

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Holocene			S	5Y 7/2	<p>UNLITHIFIED PELOIDAL WACKESTONE</p> <p>Major Lithology: This entire core contains light gray (5Y 7/2) to white (5Y 8/1) very-fine to fine grained PELOIDAL WACKESTONE. Grains identified include benthic foraminifers, planktonic foraminifers, bioclasts, echinoderm spines, ostracodes, pteropods, and plant debris. The clay- to silt-sized fraction contains micrite, aragonite needles, and nannofossils.</p> <p>General Description: Fining-upward intervals occur in Section 3, 48 cm and 78 cm. These intervals are coarse-grained at the base with plant debris, peloids, abundant benthic foraminifers, and bioclasts. The intervals grade upward into fine- to medium-grained sand. Fining-upward intervals are whiter and softer than the surrounding sediments.</p>
2		2						
3		3						
4		4						
5		4						
	CC					M		

SITE 1004 HOLE A CORE 2H CORED 5.3 - 14.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1				S		<p>UNLITHIFIED PELOIDAL WACKESTONE</p> <p>Major Lithology: This entire core consists of light gray (5Y 8/1) very fine- to medium- grained PELOIDAL WACKESTONE. In addition to peloids, sand-sized grains include planktonic and benthic foraminifers, pteropods, ostracodes, echinoderm fragments, intraclasts, and bioclasts. Grain size is bimodal with very fine- to fine-grained sand and medium- to coarse-grained sand. The coarser grains are mostly large, benthic foraminifers (miliolids), planktonic foraminifers, and pellets. The clay- to silt-size fraction consists of 30-40% micrite, 10-25% aragonite needles, and 5% nannofossils. Bioturbation is minor to moderate throughout the core.</p> <p>General Description: The mud fraction increases below Section 2. A subtle coarsening upward occurs in the upper 10 cm of Section 1.</p>
2		2				I		
3		3						
4		4						
5		5	Holocene			I	5Y 8/1	
6		6						
7		7						
8		8				I		
9		9				S		
10		10				M		

SITE 1004 HOLE A CORE 3H

CORED 14.8 - 24.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1				S	5Y 8/1	UNLITHIFIED PELOIDAL WACKESTONE Major Lithology: White (5Y 8/1) to light gray (2.5Y 7/2) fine-grained UNLITHIFIED PELOIDAL WACKESTONE. Grain size is bimodal between very fine to fine sand and medium to coarse sand. In addition to peloids, allochems include benthic and planktonic foraminifers, bioclasts, pteropods (some casts), echinoderm fragments, gastropods, and lithoclasts. The clay and silt fraction consists primarily of subequal amounts of micrite and aragonite needles with some nannofossils. Nannofossils become more abundant in Section 6.
						S		
2		2			O W W O	S	5Y 7/2	Minor Lithology: An interval of large (3-5 cm) rhodoliths, lithoclasts, solitary corals, and Halimeda plates (LITHOCLAST FLOATSTONE) occurs in Section 2, 65-130 cm. One lithoclast at the base of this interval is dark gray (phosphatized?) and consists of pteropods and foraminifers cemented together with other biota. The clast is rounded, measures 3 x 5 cm, and shows evidence for multiple episodes of boring.
						S		
3		3				S	5Y 8/1	General Description: A fining-upward interval occurs above the floatstone in Section 2, 0-65 cm. The interval contains numerous coarse sand to pebble-size dark gray and black grains. Grains include black pteropod casts, bivalves, foraminifers, gastropods, shell fragments, and bioclasts.
						S		
4		4	Pleistocene			S	5Y 7/1	
						S		
5		5				S	2.5Y 7/2	
						S		
6		6				S	2.5Y 7/2	
						S		
7		7				S	2.5Y 7/2	
						S		
8		8				S	2.5Y 7/2	
						S		
9		9				S	2.5Y 7/2	
						S		
CC		CC						

┌

SITE 1004 HOLE A CORE 4H CORED 24.3 - 33.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description	
1		1	Pleistocene			S	5Y 8/1	<p>UNLITHIFIED PELOIDAL WACKESTONE</p> <p>Major Lithology: This entire core consists of white (5Y 8/1) UNLITHIFIED PELOIDAL WACKESTONE. Grain size is bimodal between very fine to fine sand, and medium sand to pebbles. Fine grains are well sorted and include peloids, benthic and planktonic foraminifers, and bioclasts. Coarse grains include lithoclasts, black foraminifers, clear pteropods, gray pteropod casts, echinoderm spines, shell fragments, and small black pebbles. The matrix composition ranges from 20-65% micrite, 10-15% aragonite needles, and 5-20% nannofossils.</p> <p>General Description: The sediment gradually becomes whiter and muddier with increasing depth below Section 1, 80 cm. There is a slight increase in nannofossils toward the base of this core. Bioturbation is moderate to strong and occurs in the form of large, greenish (10GY 8/1) burrows.</p>	
2		2							
3		3							
4		4							
5		5							
6		6				I			
7		7							
8		8							
9		9							
CO						M			

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene				5Y 8/1	UNLITHIFIED TO PARTIALLY LITHIFIED PELOIDAL WACKESTONE and UNLITHIFIED TO PARTIALLY LITHIFIED MUDSTONE
2		2					5Y 5/1	Major Lithologies: The dominant lithology in this core is white (5Y 8/1) to pale yellow (5Y 8/2) UNLITHIFIED TO PARTIALLY LITHIFIED PELOIDAL WACKESTONE TO MUDSTONE. Sand-sized grains include peloids, benthic and planktonic foraminifers, pteropods, pteropod casts, echinoderm spines, and bioclasts. The matrix consist of 20-55 % micrite, 0-15% aragonite needles, and 10-40% nannofossils. Light gray intervals are nannofossil rich.
3		3				S	5Y 8/2	Minor Lithologies: Section 2, 0-80 cm, consists of a gray (5Y 5/1) PARTIALLY LITHIFIED PACKSTONE TO WACKESTONE.
4		4					5Y 8/1	General Description: Section 2, 0-80 cm consists of a fining-upward interval between 0 and 10 cm and a coarsening-upward interval between 80 and 10 cm. Percentage of gray and black grains ("salt and pepper" grains) increases upward towards the contact at 10 cm and then decreases above the contact. A well-indurated lithoclast 5 cm in diameter occurs in Section 2, 10-15 cm. The lithoclast shows evidence of multiple boring events. A thin fining upward interval with a normally graded lower contact occurs in Section 5, 70-75 cm.
5		5				S	5Y 7/2 To 5Y 7/1	This interval contains numerous gray and black grains ("salt and pepper" grains). Several intervals in the core show subtle upward changes in color from grayish below to more white above.
6		6				S		
7		7				I		
8		8				5Y 8/1		
9		9						
CC								

SITE 1004 HOLE A CORE 6H CORED 43.3 - 52.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene	● ≡≡≡		S	5Y 8/1	<p>UNLITHIFIED TO PARTIALLY LITHIFIED BIOWACKESTONE TO MUDSTONE</p> <p>Major Lithology: The dominant lithology in this core is a light gray (2.5Y 7/2), very fine grained UNLITHIFIED TO PARTIALLY LITHIFIED BIOWACKESTONE with abundant nanofossils. Grains include angular bioclasts, peloids, benthic and planktonic foraminifers, pteropod fragments, and ostracodes. The matrix consists of 40-50% nanofossils, 15% micrite, and < 5% aragonite needles.</p> <p>General Description: A normally graded interval occurs in Section 2, 25-55 cm. The base of this interval is dark gray to gray and contains numerous gray to black grains. Dark grains occur below 55 cm but are very rare. The core has a mottled appearance and lacks sedimentary structures due to moderate to strong bioturbation. Partial lithification increases below Section 2, 55 cm.</p>
2		2		● ≡≡≡	△ △		5Y 5/1	
3		3		● ≡≡≡		S	2.5Y 7/2	
4		4		● ≡≡≡				
5		5		● ≡≡≡				
6		6		● ≡≡≡		S	2.5Y 7/2	
7		7		● ≡≡≡				
8		8	● ≡≡≡		I	M		
9		9	● ≡≡≡					

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1					5Y 8/2	<p>UNLITHIFIED TO PARTIALLY LITHIFIED PELOIDAL WACKESTONE and UNLITHIFIED TO PARTIALLY LITHIFIED MUDSTONE</p> <p>Major Lithologies: This dominant lithology in this core is pale yellow (5Y 8/2) to white (5Y 8/1), very-fine grained UNLITHIFIED TO PARTIALLY LITHIFIED PELOIDAL WACKESTONE TO MUDSTONE. Grains include peloids, planktic and benthic foraminifers, echinoderm fragments, and bioclasts. The matrix consists of 17-50% micrite, 10-15% aragonite needles, and 10-20% nannofossils. The percentage of mud increases downcore. Nannofossils are more common in the yellowish colored intervals.</p> <p>General Description: One fining-upward interval occurs in Section 5, 0-15 cm. This interval contains cemented foraminifers, pteropod casts, and lithoclasts. Many of the grains are gray ("salt and pepper" grains).</p>
2		2				S	5Y 8/1	
3		3						
4		3				S	5Y 8/2 To 5Y 8/1	
5		4	Pleistocene					
6		4				P	2.5Y 6/1	
7		5						
8		6				I	5Y 7/1	
9		6				S		
		CC				M		











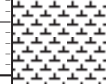









Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
	P.P.W.W.W.W. P.P.W.W.W.W. P.P.W.W.W.W.	CC		△ △		M	5Y 7/1	UNLITHIFIED TO PARTIALLY LITHIFIED WACKESTONE TO PACKSTONE
			Pleistocene					<p>Major Lithology: The core consist of a light gray (5Y 7/1) UNLITHIFIED TO PARTIALLY LITHIFIED WACKESTONE TO PACKSTONE. Major components are gray foraminifers, bioclasts, ostracodes, gray lithoclasts, pteropod casts, echinoderm spines, and peloids.</p> <p>Minor Lithology: A white (2.5Y 8/1) UNLITHIFIED PELOIDAL WACKESTONE with very fine grains (bioclasts and foraminifers) occurs between 0 and 10 cm.</p> <p>General Description: A normally graded interval occurs from 10-40 cm.</p>

SITE 1004 HOLE A CORE 9H

CORED 66.8 - 76.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene		S		5Y 7/4	<p>UNLITHIFIED TO PARTIALLY LITHIFIED PELOIDAL WACKESTONE</p> <p>Major Lithology: This core is dominated by white to light gray (5Y 8/1 to 5Y 7/4) UNLITHIFIED TO PARTIALLY LITHIFIED PELOIDAL WACKESTONE. Other major fine sand-sized components include benthic and planktonic foraminifers, bioclasts, echinoderm spines, and pteropods. The clay-sized fraction consists primarily of micrite (85%) with some nannofossils (15%). Bioturbation is moderate to strong.</p>
2		2						
3		3						
4		4						
5		5						
6		6						
7		7						
8		8						
9		9						
							10GY 7/0	<p>Minor Lithology: Layers of fining-upward, light gray (5Y 7/4), UNLITHIFIED TO PARTIALLY LITHIFIED PELOIDAL WACKESTONE TO PACKSTONE occur in Section 1, 30-65, and 105-115 cm; Section 6, 0-30, and in Section 7, 49-69 cm.</p>
							5Y 8/1	
								5Y 8/1
								2.5Y 8/2

SITE 1004 HOLE A CORE 10H CORED 76.3 - 85.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1			W	S	5Y 7/2	<p>NANNOFOSSIL OOZE WITH PELOIDS</p> <p>Major Lithology: The dominant lithology is light gray (2.5Y 7/2) to pale yellow (2.5Y 8/2) to white (5Y 8/1) NANNOFOSSIL OOZE WITH PELOIDS. Other major fine sand- sized allochems are foraminifers. The matrix contains nannofossils, micrite, and aragonite needles. Bioturbation is slight to absent.</p> <p>General Description: Drilling disturbance and downhole contamination occurred in Section 1, 0-26 cm. More lithified intervals occur in Section 1, 36-46 cm, and Section 6, 48 cm. A sharp color change from greenish yellow to pale yellow occurs in Section 4, 30-36 cm.</p>
2		2				S	2.5Y 7/2	
3		3				S	5Y 8/2 To 2.5Y 7/2	
4		4	Pleistocene			S		
5		5						
6		6					2.5Y 8/2	
7		7						
8		8					5Y 8/1	
9		CC					2.5Y 8/2	

SITE 1004 HOLE A CORE 11H CORED 85.8 - 93.3 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene	- - -		S	5Y 8/1	<p>UNLITHIFIED MUDSTONE</p> <p>Major Lithology: The dominant lithology in this core is gray (5Y 6/1) to light yellow (5Y 8/2) to light gray (2.5Y 7/1) silt-sized UNLITHIFIED MUDSTONE. The matrix consists of aragonite needles, nannofossils, and micrite.</p> <p>Minor Lithologies: Section 1, 5-77 cm, consists of white (5Y 8/1) NANNOFOSSIL OOZE with fine sand-sized peloids.</p>
2		2			5Y 8/2			
3		3			2.5Y N7/0			
4					2.5Y N8/0			
5		4						
6		5						
7		CO			I		M	


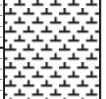
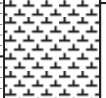
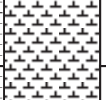
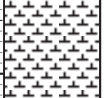
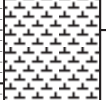
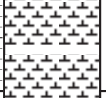
SITE 1004 HOLE A CORE 12H CORED 93.3 - 102.8 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
-		CC						<p>FORAMINIFERAL WACKESTONE</p> <p>Major Lithology: The lithology in this Core Catcher is light gray (2.5Y 7/2) FORAMINIFERAL WACKESTONE with fine sand-sized black grains, bioclasts, and pyrite. This Section is slightly bioturbated, dolomitized, and is moderately disturbed.</p>

SITE 1004 HOLE A CORE 13X CORED 102.8 - 107.5 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		CC						MUDSTONE
<p>Major Lithology: The lithology of this Core Catcher is light gray (2.5Y 7/2) MUDSTONE. The Section is moderately to highly disturbed, slightly bioturbated, and dolomitized.</p>								

SITE 1004 HOLE A CORE 14X CORED 107.5 - 116.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1		●	www		5Y 8/1	NANNOFOSSIL OOZE
2		2		●	---		5Y 6/2	<p>Major Lithology: The dominant lithology in this core is light olive gray (5Y 6/2) NANNOFOSSIL OOZE with peloids. The matrix consists of nannofossils, micrite, and aragonite needles.</p> <p>General Description: The entire core is slightly bioturbated. Fine yellowish laminae occur in Section 3, 63-66, 78, 121, 125, 132, and 125 cm; Section 4, 34, 37-38, 79, 86-89, 95, 116, and 118-119 cm, and Section 5, 35, 81, 95, 97, and 98-99 cm. These colored laminae are grain-supported and include more tunicate spicules and foraminifers than the surrounding sediment. They represent turbidity and/or grainflow deposits.</p>
3		3	Pleistocene	○	---			
4		3		○	---			
5		4		○	---			
6		4		○	---			
7		5		○	---			
		CC		○	---			

SITE 1004 HOLE A CORE 15X CORED 116.6 - 126.0 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
			CC	e	V	M	5Y 7/2	BIOWACKESTONE
			Pleistocene					<p>Major Lithology: Light gray (5Y 7/2) BIOWACKESTONE. The entire core is extensively recrystallized and partially dolomitized.</p> <p>General Description: Primary sedimentary laminae are contorted, and show evidence of slumping.</p>

SITE 1004 HOLE A CORE 16X CORED 126.0 - 135.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene	●	V	I	5Y 8/1	<p>UNLITHIFIED PELOIDAL WACKESTONE</p> <p>Major Lithology: The dominant lithology in this core is white (5Y 8/1) UNLITHIFIED PELOIDAL WACKESTONE. The matrix consists of aragonite needles, nannofossils, and micrite.</p> <p>General Description: The core is highly disturbed and no sedimentary structures are preserved. Remark: Section 2 split 180 degrees out.</p>
2		2		●	V			
3		3		●	V			
4		3		●	V			
5		4		●	V			
6		CC		●	V	M		

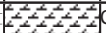
SITE 1004 HOLE A CORE 17X CORED 135.4 - 144.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	Pleistocene			M	5Y 8/1 5Y 7/1	<p>UNLITHIFIED PELOIDAL WACKESTONE and BIOFLOATSTONE</p> <p>Major Lithologies: The two dominant lithologies in this core are white (5Y 8/1) UNLITHIFIED PELOIDAL WACKESTONE (0-67 cm) and light gray (5Y 7/1) BIOFLOATSTONE (67-112 cm). Sand-sized allochems include blackened skeletal grains, Halimeda, bivalves, intraclasts, lithoclasts, coral debris, red algae, and benthic foraminifers.</p> <p>Minor Lithologies: At the bottom of the core (107-112 cm) lies light gray (2.5Y 7/1) dolomitized MUDSTONE with fine-grained foraminifers. Primary mm-scale laminae are contorted, and show evidence of slumping.</p>

SITE 1004 HOLE A CORE 18X CORED 144.4 - 153.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description	
1		1	Pleistocene			S	5Y 8/2	<p>UNLITHIFIED MUDSTONE TO PELOIDAL WACKESTONE and PARTIALLY LITHIFIED PELOIDAL WACKESTONE TO MUDSTONE</p> <p>Major Lithologies: The dominant lithologies are pale yellow (5Y 8/2) to white (5Y 8/1) UNLITHIFIED MUDSTONE TO PELOIDAL WACKESTONE and PARTIALLY LITHIFIED PELOIDAL WACKESTONE TO MUDSTONE. The silt- to clay-sized fraction consists of nannofossils, aragonite needles, micrite, and tunicates. The entire core is partially dolomitized.</p>	
2		2					5Y 8/1	<p>General Description: A sharp contact separates the unlithified lithology from the partially unlithified one in Section 1, 130 cm.</p>	
3		3					M	5Y 6/2	
4		4							






SITE 1004 HOLE A CORE 19X CORED 153.4 - 162.4 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
		CC			X	M		DOLOMITE
			late Pliocene					Major Lithology: The lithology of the CC is light gray (2.5Y 7/2) finely crystalline DOLOMITE.

1004A-20X Downhole contamination, not described.

1004A-21X NO RECOVERY

SITE 1004 HOLE A CORE 22X CORED 181.2 - 190.6 mbsf

Meter	Graphic Lith.	Section	Age	Structure	Disturb	Sample	Color	Description
1		1	late Pliocene	●	OO		5Y 8/1	UNLITHIFIED MUDSTONE Major Lithology: White (5Y 8/1) UNLITHIFIED MUDSTONE. Minor sand-sized allochems are peloids. General Description: Drilling disturbance has obliterated any primary sedimentary structures.
2		2		●	OO			
3		3		●	OO			
4		3		●	OO			
5		4	●			I	5Y 7/1	
		CC			X	M		

1004A-23X NO RECOVERY

Figure 1 (Chapter 4). Key to lithologic symbols used in graphic lithology column on core description forms.

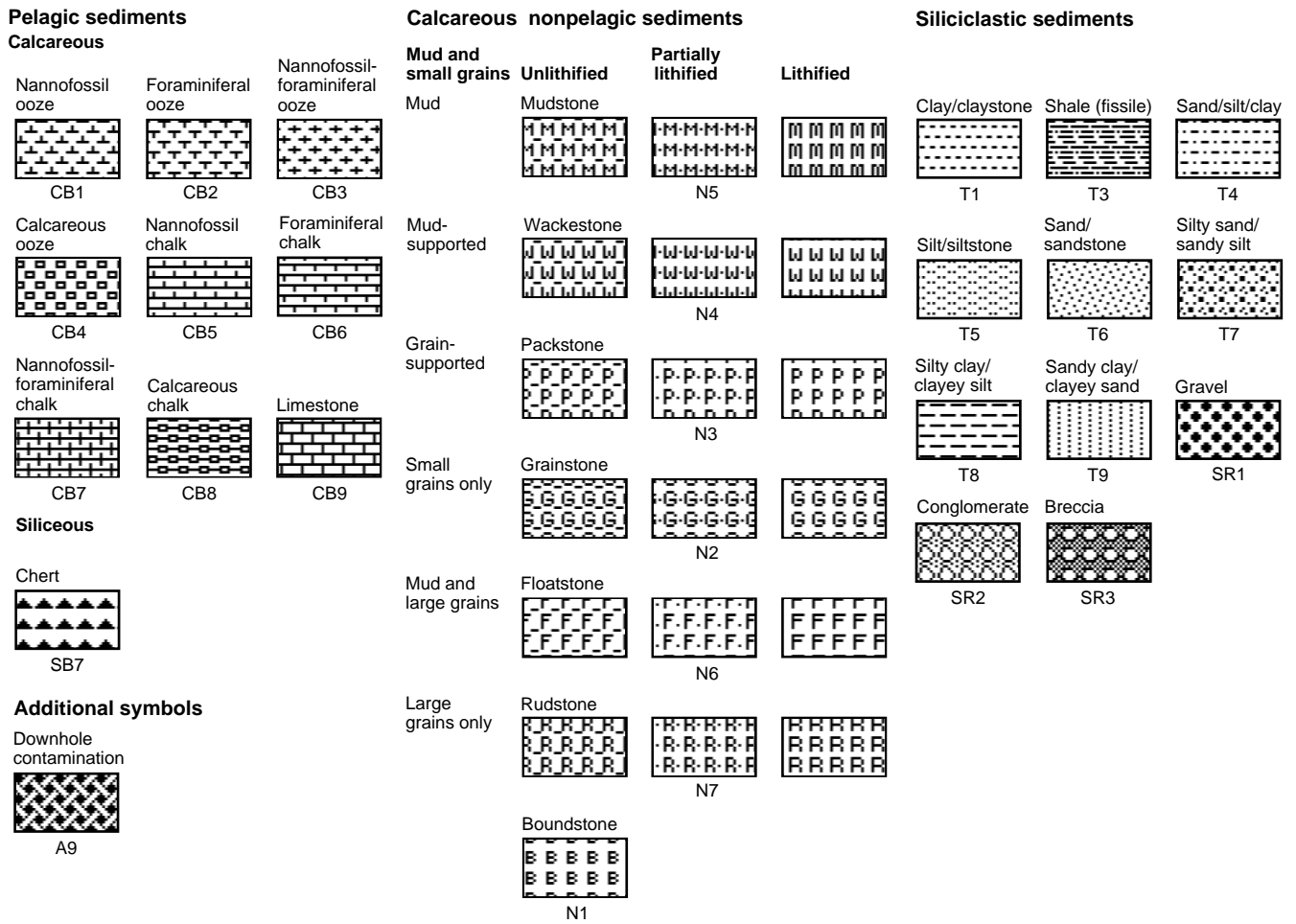


Figure 2 (Chapter 4). Symbols showing drilling disturbance and sedimentary structures used for core descriptions.

