOSSIL DIATOMITE, SILTY CLAY WITH NANNOFOSSILS and PORCELLANITE</p> <p>Major Lithologies: This core consists of bioturbated grayish green (10Y 5/1) NANNOFOSSIL DIATOMITE and olive gray (5G 5/2) SILTY CLAY WITH NANNOFOSSILS with interbeds or nodules of grayish green (10Y 5/1) PORCELLANITE. The silicified lithologies are fractured and disturb the surrounding less-consolidated sediments.</p> <p>General Description: Burrows structures are preserved in CHERT and PORCELLANITE.</p>
			middle Miocene					

SITE 1010 HOLE C CORE 23X CORED 203.8 - 209.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1 CC				S M	5GY 2/1	<p>DIATOMACEOUS CLAY and PORCELLANITE</p> <p>Major Lithologies: This core consists of fractured thin beds or nodules of greenish black (5GY 2/1) PORCELLANITE in grayish green (10GY 5/2) DIATOMACEOUS CLAY. Some burrows can be seen on the fractured surfaces of the indurated fragments.</p> <p>Minor Lithology: Fractured thin beds or nodules of greenish black (5GY 2/1) CHERT. Some burrows can be seen in indurated fragments.</p>
middle Miocene								

SITE 1010 HOLE C CORE 24N CORED 209.4 - 213.9 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1						<p>APHYRIC BASALT</p> <p>Major Lithology: This core consists of a fine grained APHYRIC BASALT which is vesicular from 20 cm to the base of the core. Piece 4 shows alteration products and pyrite infilling vesicles, and Piece 7 shows flow banding.</p> <p>Minor Lithology: Piece 2 consists of an APHYRIC PLAGIOCLASE BASALT which is non-vesicular.</p>



SITE 1010 HOLE D CORE 1H

CORED 0.0 - 4.0 mbsf

GRAPE density (g/cm ³)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1		1	Quaternary			S	10YR 3/4	<p>SILTY CLAY</p> <p>Major Lithology: This core is composed of dark yellowish brown (10YR 4/4) to yellowish orange (10YR 6/4) SILTY CLAY with decimeter scale dark gray (N3) color banding (Mn-oxide?).</p>
		10YR 4/4								
		10YR 6/4		<p>General Description: The SILTY CLAY is massive except for the dark bands, and displays few distinct burrows.</p>						
		3		3				S M		

0 1 50 100 150



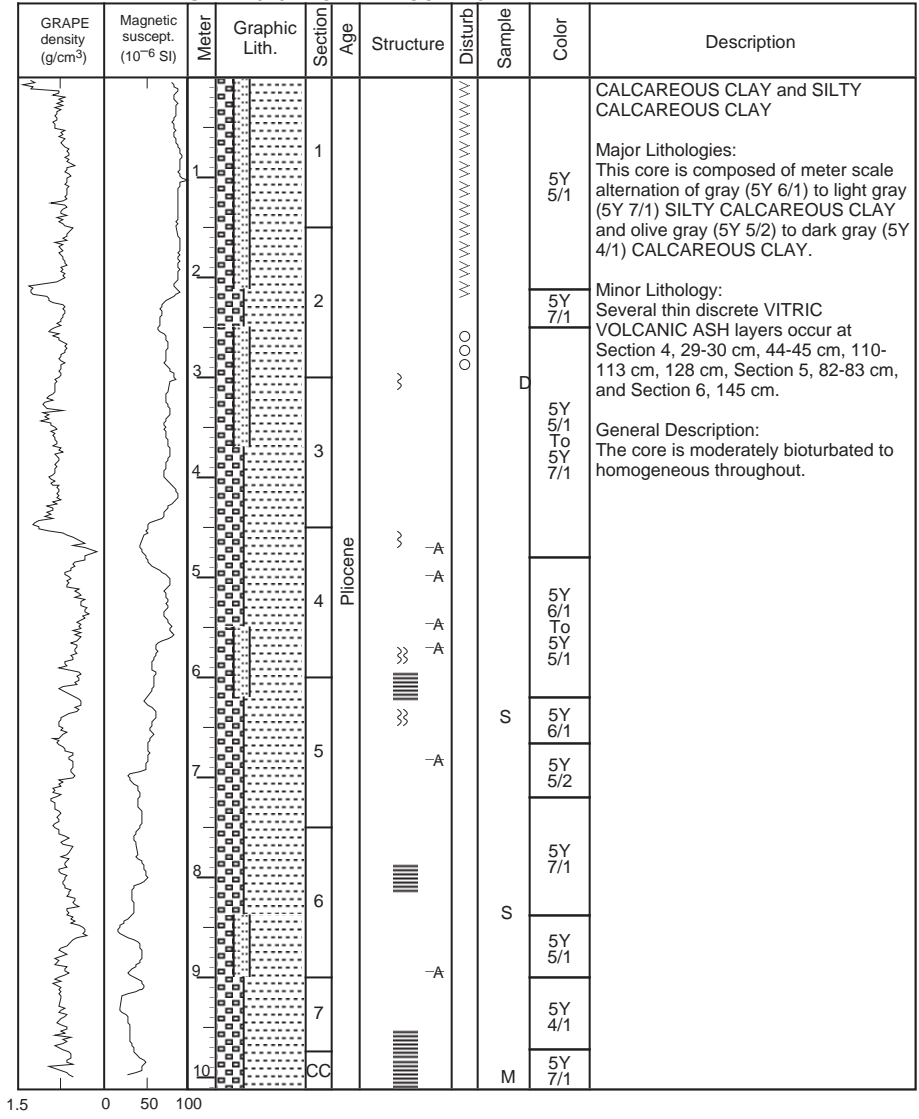
SITE 1010 HOLE D CORE 2H CORED 4.0 - 13.5 mbsf

GRAPE density (g/cm ³)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1		1	Quaternary				5GY 5/2	<p>CLAY and SILTY CLAY</p> <p>Major Lithologies: This core is composed of dusky yellowish green (5GY 5/2) to grayish olive green (5GY 4/2) CLAY and SILTY CLAY which show meter scale indistinct color alternation.</p> <p>Minor Lithology: Grayish blue green (5GB 5/2) to black (N2) discrete VITRIC VOLCANIC ASH layers occur in Section 7, 10 cm, 30 cm, and 75-80 cm.</p> <p>General Description: The core is slightly bioturbated to homogeneous throughout.</p>
		2		5Y 7/2						
		3		5Y 5/1 To 10GY 5/2						
		4		5Y 5/1 To 5Y 5/6						
		5		5Y 7/1 To 5Y 6/1						
		6		5Y 6/1 To 5GY 5/2						
		7								
		8								
		9								
		10		CC						

1 1.5 0 200 400

SITE 1010 HOLE D CORE 3H

CORED 13.5 - 23.0 mbsf



SITE 1010 HOLE D CORE 4H CORED 23.0 - 32.5 mbsf

GRAPE density (g/cm ³)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1		1		~	W			<p>NANNOFOSSIL OOZE WITH CLAY and CLAY</p> <p>Major Lithologies: The upper part of this core is composed of meter scale alternation of grayish olive (10Y 4/2) CLAY and light greenish gray (5GY 8/1) NANNOFOSSIL OOZE WITH CLAY which are slightly to moderately bioturbated. The lower part of the core is composed of greenish gray (5G 6/1) to light greenish gray (5GY 8/1) NANNOFOSSIL OOZE WITH CLAY which shows faint, meter-scale color banding.</p> <p>Minor Lithology: A VITRIC VOLCANIC ASH layer occurs as medium dark gray (N4) to black (N2) diffuse zone of several centimeter thickness in the upper part of the core. It also occurs as greenish, thin layers in Section 3, 110-111 cm, and Section 4, 125-126 cm.</p> <p>General Description: Trails of Zoophycos occur approximately every 1 to 2 m.</p>
		2		2		~	S		10Y 4/2 To 5GY 8/1	
		3		3		~				
		4		3		~				
		5		4	Pliocene	~				
		6		4		~		S		
		7		5		~				
		8		6		~		S	5G 6/1 To 5GY 8/1	
		9		7		~				
			CC			~	M			

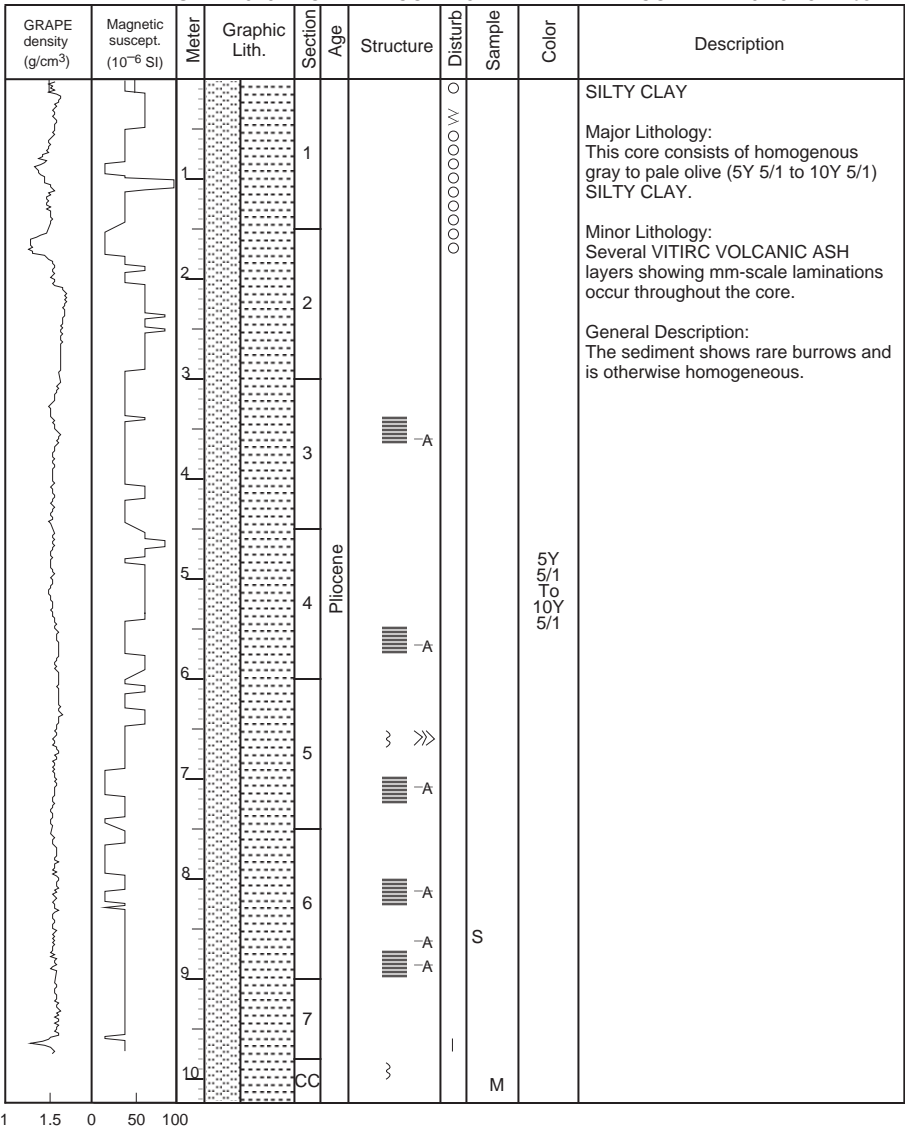
1 1.5 0 50 100

SITE 1010 HOLE D CORE 5H CORED 32.5 - 42.0 mbsf

GRAPE density (g/cm ³)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1		1				S	5Y 6/1	<p>NANNOFOSSIL CLAY and CLAYEY NANNOFOSSIL OOZE</p> <p>Major Lithologies: This core is composed of meter scale alternation of light gray (5Y 6/1) CLAYEY NANNOFOSSIL OOZE and pale olive (5Y 6/3) NANNOFOSSIL CLAY. The transitions are generally gradational.</p> <p>Minor Lithology: The minor lithology is composed of thin laminated, dark gray (5Y 4/1) to pale olive (5Y 6/3) intervals with abundant VITRIC VOLCANIC ASH layers.</p> <p>General Description: The core is homogeneous to moderately bioturbated with Chondrites in Section 4, 110-150 cm, Section 5, 40-60 cm, and Section 6, 120-140 cm.</p>
		2		2		-A				
		3		3		-A			5Y 5/1 To 10Y 6/1	
		4		3		-A				
		5		4	Pliocene			S		
		6		4				S	5Y 6/1	
		7		5				S	10Y 3/1	
		8		5				S	5Y 6/3	
		9		6				S	5Y 5/1 To 10Y 5/1	
		10		6				S		
				7		-A			5Y 4/1	
				7		-A				
				CC				M		

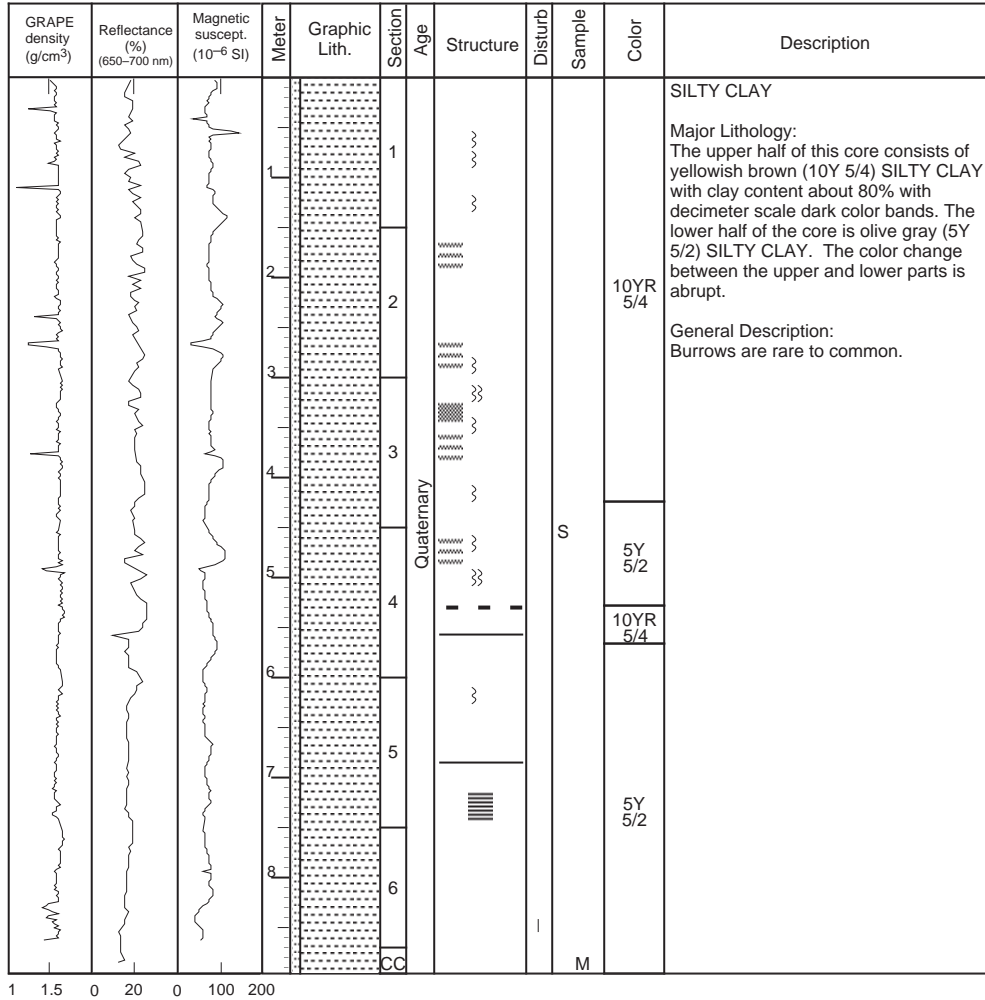
1.5 0 50 100

SITE 1010 HOLE D CORE 6H CORED 42.0 - 51.5 mbsf

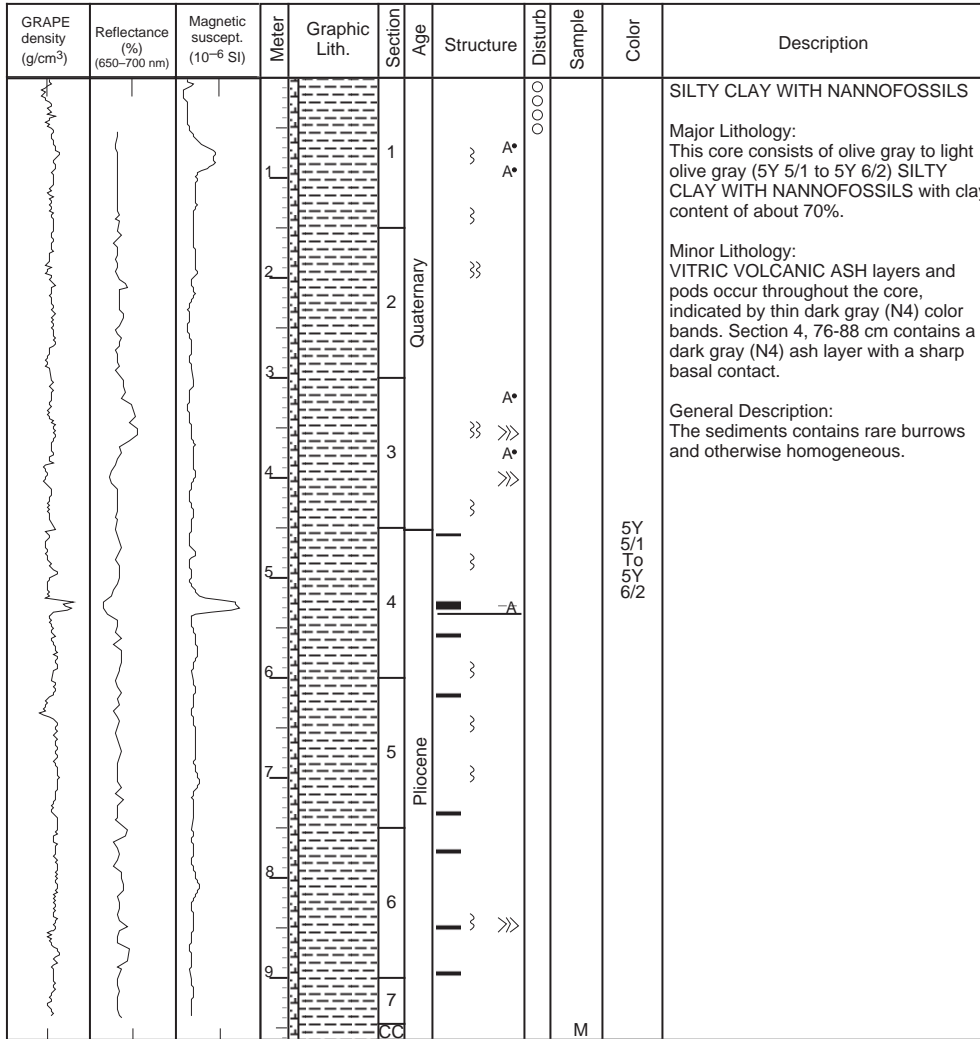


SITE 1010 HOLE E CORE 1H

CORED 0.0 - 9.0 mbsf



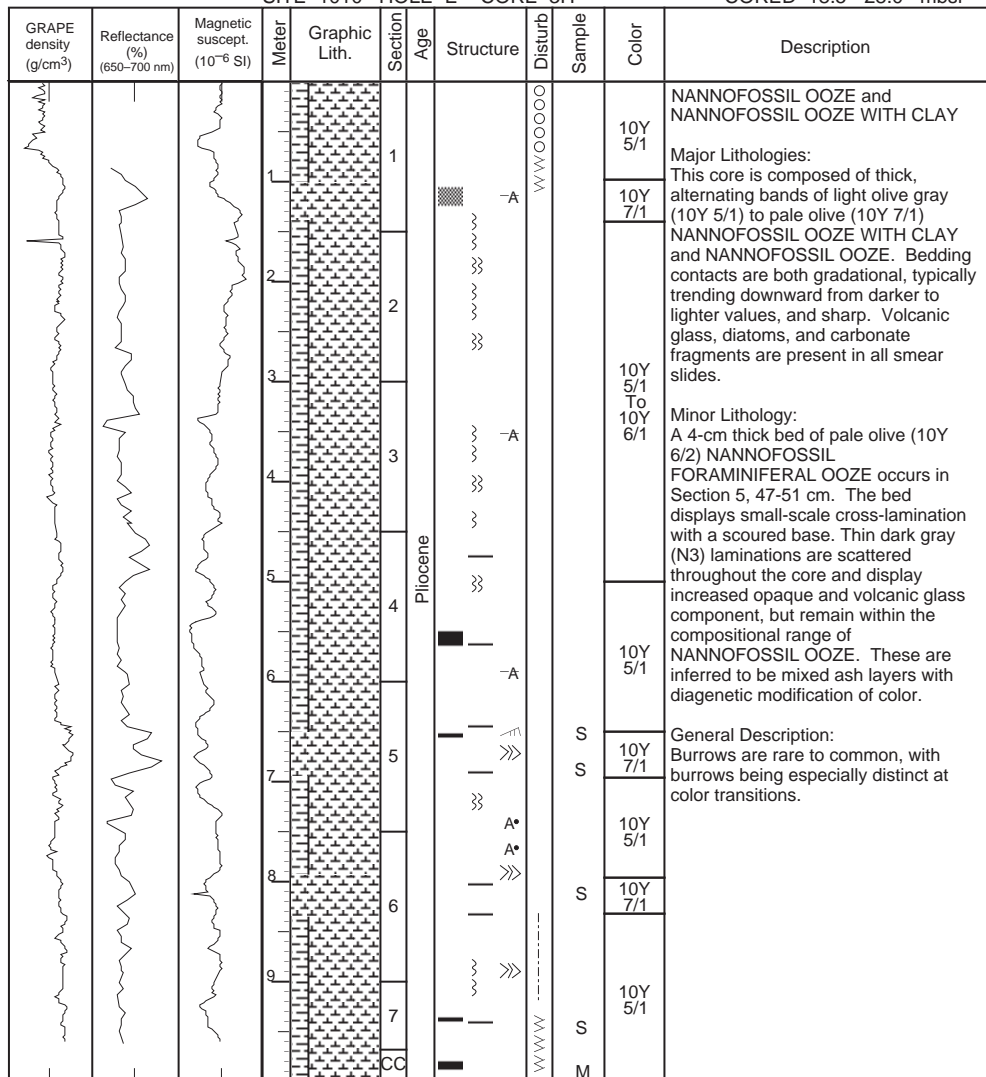
SITE 1010 HOLE E CORE 2H CORED 9.0 - 18.5 mbsf



1 1.5 0 20 0 200 400

SITE 1010 HOLE E CORE 3H

CORED 18.5 - 28.0 mbsf



1 1.5 0 20 0 50 100

SITE 1010 HOLE E CORE 4H CORED 28.0 - 37.5 mbsf

GRAPE density (g/cm ³)	Reflectance (%) (650-700 nm)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
			1		1	Pliocene				5Y 6/1	<p>NANNOFOSSIL OOZE, SILTY CLAY and SILTY NANNOFOSSIL CLAY</p> <p>Major Lithologies: This core is composed of alternating olive gray (10Y 6/1) SILTY CLAY, very light gray (5Y 7/1 to 5Y 8/1) NANNOFOSSIL OOZE, and gray (5Y 5/1) SILTY NANNOFOSSIL CLAY, interbedded on a scale of decimeters to meters. Contacts are gradational over several centimeters.</p> <p>Minor Lithology: Black (N2) or grayish green (5G 5/2) VITRIC VOLCANIC ASH laminations are distributed in the lower half of the core and occur in all lithologies; most have sharp upper contacts and gradational lower contacts. Light brown SILTY CLAY with VITRIC VOLCANIC ASH is interlaminated with gray green CLAY near the base of Section 6.</p> <p>General Description: Drilling disturbance is severe at the top of the core. Burrows are rare to common in Sections 1 through 5. Glassy lapilli and trace fossils are disseminated sporadically throughout this core.</p>
			2		5Y 5/1						
			3		10Y 7/1						
			4		10Y 6/1						
			5		5Y 7/1 To 5Y 8/1						
			6		5Y 6/1						
			7		5Y 7/1						
			8		10Y 6/1						
			9		7.5YR 6/2						
			CC		5Y 7/1						

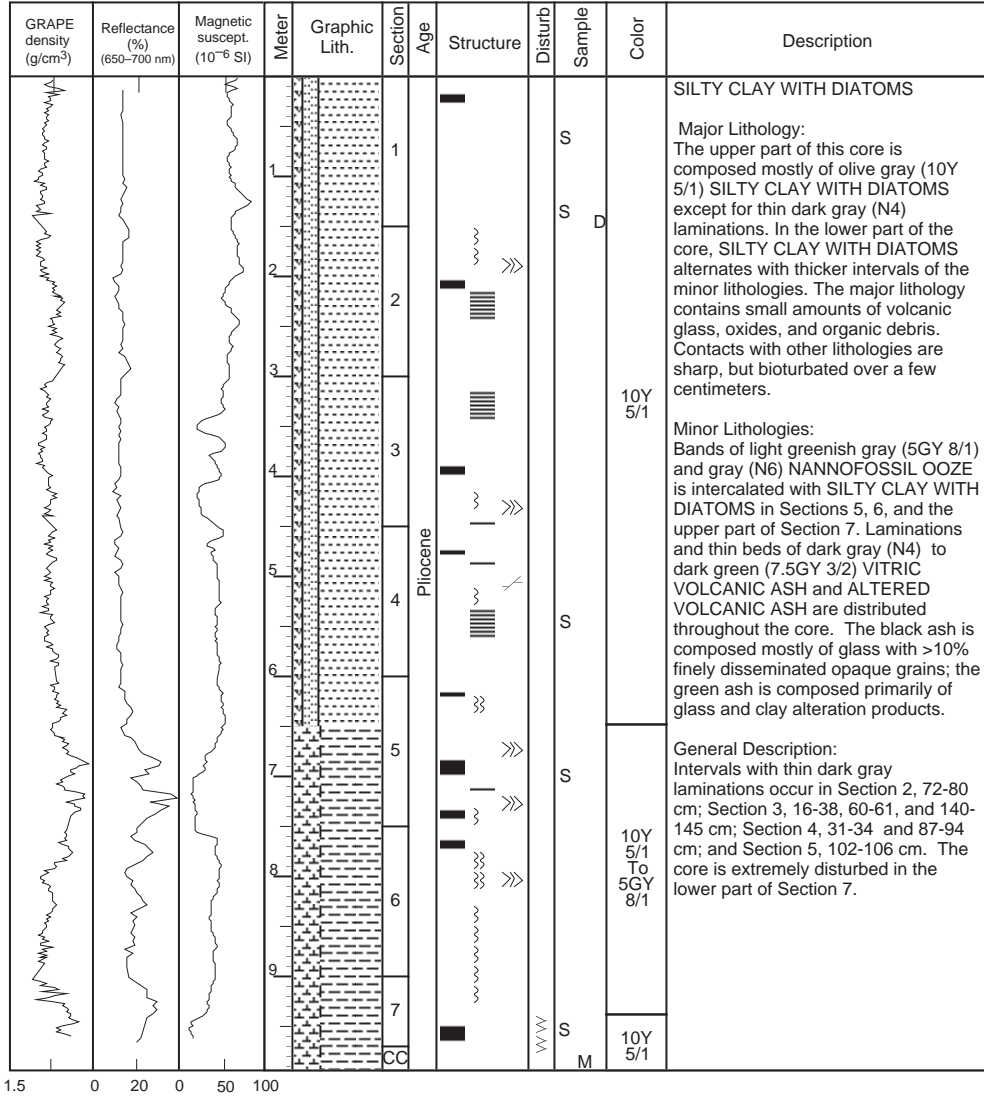
SITE 1010 HOLE E CORE 5H

CORED 37.5 - 47.0 mbsf

GRAPE density (g/cm ³)	Reflectance (%) (650-700 nm)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
			1		1	Pliocene	~	-	S	10Y 5/1 To 10Y 6/1	<p>CLAYEY NANNOFOSSIL OOZE and NANNOFOSSIL SILTY CLAY</p> <p>Major Lithologies: This core is composed of light olive gray (5G 6/1 to 10Y 6/1) CLAYEY NANNOFOSSIL OOZE and greenish gray (10Y 5/1) NANNOFOSSIL SILTY CLAY. Contacts are either gradational over a few centimeters or burrowed.</p> <p>General Description: The core is slightly disturbed in the top few centimeters and is moderately bioturbated and mottled throughout. Section 3 has black (N2) color bands each, a few centimeters thick, at 24, 34, 58, 110, 131, and 94 cm.</p>
			2		~		5G 6/1				
			3		~		10Y 5/1 To 10Y 6/1				
			4		~		10Y 6/1 To 5G 6/1				
			5		~		~				
			6		~		~				
			7		~		~				
			8		~		~				
			9		~		~				
CC								M			

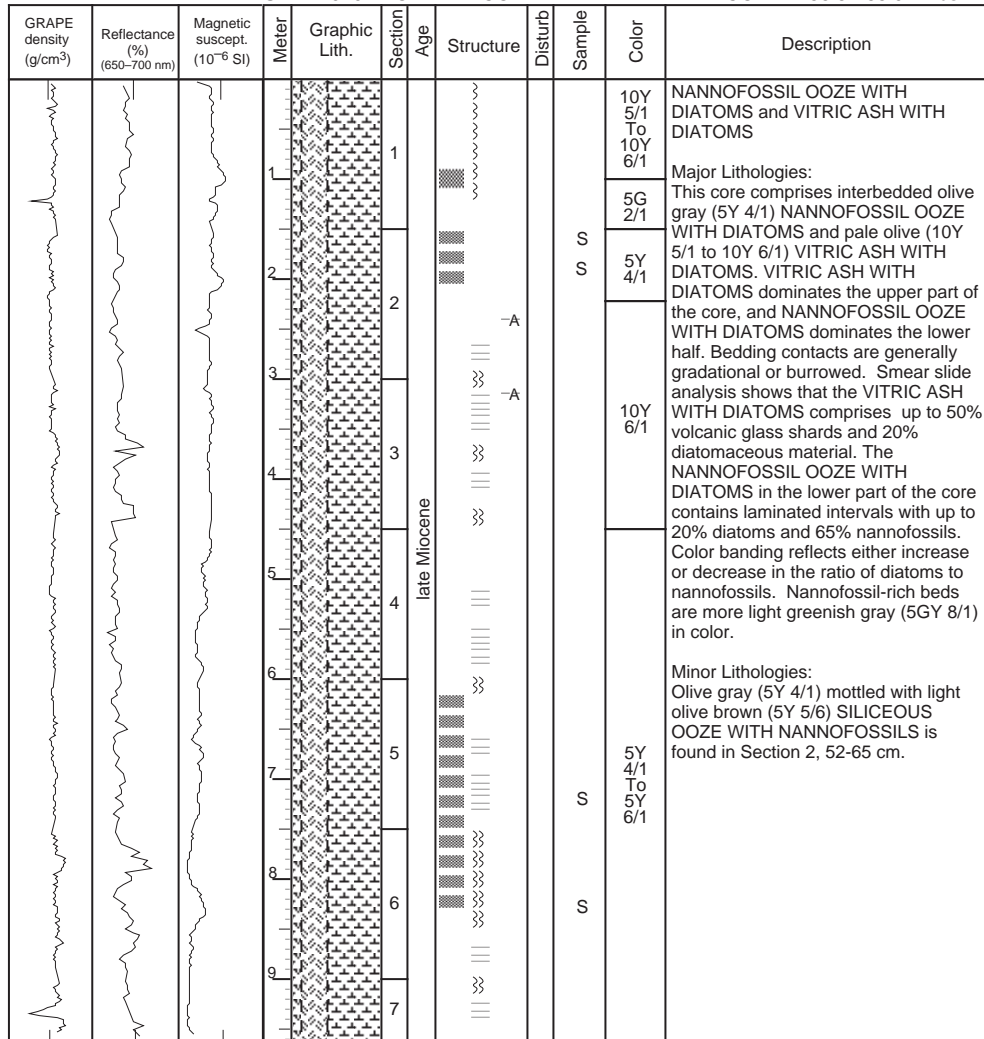
1.5 10 20 0 50 100

SITE 1010 HOLE E CORE 6H CORED 47.0 - 56.5 mbsf



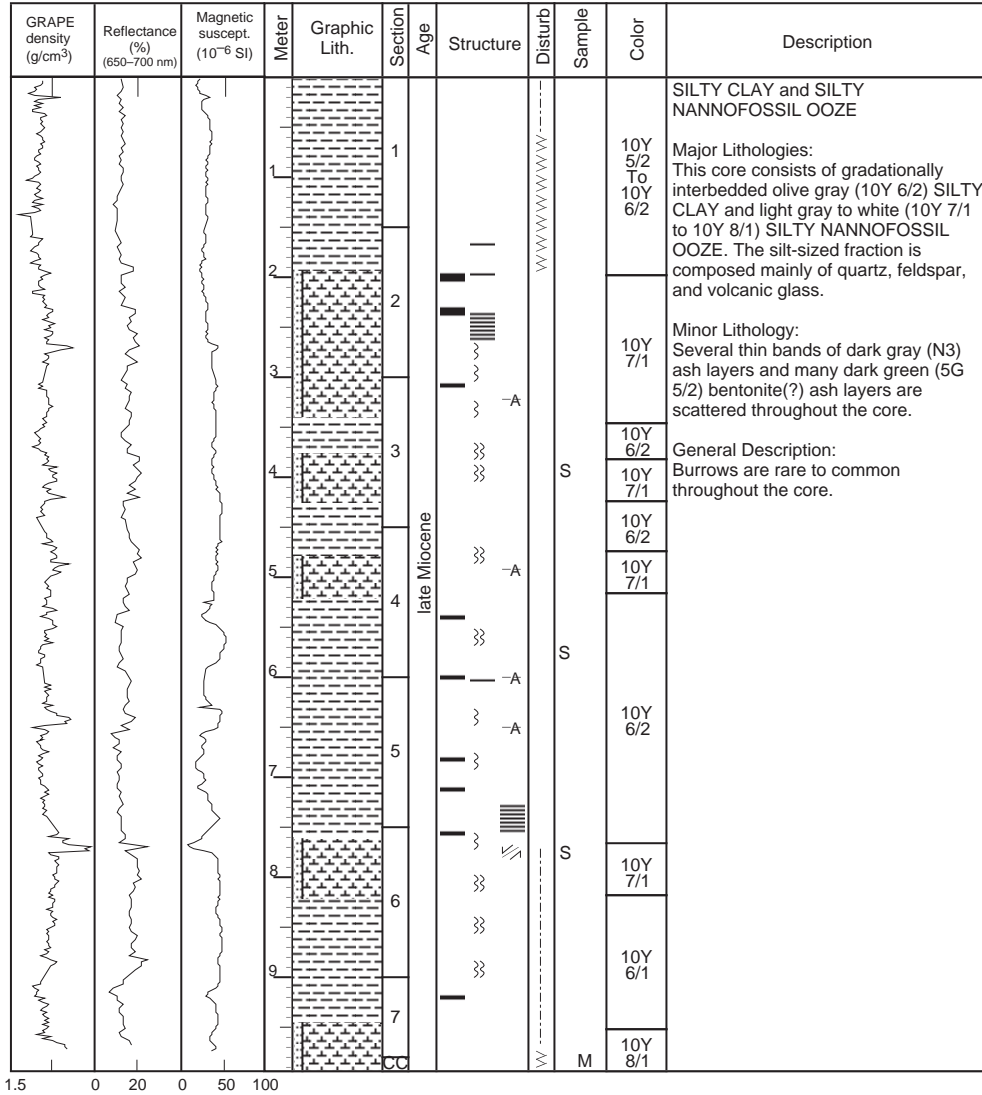
SITE 1010 HOLE E CORE 7H

CORED 56.5 - 66.0 mbsf



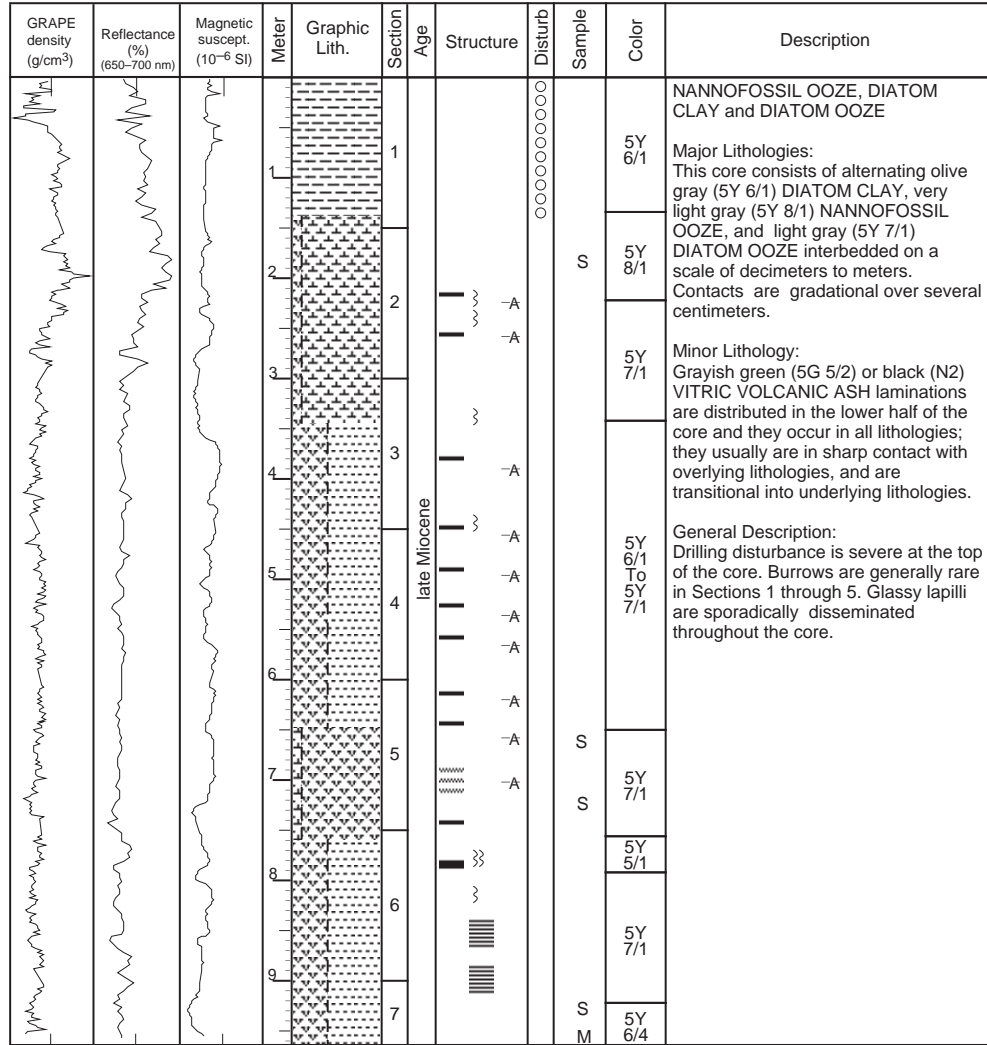
1 1.5 0 20 0 50 100

SITE 1010 HOLE E CORE 8H CORED 66.0 - 75.5 mbsf



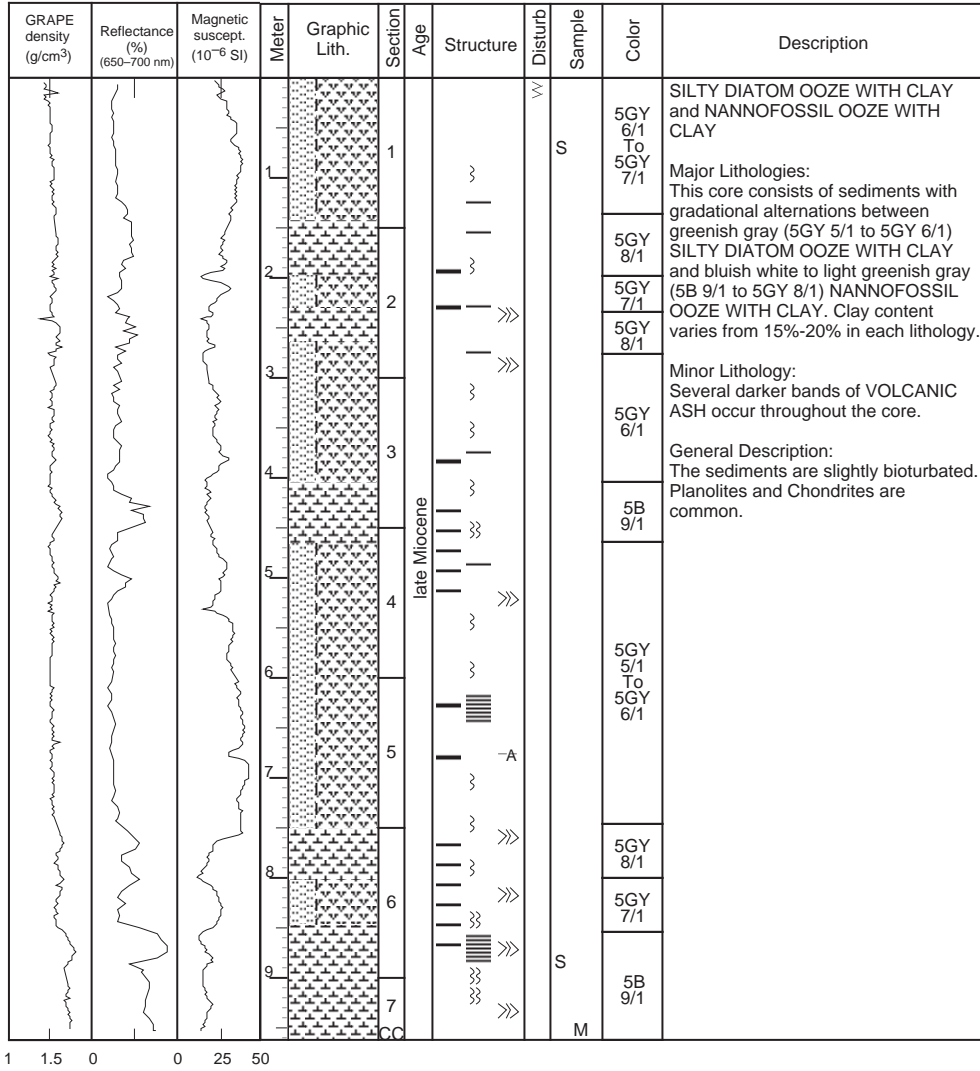
SITE 1010 HOLE E CORE 9H

CORED 75.5 - 85.0 mbsf



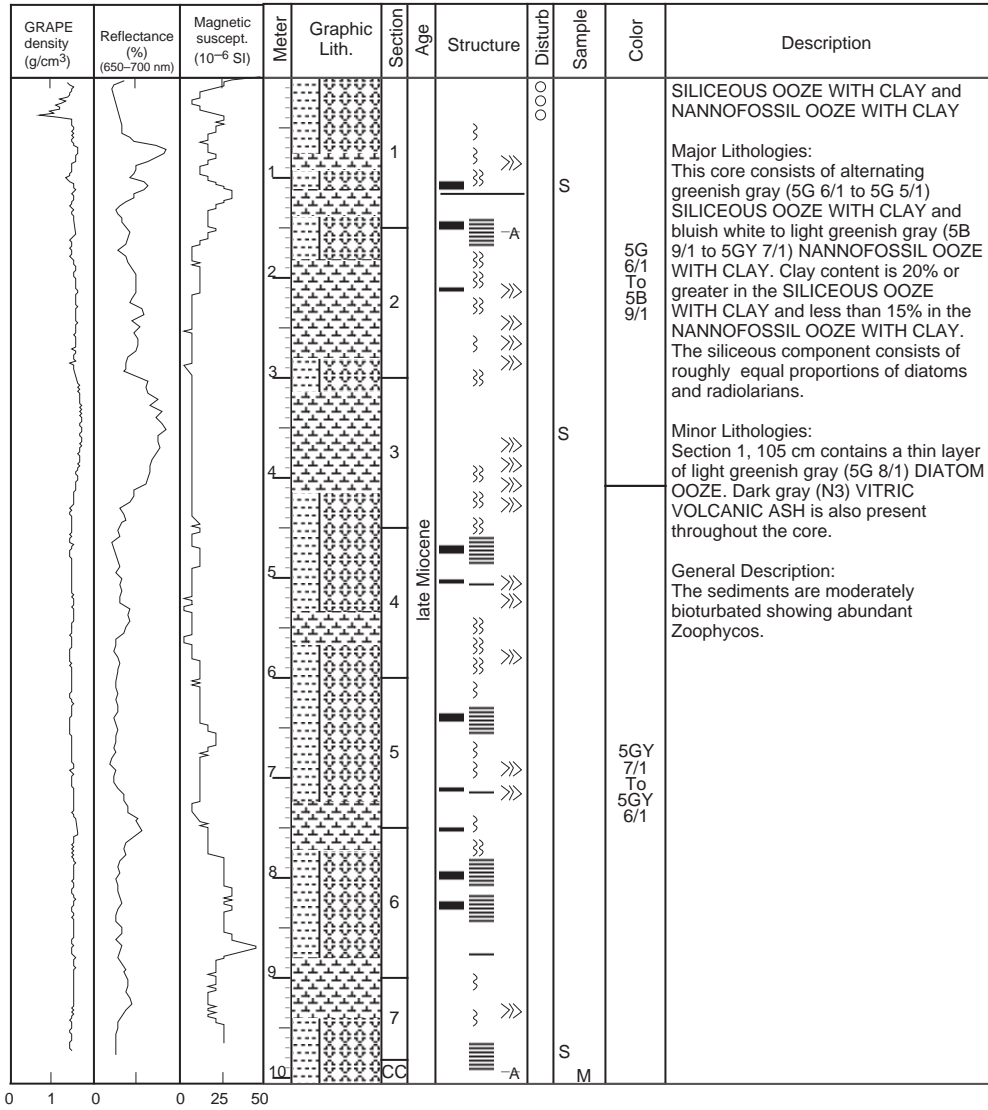
1.5 0 20 0 50 100

SITE 1010 HOLE E CORE 10H CORED 85.0 - 94.5 mbsf

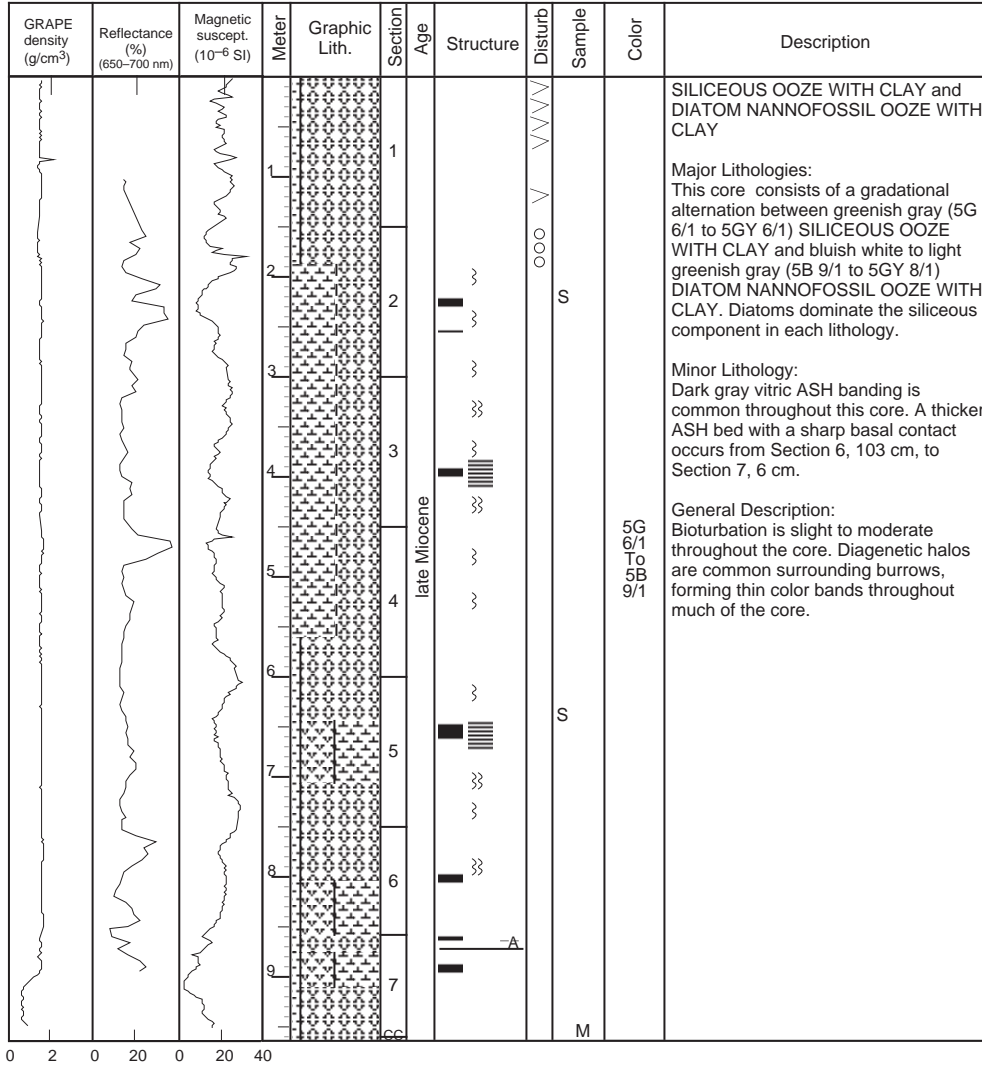


SITE 1010 HOLE E CORE 11H

CORED 94.5 - 104.0 mbsf

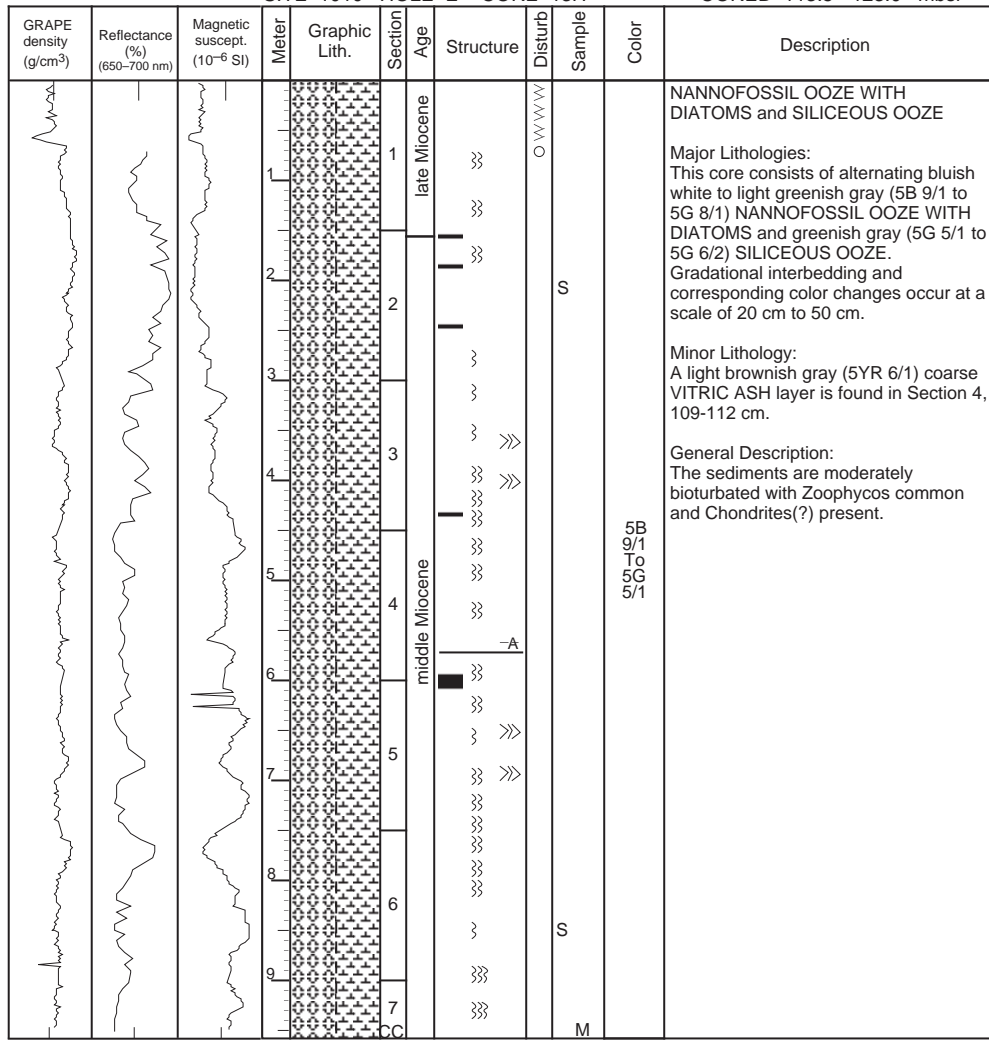


SITE 1010 HOLE E CORE 12H CORED 104.0 - 113.5 mbsf



SITE 1010 HOLE E CORE 13H

CORED 113.5 - 123.0 mbsf

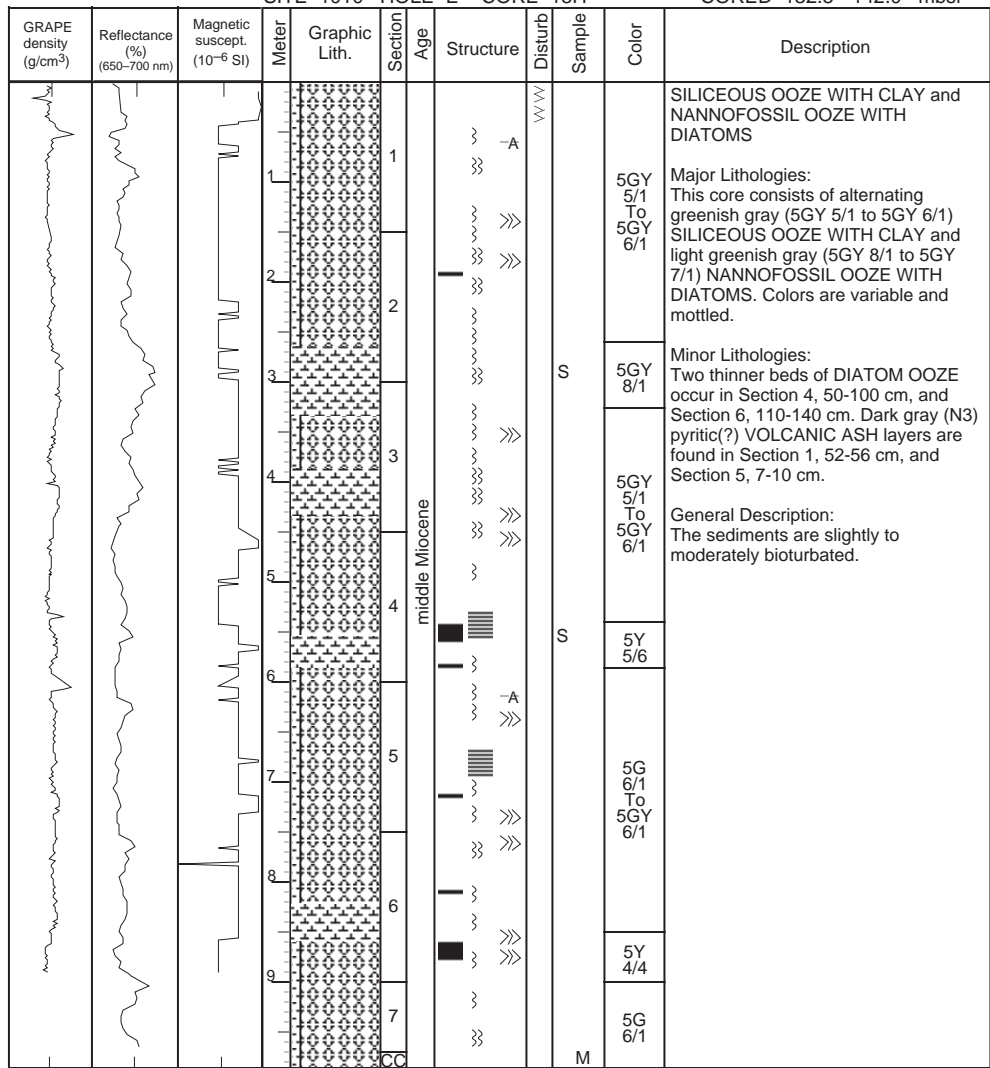


1 1.5 0 25 0 20 40

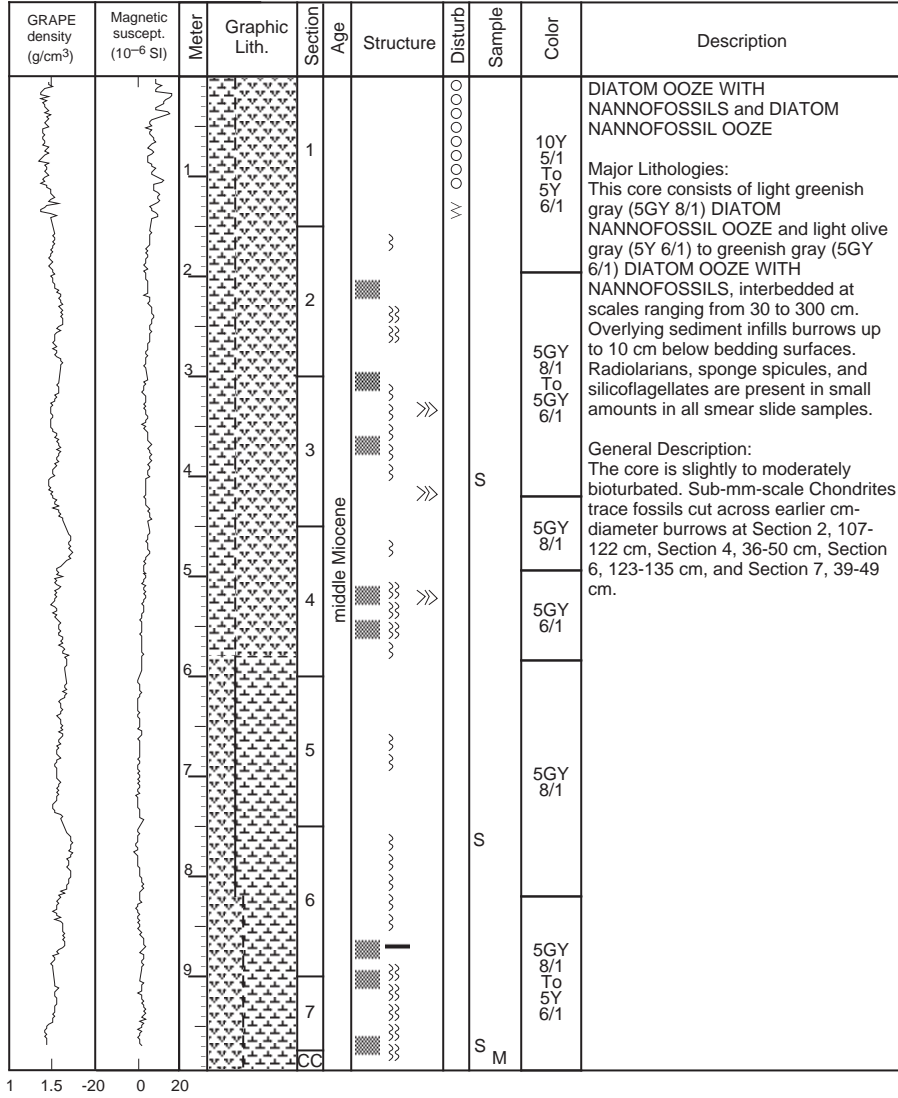
SITE 1010 HOLE E CORE 14H CORED 123.0 - 132.5 mbsf

GRAPE density (g/cm ³)	Reflectance (%) (650-700 nm)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
			1		1						<p>SILICEOUS OOZE WITH CLAY</p> <p>Major Lithology: The core consists of greenish gray to light greenish gray (5GY 6/1 to 5G 6/1) SILICEOUS OOZE WITH CLAY. The upper portion of the core down to Section 4, 90 cm, shows only slight color variation while the lower portion is mottled and more variable in color. Clay content ranges from 20%-25%.</p> <p>Minor Lithology: Section 4, 40-59 cm, contains a light brownish gray (5YR 6/1) and white (N8) VITRIC VOLCANIC ASH layer bounded by a sharp basal contact.</p> <p>General Description: The sediments are homogeneous in the upper portion but show moderate to heavy bioturbation in Sections 5 to 7.</p>
			2		2						
			3		3						
			4		3				S	N6	
			5		4	Middle Miocene				5G 7/1 To 5GY 6/1	
			6		5						
			7		6						
			8		7				S		
			9		8					5G 7/1 To 5GY 6/1	
					9						
					CC				M		

SITE 1010 HOLE E CORE 15H CORED 132.5 - 142.0 mbsf



SITE 1010 HOLE E CORE 16H CORED 142.0 - 151.5 mbsf



SITE 1010 HOLE E CORE 17X

CORED 151.5 - 161.0 mbsf

GRAPE density (g/cm ³)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description		
		1		1		~	W	S	5Y 5/1	<p>NANNOFOSSIL OOZE WITH DIATOMS AND RADIOLARIANS and DIATOM OOZE WITH NANNOFOSSILS</p> <p>Major Lithologies: This core is composed of gradational interbeds of yellowish gray (5Y 8/1) to pale greenish yellow (10Y 8/1) NANNOFOSSIL OOZE WITH DIATOMS AND RADIOLARIANS and olive gray (5Y 5/1) DIATOM OOZE WITH NANNOFOSSILS.</p> <p>Minor Lithology: A 2-cm-thick, graded bed of grayish black (N2) VITRIC ASH WITH PYRITE occurs in Section 7, 28-30 cm. The pyrite occurs as overgrowth coatings of otherwise unaltered glass shards.</p> <p>General Description: This core is slightly bioturbated and displays many reduction halos around larger (>1 cm) burrows. The core is pervasively sheared by XCB coring that has disrupted most fine sedimentary structures.</p>		
		2		2		~					5Y 5/2	
		3		3		~					5Y 7/1	
		4		4							S	
		5		5							S	5Y 8/1
		6		6							S	
		7		7							S	5Y 7/2
8	8						S	5Y 8/1				
9	9						S					
							M					

1 1.5 -25 0 25

SITE 1010 HOLE E CORE 18X CORED 161.0 - 170.6 mbsf

GRAPE density (g/cm ³)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1		1		~			5Y 8/1	<p>DIATOM NANNOFOSSIL OOZE and RADIOLARIAN DIATOM OOZE WITH NANNOFOSSILS</p> <p>Major Lithologies: This core consists of thick and gradationally interbedded light gray (5Y 7/1) to light olive gray (5Y 6/2) DIATOM NANNOFOSSIL OOZE and greenish gray (5GY 6/1) RADIOLARIAN DIATOM OOZE WITH NANNOFOSSILS. Most contacts are indistinct. Very small amounts of silicoflagellates, sponge spicules, and volcanic glass are present in smear slides.</p> <p>General Description: The sediments are slightly bioturbated with cm-thick burrows. The core is pervasively sheared by the XCB coring process.</p>
		1			~		5Y 7/1			
		2			~		5GY 6/1			
		2			~		5Y 7/1			
		3			~		5Y 6/2			
		4			~		5Y 7/1			
		5			~					
		6			~		5GY 6/1			
		7			~					
		8			~		5Y 6/2			
9		~		7		~				
1				CC				M		

SITE 1010 HOLE E CORE 19X

CORED 170.6 - 180.2 mbsf

GRAPE density (g/cm ³)	Magnetic suscept. (10 ⁻⁶ SI)	Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		1		1	middle Miocene			5GY 6/1	<p>DIATOM NANNOFOSSIL OOZE and DIATOM OOZE WITH RADIOLARIANS AND NANNOFOSSILS</p> <p>Major Lithologies: This core consists of gradationally interbedded light greenish gray (5Y 8/1) to pale olive (10Y 6/2) DIATOM NANNOFOSSIL OOZE, greenish gray (5GY 5/1 to 5GY 6/1) to grayish olive (10Y 4/2) DIATOM OOZE WITH RADIOLARIANS AND NANNOFOSSILS. Most contacts are indistinct. Very small amounts of sponge spicules or silicoflagellates are present in smear slides.</p> <p>General Description: This core is pervasively sheared by XCB coring, rendering the sedimentary structures disrupted and homogenized.</p>	
		5Y 8/1								
		10Y 6/2								
		5Y 8/1								
		10Y 4/2								
		5Y 8/1								
		5GY 6/1								
		5Y 8/1								
		5GY 6/1								
		5Y 8/1								
5GY 5/1										
1	1.5	-20	0	20						

1 1.5 -20 0 20

SITE 1010 HOLE F CORE 1H CORED 0.0 - 8.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description	
1		1					5YR 3/4	<p>SILTY CLAY</p> <p>Major Lithology: The entire cored interval consists of yellowish brown to olive SILTY CLAY.</p> <p>General Description: The sediment is homogeneous. Several dark color bands containing abundant manganese occur throughout. There are thin ash layers in Section 4.</p>	
2		2		—	○		10YR 5/4 To 5Y 5/3		
3		3	Quaternary		—				
4		4			—				
5		5			—A				
6		6			—A				
7		7			—A				5Y 7/1 To 5Y 6/2
8		8	CC						

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1		◇				<p>SILTY CLAY WITH NANNOFOSSILS</p> <p>Major Lithology: The entire cored interval consists of gray to light olive gray homogeneous SILTY CLAY WITH NANNOFOSSILS.</p> <p>General Description: There is a rounded clast of coarse grained sandstone (breccia?) in Section 1, 63-70 cm. There is a thin ash layer in Section 3, 10 cm. Mn spots occur in Section 3, 45 cm, and Section 4, 65 cm. The liner was crushed in Section 7.</p>
2		2		}}			5Y 5/1 To 5Y 6/2	
3		3		}}	-A			
4		3		}}				
5		4	Quaternary	}}				
6		4		}}				
7		5		}}	-A		N4	
8		6		}}	-A			
9		7		}}				
				}}				
				}}				
				}}				
				}}				
				}}				

SITE 1010 HOLE F CORE 3H CORED 17.7 - 27.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1		}}				<p>NANNOFOSSIL OOZE, SILTY CLAY, and NANNOFOSSIL OOZE WITH CLAY</p> <p>Major Lithology: The cored interval consists of light gray (5Y 7/1) to gray (5Y 5/1) NANNOFOSSIL OOZE, SILTY CLAY, and NANNOFOSSIL OOZE WITH CLAY, interbedded on a decimeter scale.</p> <p>General Description: Bioturbation is common throughout the core. There are thin dark olive gray (5Y 3/2) ASH layers in Section 5. Dark color banding on a 1-2 cm scale occurs in Sections 2 and 6. Mn spots occur in Sections 3, 4, 5, and 6.</p>
2		2		}}			5Y 7/1 To 5Y 5/1	
3		3		}} -A	I			
4		4	Quaternary	}}				
5		5		}}				
6		6		}}				
7		7		}}			5Y 7/1	
8		8		}}			5Y 4/1 To 5Y 7/1	
9		9		}}				
		CC		-				

SITE 1010 HOLE F CORE 4H

CORED 27.2 - 36.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description	
1		1		— } }			5Y 6/1	<p>CLAY, SILTY CLAY, and NANNOFOSSIL OOZE</p> <p>Major Lithology: The cored interval consists of interbedded light gray (5Y 7/1) to gray (5Y 5/1) CLAY, SILTY CLAY, and NANNOFOSSIL OOZE.</p> <p>General Description: There are glassy lapilli in Section 2 and flow-in occurs from Section 3, 130 cm, to Section 5, 135 cm. The liner was crushed in Section 7.</p>	
2		2		— } }			5Y 5/1		
3		3		— } } A*			5Y 6/1		
4		4		— } }					
5		5	Quaternary		— } }				
6		6			— } }				5Y 7/1 To 5Y 8/1
7		7			— } }				
8	8			— } }			5Y 6/1		
9	9			— } }					

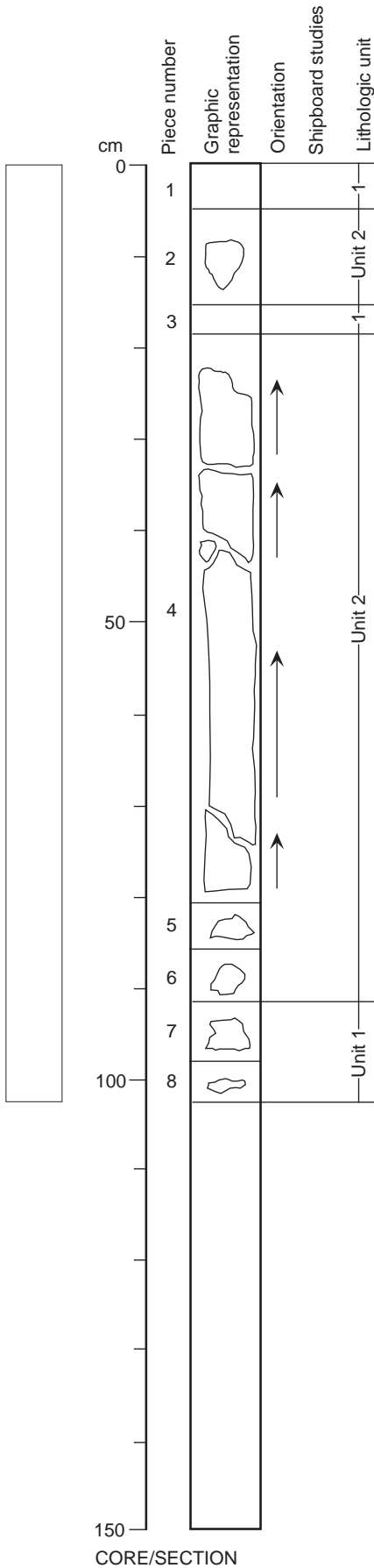
SITE 1010 HOLE F CORE 5H CORED 36.7 - 46.2 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description	
1		1					5Y 6/1	<p>CLAYEY NANNOFOSSIL OOZE and NANNOFOSSIL SILTY CLAY</p> <p>Major Lithology: The cored interval consists of interbedded light olive gray (5Y 6/2) CLAYEY NANNOFOSSIL OOZE and very homogeneous gray (5Y 5/1) NANNOFOSSIL SILTY CLAY.</p> <p>General Description: Color bands (5Y 3/1 to 2.5Y 6/3) occur on a cm scale in Section 4, 10-60 cm. Sediment was sucked in from Section 1, 100 cm, to Section 2, 138 cm.</p>	
2		2					5Y 7/1		
3		3		—					
4		4	Quaternary	-A -A					5Y 7/1 To 2.5Y 6/3
5		5							
6		6		}}}					
7		7		}}}					
8		8		}}}					
9		9		}}}					
CC							5Y 5/1		

SITE 1010 HOLE F CORE 6H

CORED 46.2 - 55.7 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1	[Hatched]	1		}}				SILTY CLAY and NANNOFOSSIL OOZE Major Lithology: The cored interval consists of olive gray (5Y 5/2) to gray (5Y 6/1) SILTY CLAY and light gray (5Y 7/1) to white (5Y 8/1) NANNOFOSSIL OOZE. General Description: Dark gray color bands occur throughout the core. There are green ASH layers in Section 2. The core liner was crushed in Section 7, 40-60 cm.
1	[Hatched]	1		}}-A				
2	[Hatched]	2		}}-A -A				
2	[Hatched]	2		}}				
3	[Hatched]	3		==				
3	[Hatched]	3		}}				
4	[Hatched]	3		==			5Y 5/2 To 5Y 6/1	
4	[Hatched]	3		}}				
5	[Hatched]	4	Quaternary	}}				
5	[Hatched]	4		==				
6	[Hatched]	4		}}				
7	[Hatched]	5		}}				
7	[Hatched]	5		===				
8	[Hatched]	6		===			5Y 7/1 To 5Y 8/1	
8	[Hatched]	6		}}				
9	[Cross-hatched]	7		}}				
9	[Cross-hatched]	7						



UNIT 1: RUBBLE

Piece 1

Weathered basalt gravel/clay mixture.

Piece 3

Rubble with clay binder

Piece 7

Aphyric basalt with flow-banding.

Piece 8

Aphyric fine-grained basalt rubble.

UNIT 2: APHYRIC PLAGIOCLASE BASALT.

Pieces 2, 4-6

CONTACTS: None.

GROUNDMASS: Subophitic.

VESICLES: <2%; 1-2 mm; rounded; random.

COLOR: Gray.

STRUCTURE: None.

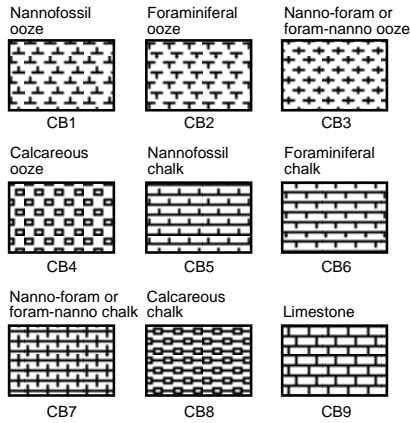
ALTERATION: Fresh to light alteration--clay in vesicles; some pyrite in vesicles and fractures.

VEINS/FRACTURES: <<1%; <1 mm; random.

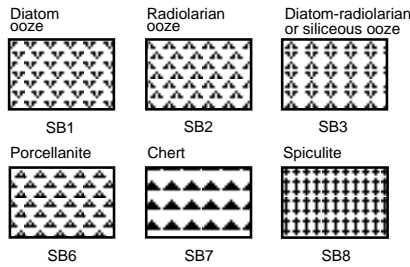
Key to symbols used in the “Graphic Lithology” column on the core description sheets.

Biogenic pelagic sediments

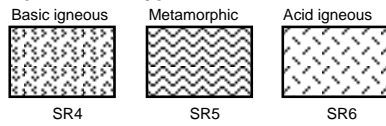
Calcareous



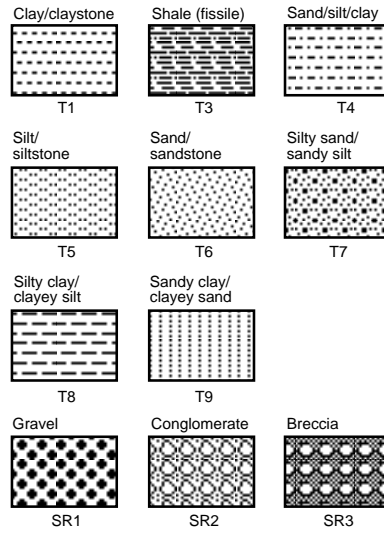
Siliceous



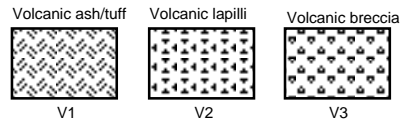
Special rock types



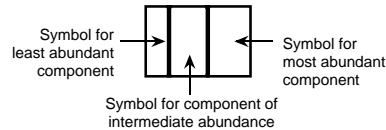
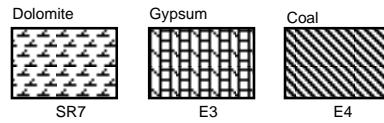
Siliciclastic sediments



Volcaniclastic sediments



Chemical and other sediments



Key to symbols used in the “Structures” column on the core description sheets.

Drilling disturbance symbols	Sedimentary structures cont.	
Soft sediments		
- - - - -	↑ F	Fining-upward sequence
- · - · - · -	↑	Interval over which primary sedimentary structure occur
~ ~ ~ ~ ~		Planar laminae
o o o o o	/ / / / /	Wedge-planar laminae/beds
Hard sediments		
/ / / / /	· · · · ·	Graded bedding (normal)
	· · · · ·	Graded bedding (reversed)
+ + + + +	— — — — —	Sharp contact
~ ~ ~ ~ ~	- - - - -	Gradational contact
+ + + + +	~ ~ ~ ~ ~	Scoured, sharp contact
~ ~ ~ ~ ~	~ ~ ~ ~ ~	Scoured contact with graded bed
x x x x x	■	Thick color bands (sharp contact)
	■	Thick color bands (gradational contact)
	■	Medium color bands (sharp contact)
	■	Medium color bands (gradational contact)
	■	Thin color bands (sharp contact)
	■	Thin color bands (gradational contact)
		Laminations (mm scale)
	■	Individual thick color band
	■	Individual medium color band
	■	Individual thin color band
	— — — — —	Individual lamination
	~ ~ ~ ~ ~	Wavy lamination
	/ / / / /	Cross laminae
	/ / / / /	Cross stratification
	/ / / / /	Cross bedding
	~ ~ ~ ~ ~	Convoluted/contorted bedding
	~ ~ ~ ~ ~	Flaser bedding
	△	Graded interval, normal
	<	Veins
	~ ~ ~ ~ ~	Water escape structure
	∩	Scour
	◇	Isolated pebbles/cobbles
	◆	Isolated mud clasts
	~ ~ ~ ~ ~	Slump blocks or slump folds
	~ ~ ~ ~ ~	Contorted slump
	X X X X X	Probable compaction fracture
	/ / / / /	Microfault (normal)
	/ / / / /	Microfault (thrust)
	/ / / / /	Macrofault
	X X X X X	Fracture
	X X X X X	Totally fractured
	~ ~ ~ ~ ~	Vein structures
	~ ~ ~ ~ ~	Color mottles
	~ ~ ~ ~ ~	Dolomite nodule/concretion
	D	Disseminated dolomite
	(P)	Pyrite nodule/concretion
	P	Disseminated pyrite
	(G)	Glauconite
	●	Concretions/nodules
	(Ba)	Barite nodule/concretion
	Ba	Disseminated barite
	(Ca)	Calcite nodule/concretion
	(C)	Carbonate nodule/concretion
	(Ch)	Chert nodule/concretion
	A●	Ash/pumice pods
	-A	Ash layer

Drilling disturbance symbols

Soft sediments

Slightly disturbed

Moderately disturbed

Highly disturbed

Soupy

Hard sediments

Slightly fractured

Moderately fractured

Highly fragmented

Drilling breccia

Sedimentary structures

Burrows, rare (<30% surface area)

Burrows, common (30%–60% surface area)

Burrows, abundant (>60% surface area)

Discrete *Zoophycos* trace fossil

Discrete *Chondrites* trace fossil

Sagarites sponge

Gastropods

Other bivalves

Shell fragments

Wood fragments

Fish debris