


**CORE DESCRIPTIONS**  
**VISUAL CORE DESCRIPTIONS, SITE 1118**

Site 1118 Hole A Core 1R Rec. 0.21% 205.0-214.4 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
	granule	very coarse							
	coarse	medium							
	fine	very fine							
		silt							
		clay							
PAL									




**CORE DESCRIPTIONS**  
**VISUAL CORE DESCRIPTIONS, SITE 1118**

**Core Photo**

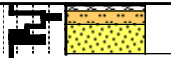

Site 1118 Hole A Core 2R Rec. 0.41% 214.4-224.1 mbsf									
METERS	SECTION	GRAIN SIZE granule very coarse coarse medium fine very fine silt clay	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
									
<p>— PAL / \ CLAYSTONE, SILTSTONE, SANDSTONE</p> <p>Major Lithologies:            Core catcher consists of 3 pieces of massive CLAYSTONE, fine-grained SANDSTONE and SILTSTONE.</p>									



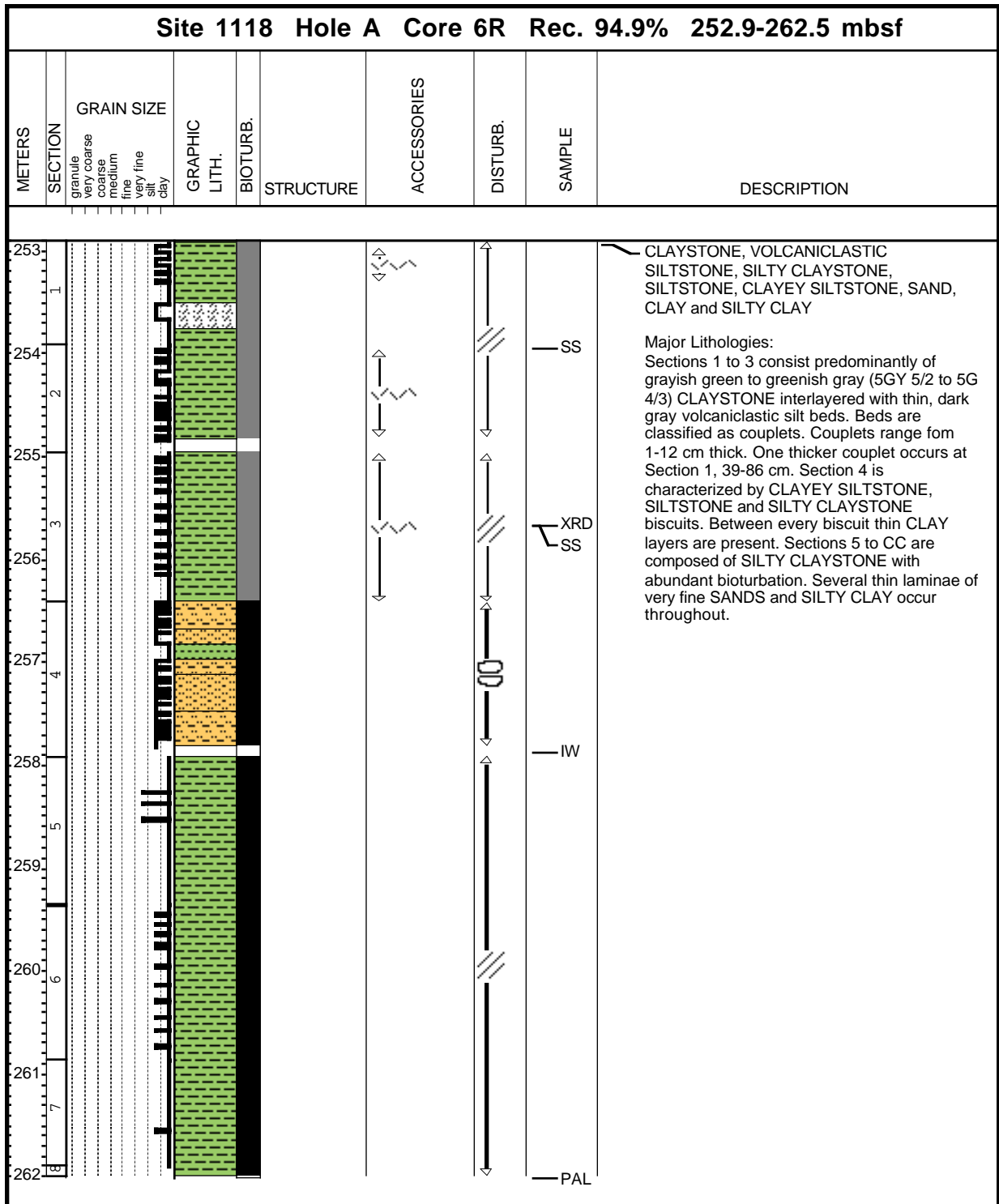
**Core Photo**

Site 1118 Hole A Core 4R Rec. 2.8% 233.7-243.3 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
1		granule very coarse coarse medium fine very fine silt clay							<p>SILTY CLAYSTONE, CLAYEY SILTSTONE, SANDSTONE, and CLAYSTONE</p> <p>Major Lithologies:                      The core catcher is characterized by greenish gray (5GY 5/1) SILTY CLAYSTONE at 0-7 cm and CLAYEY SILTSTONE at 7-10cm. The interval from 10-20 cm is composed of a SANDSTONE-CLAYSTONE couplet, whereas the interval from 20-25 cm is calcareous CLAYSTONE.</p>

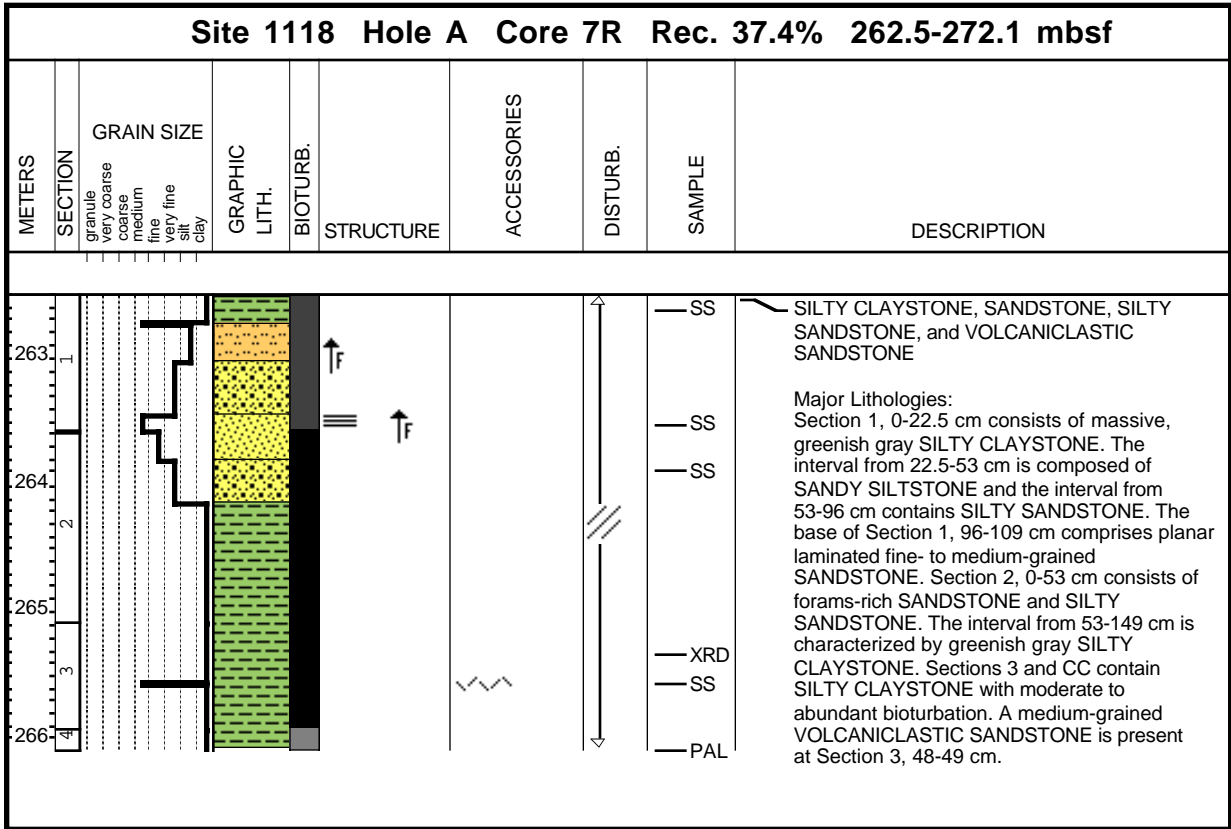
**Core Photo**

Site 1118 Hole A Core 5R Rec. 4.2% 243.3-252.9 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
1						o o o		<ul style="list-style-type: none"> <li>THS</li> <li>XRD</li> <li>SS</li> <li>PAL</li> </ul>	<p>VOLCANICLASTIC SAND, CLAYEY SILTSTONE, CLAYSTONE, SILTSTONE, SANDSTONE</p> <p>Major Lithologies:                      Core catcher is composed of VOLCANIC SAND at 0-8 cm, greenish gray to dark greenish gray CLAYEY SILTSTONE at 8-10 cm and 7-18 cm. The interval from 10-12 cm contains a calcareous CLAYSTONE. The interval from 18-24 cm is charcterised by a SANDSTONE-CLAYSTONE. From 24-29 cm occurs SILTSTONE and the interval from 29-40 cm consists of SANDSTONE rich in volcaniclastic material.</p>

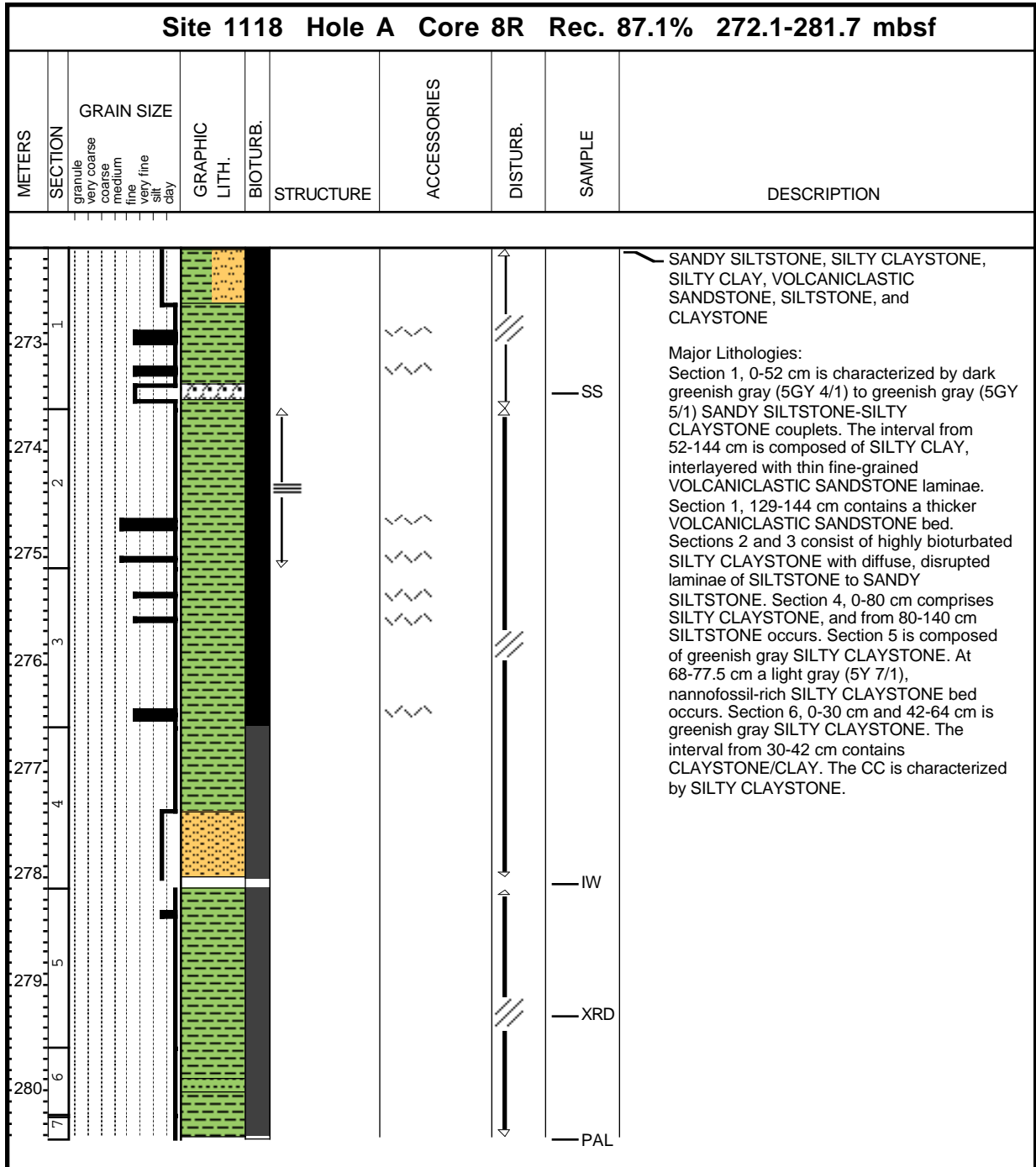
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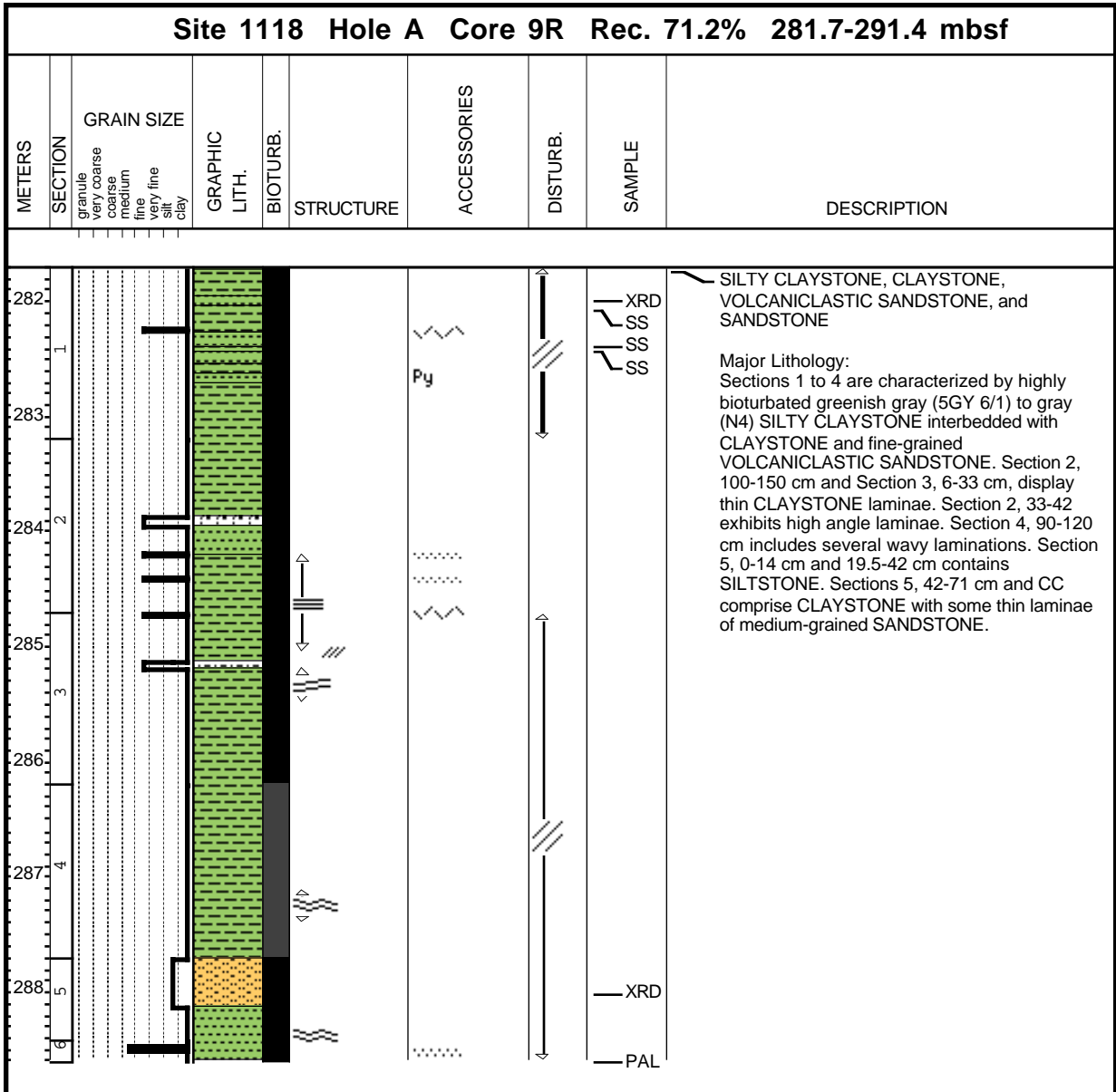
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**Core Photo**

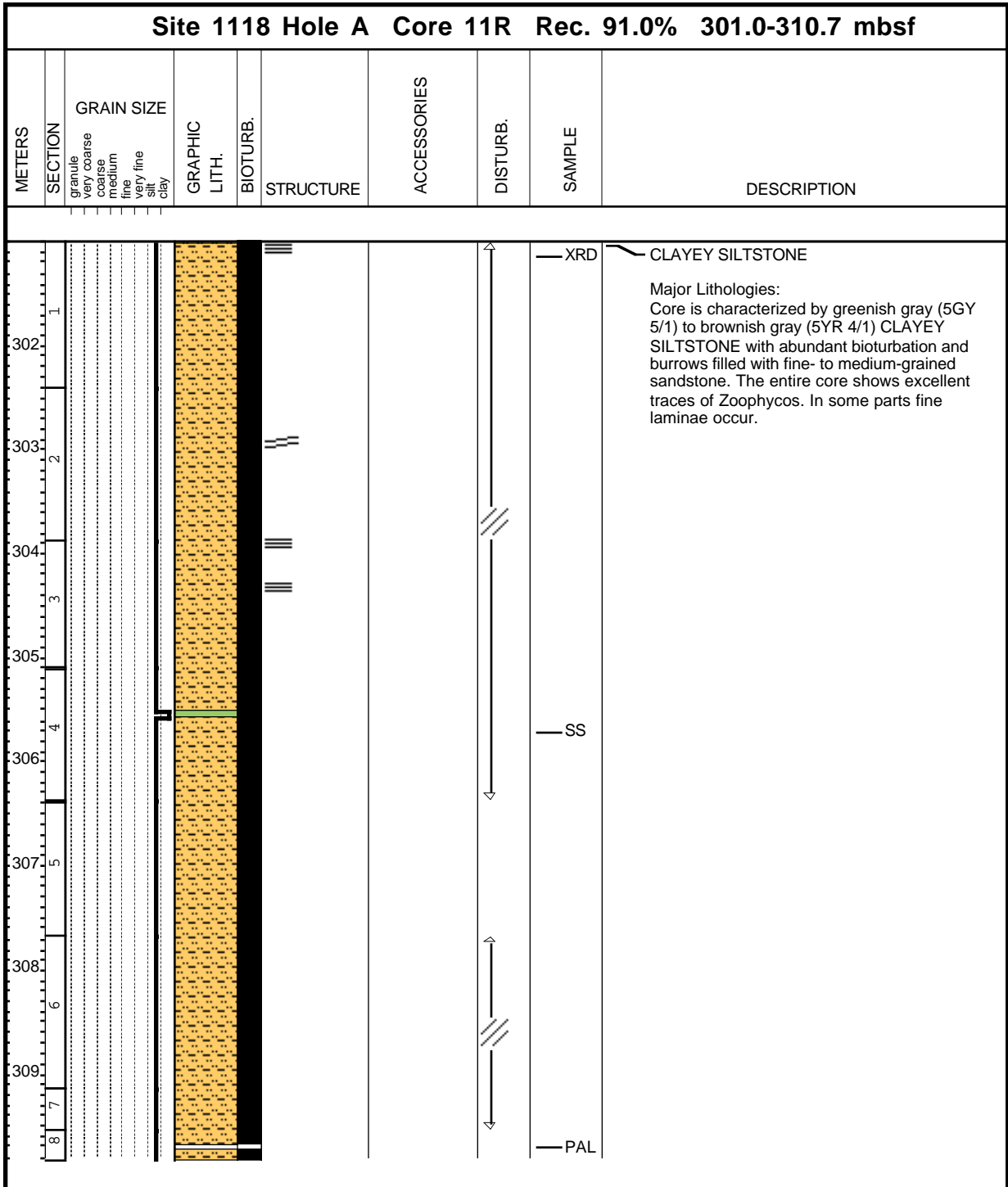


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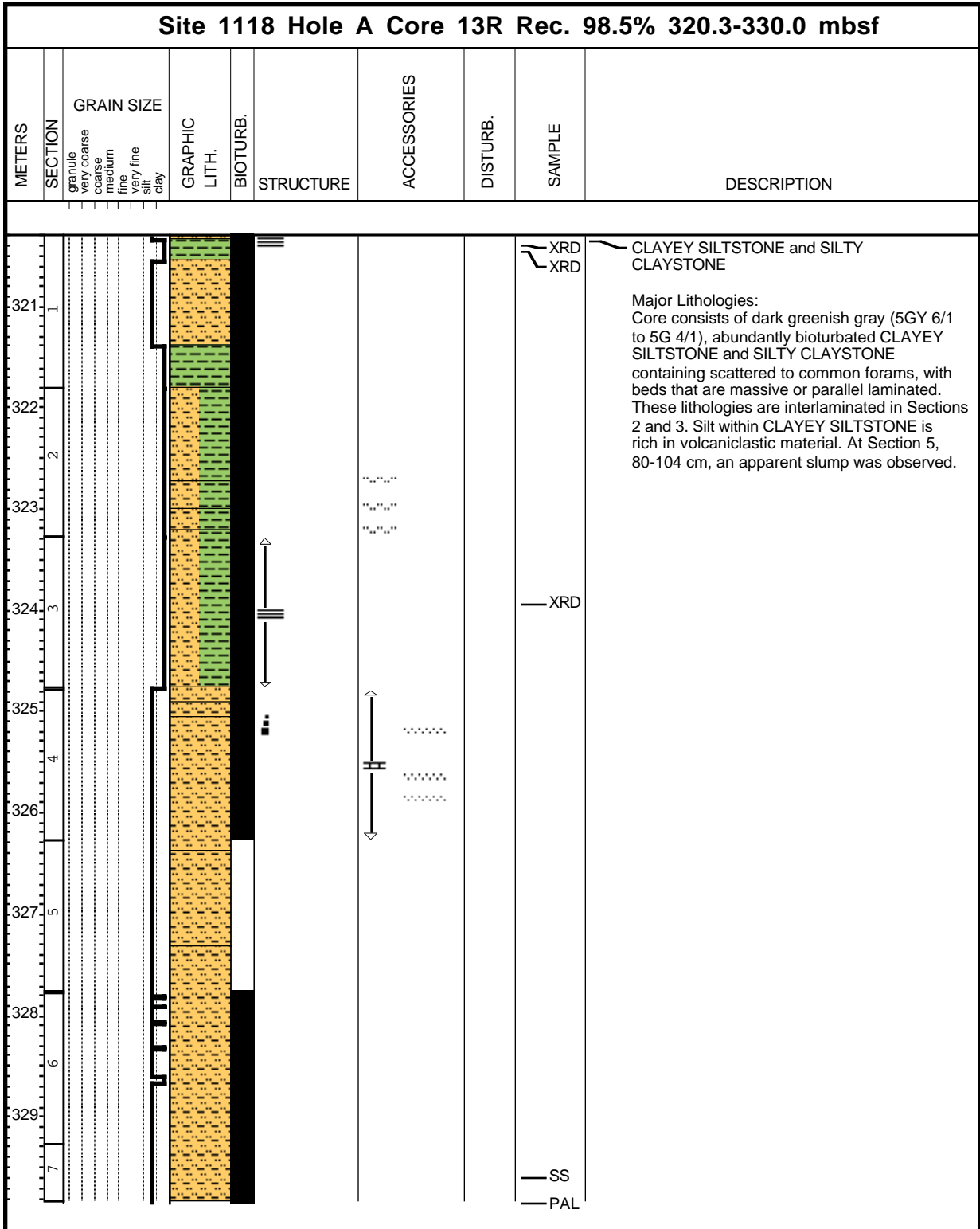


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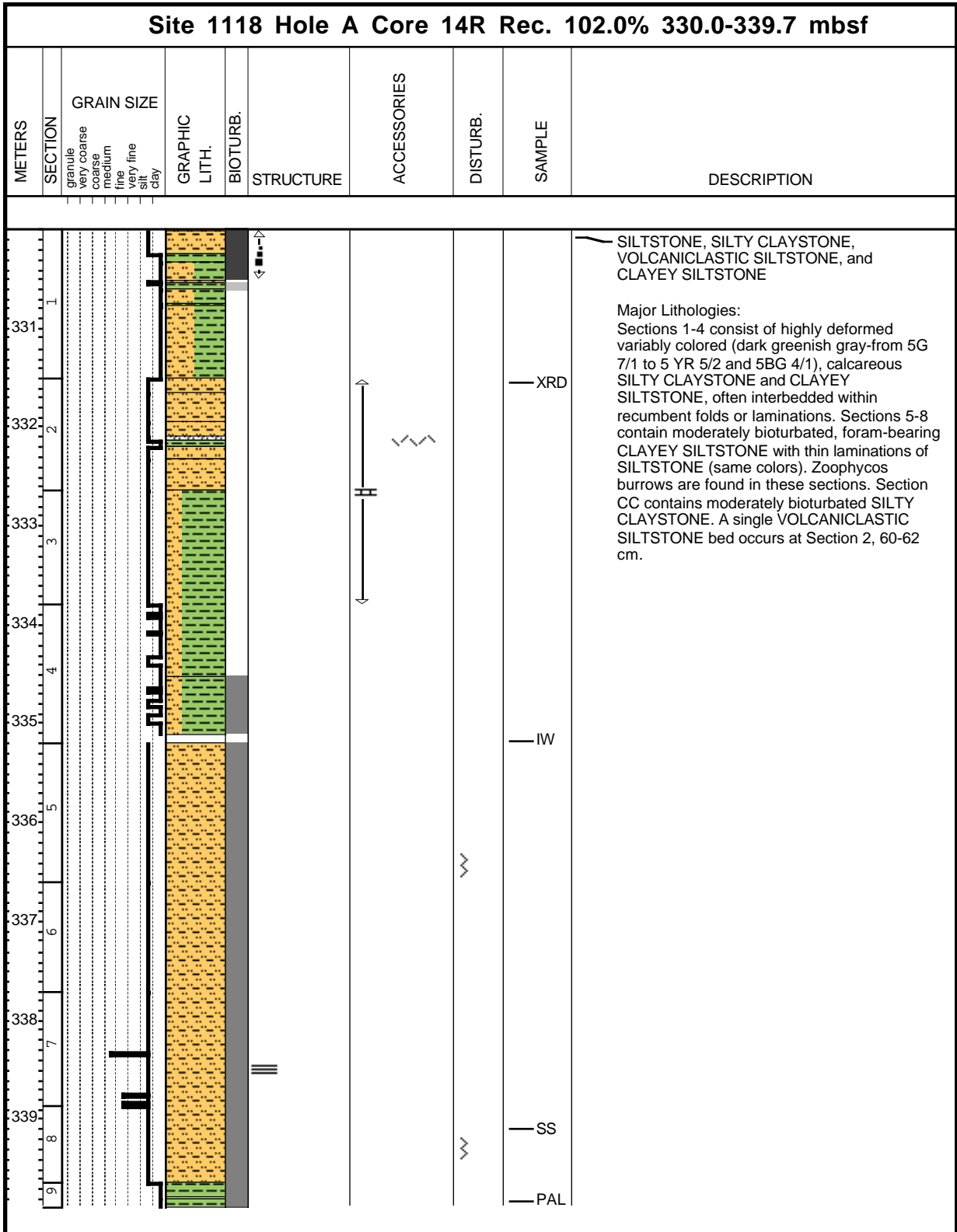




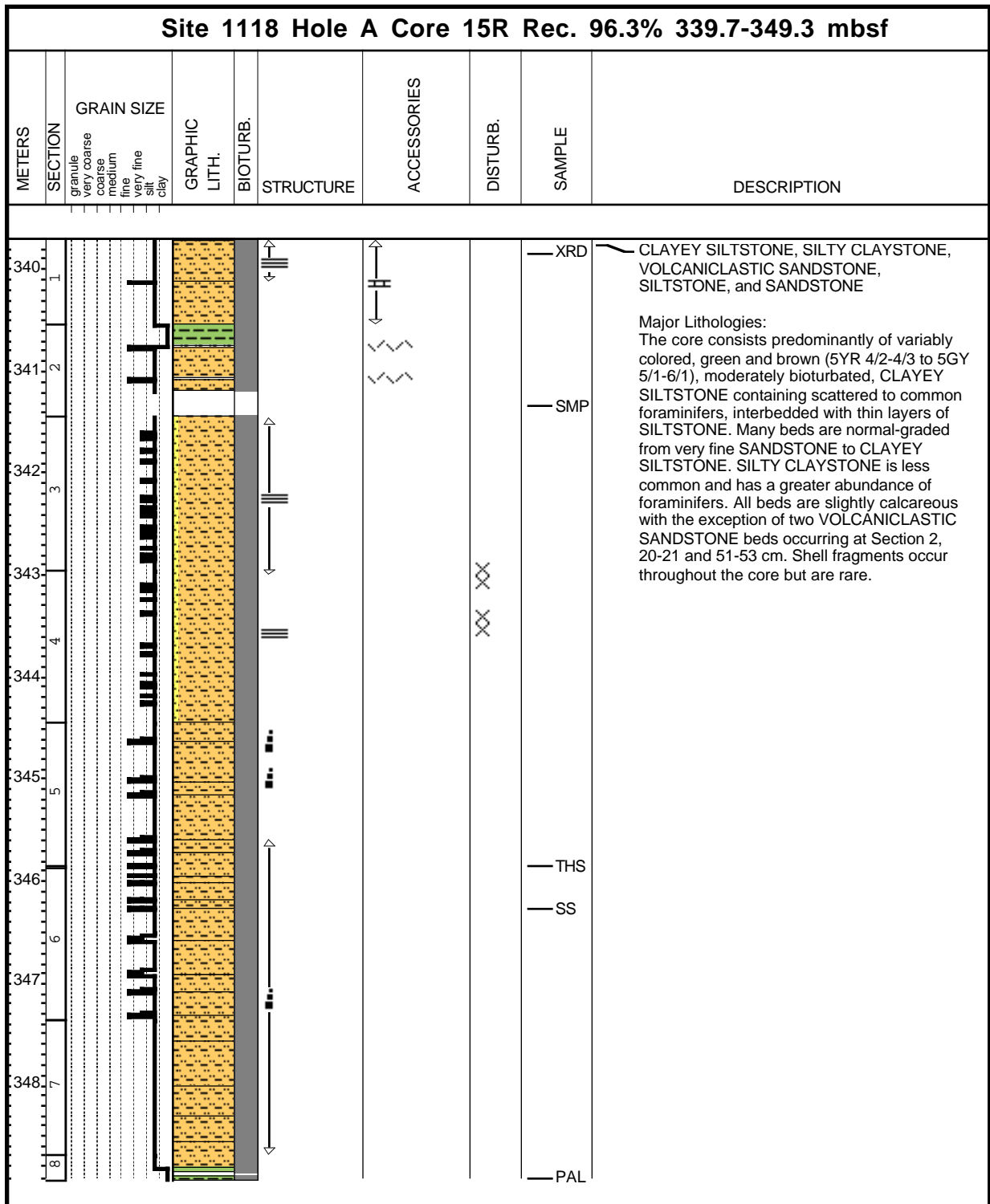
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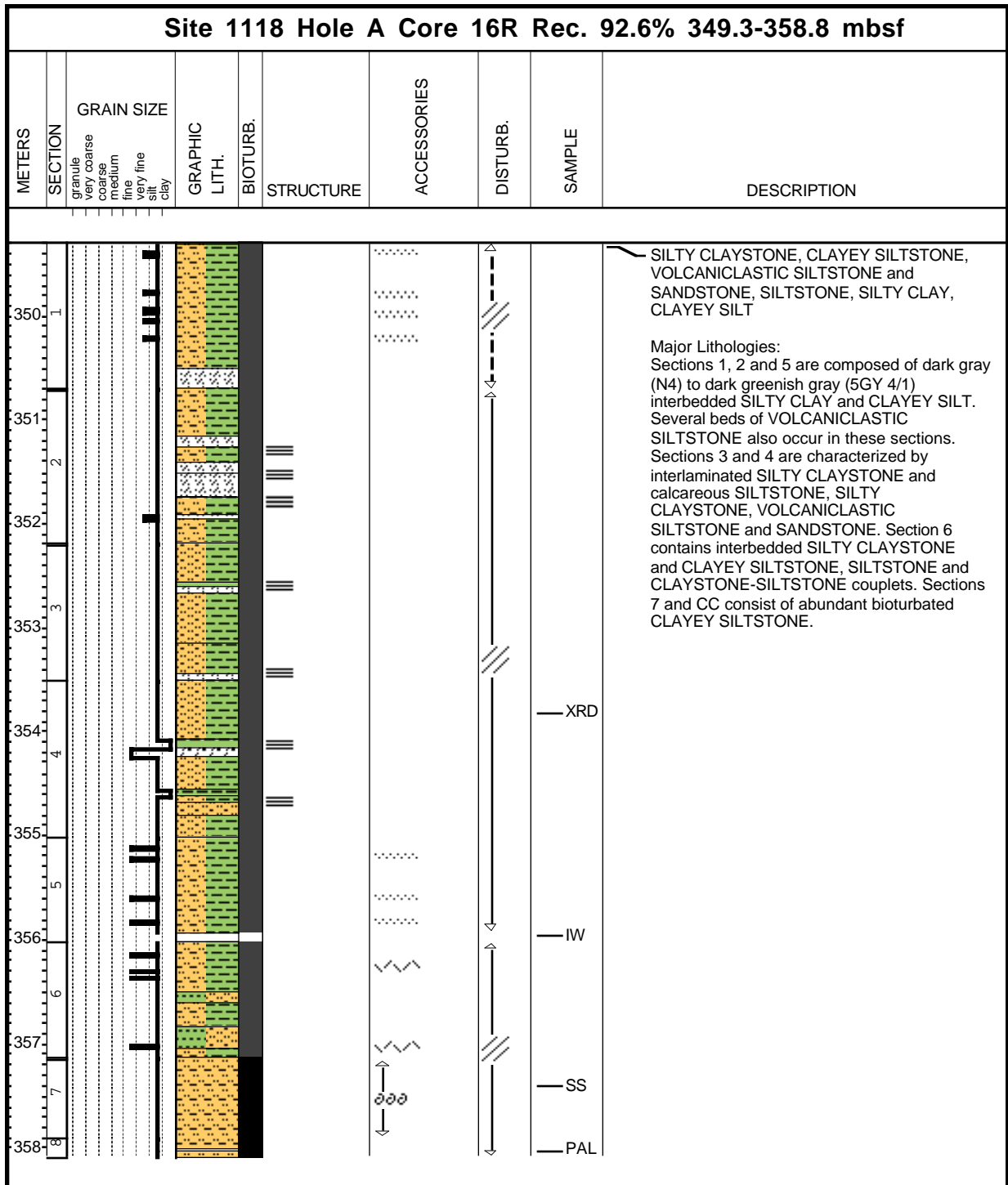
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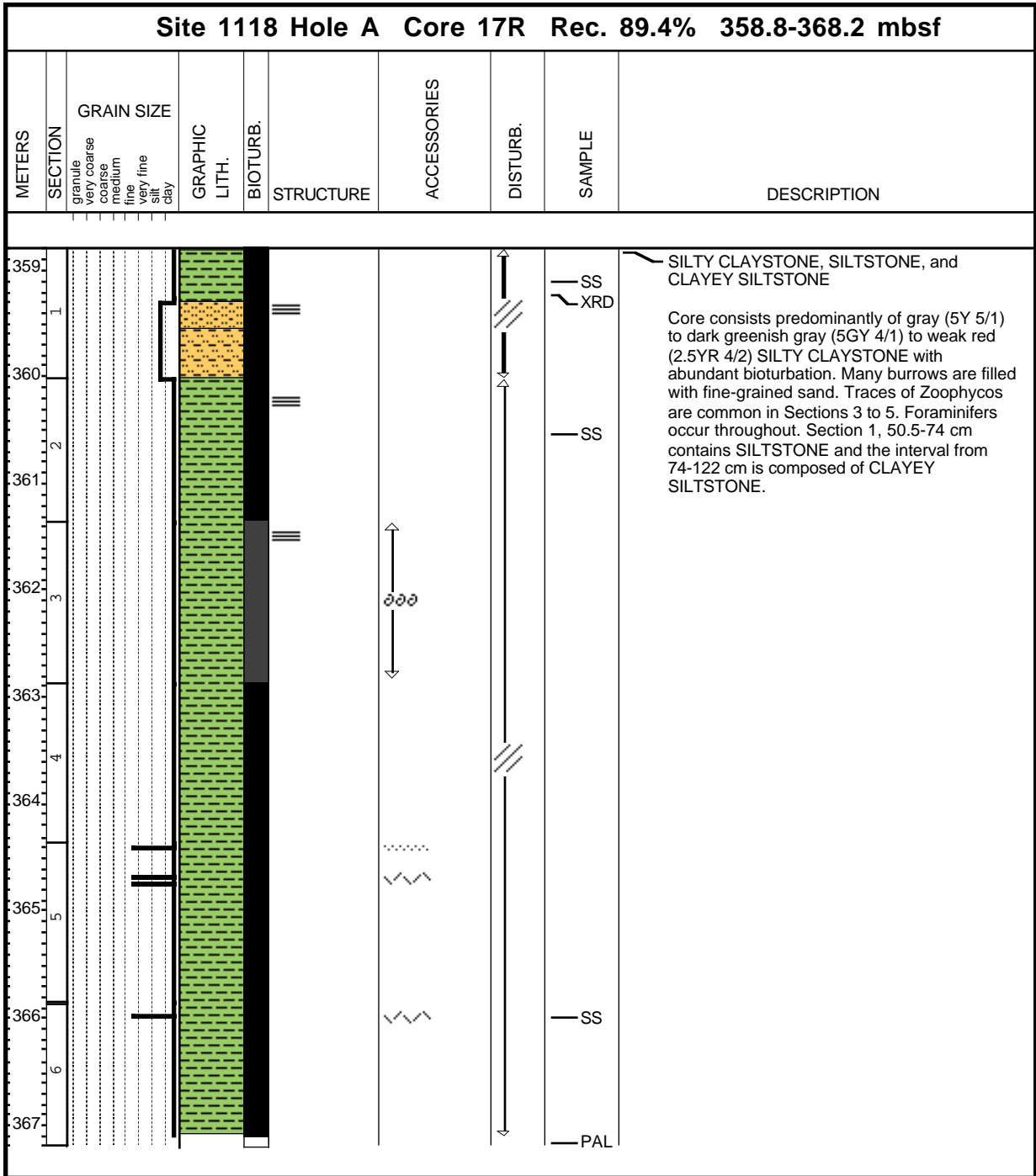
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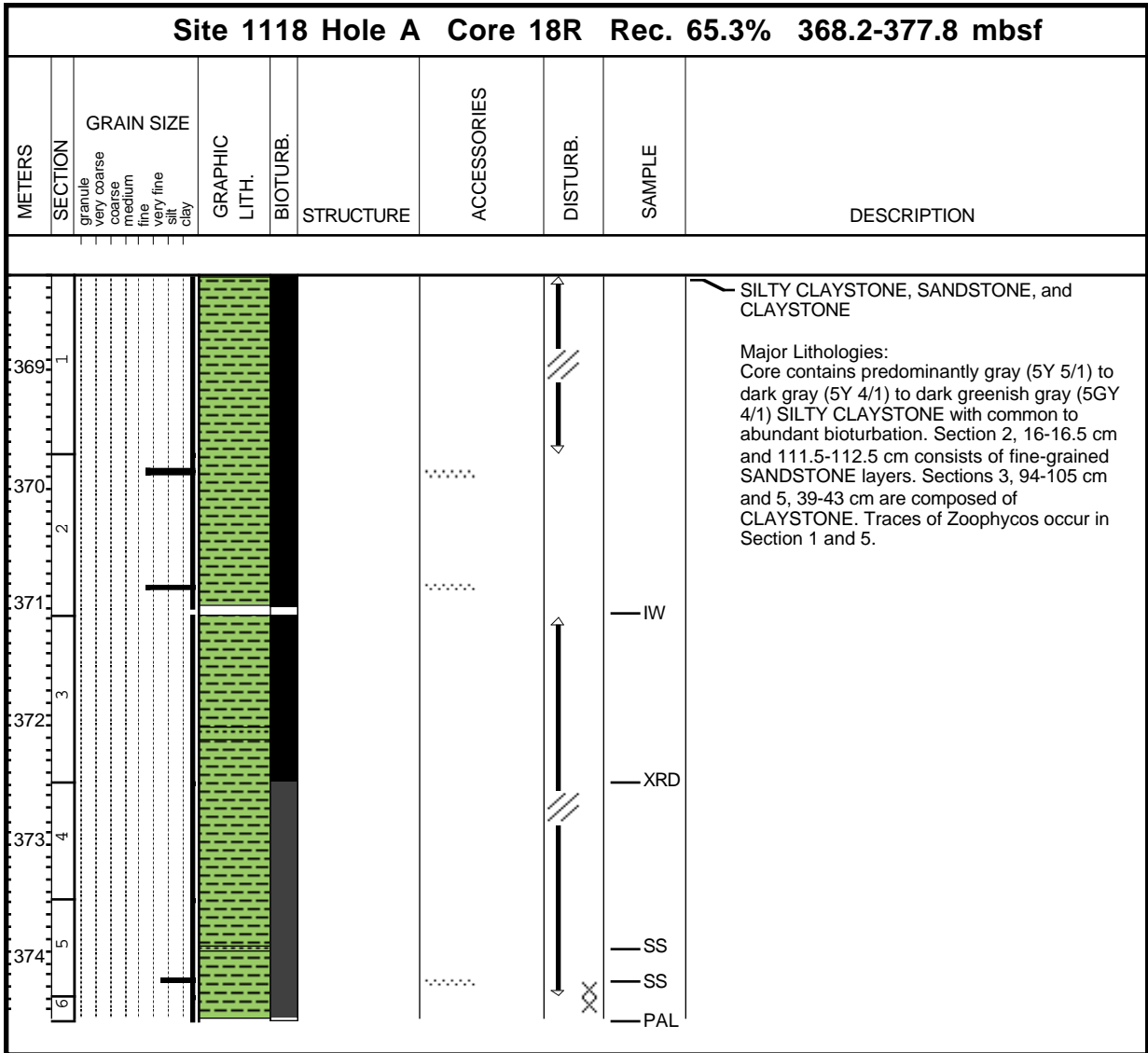
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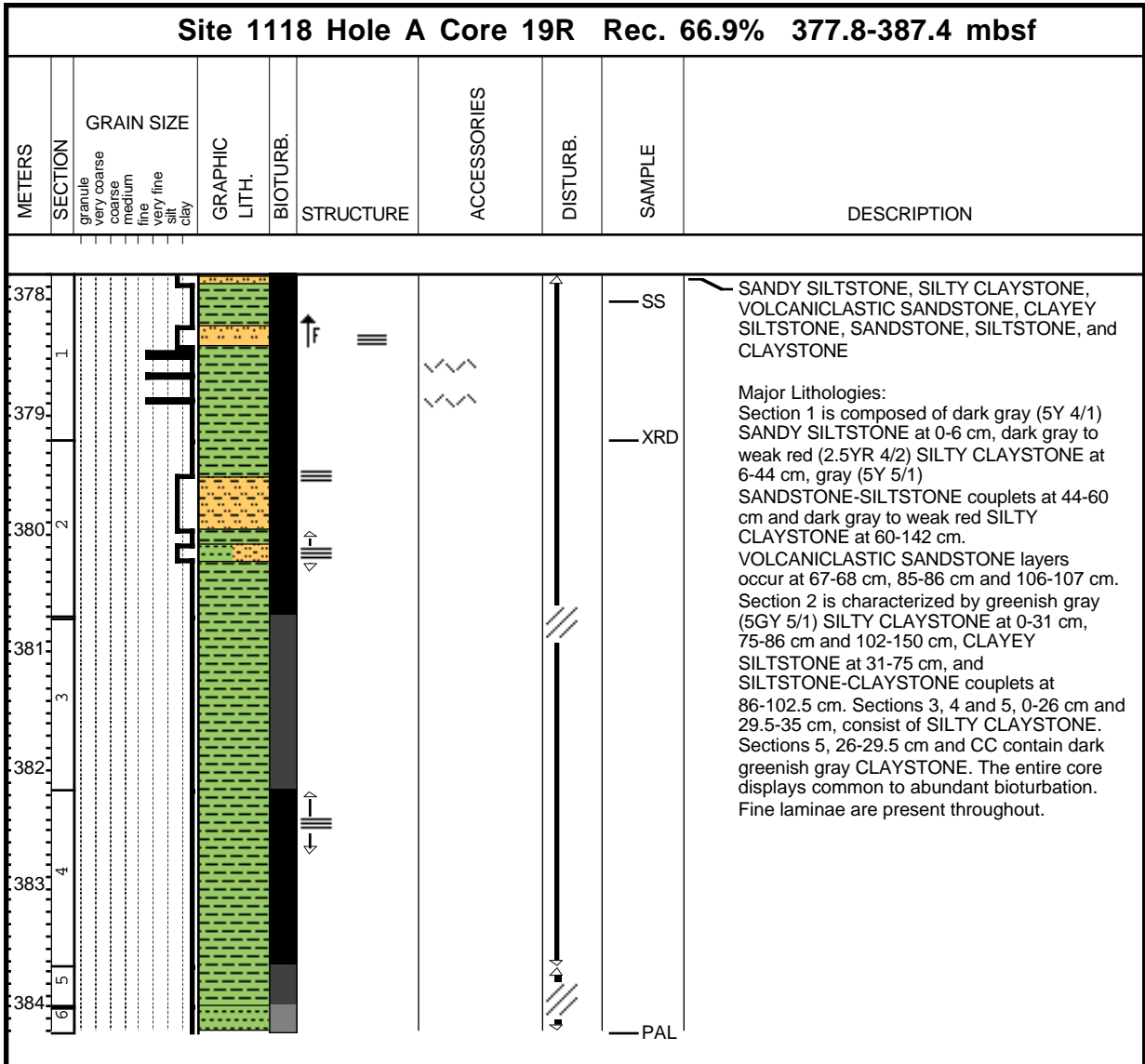
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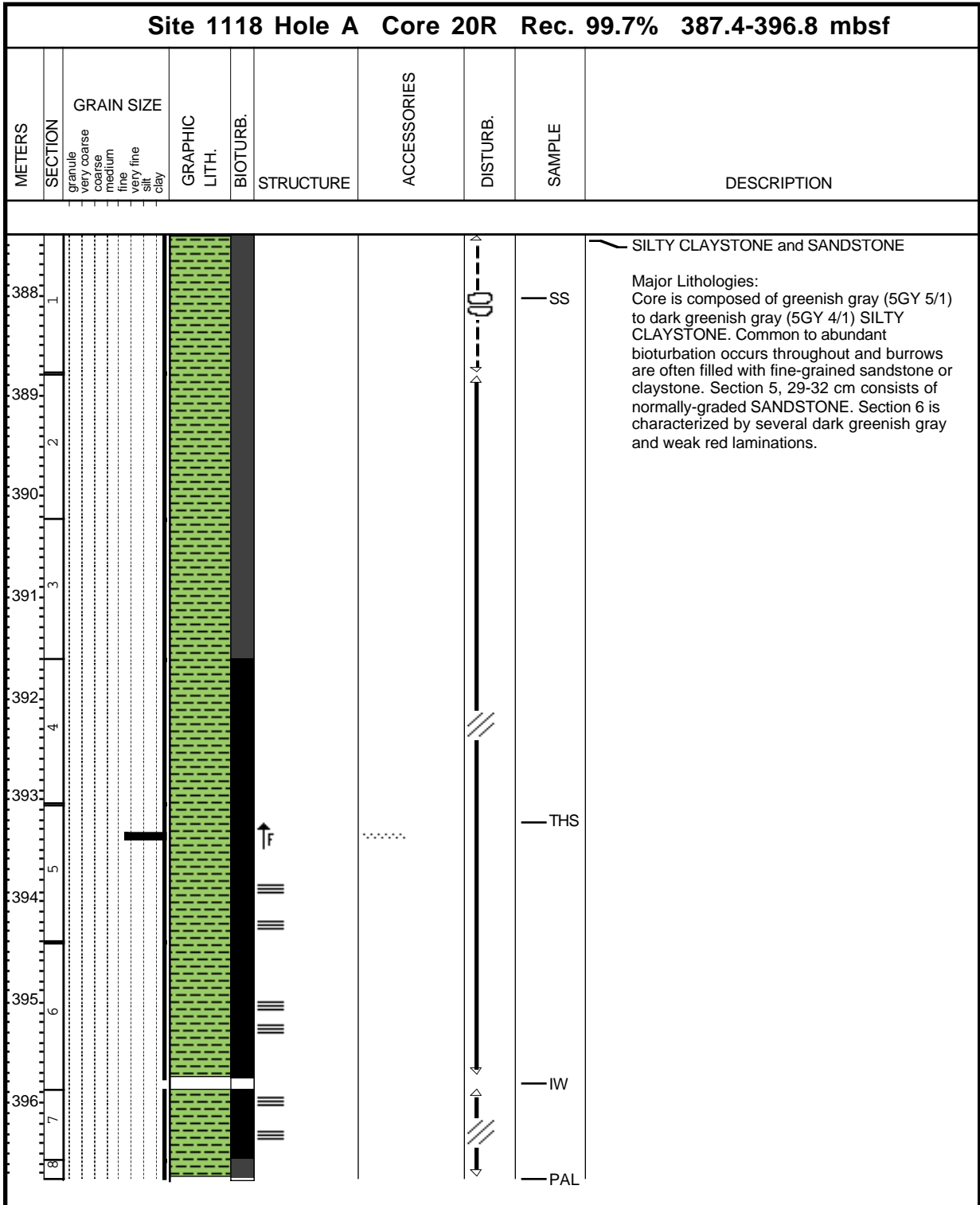
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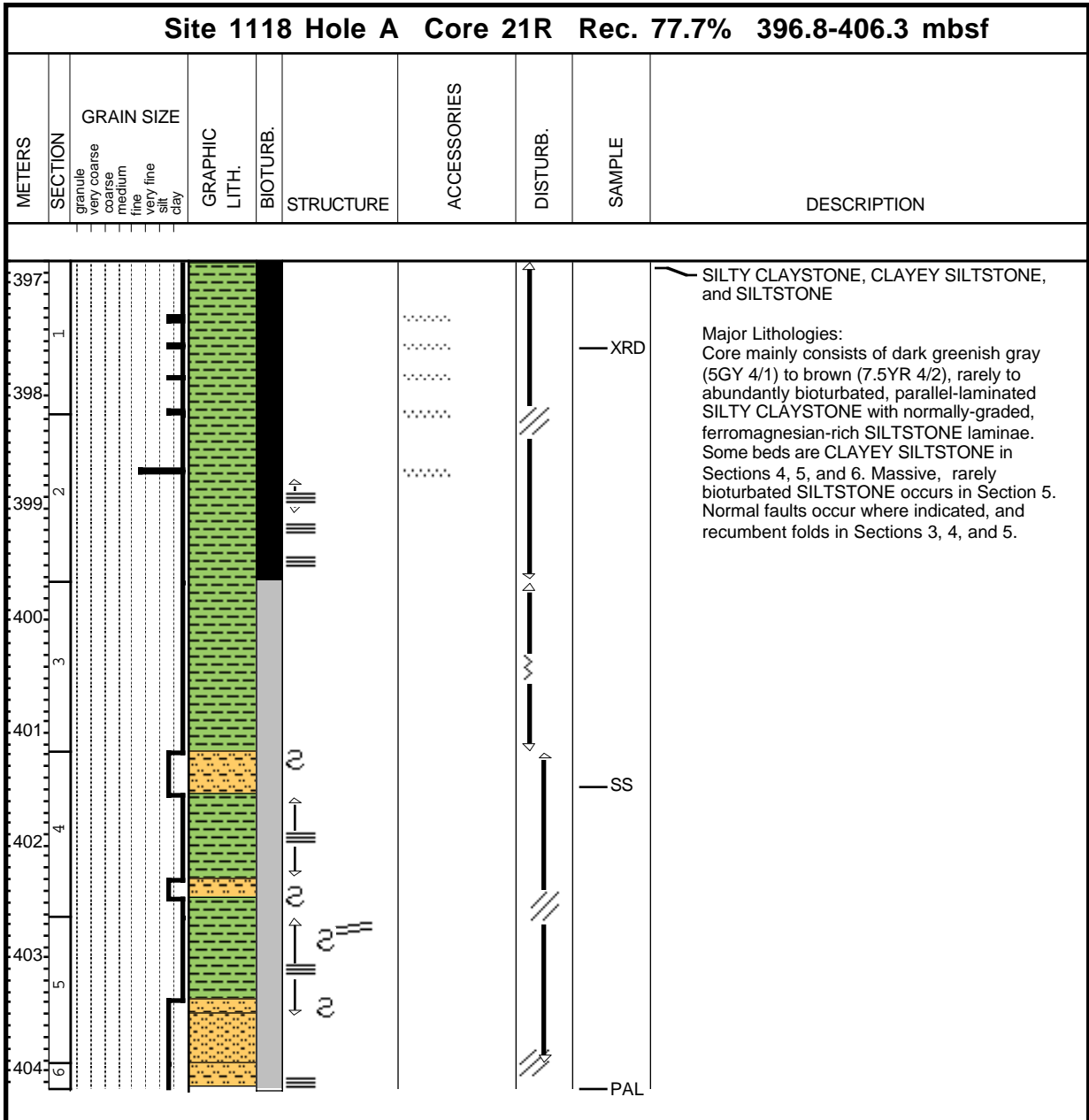
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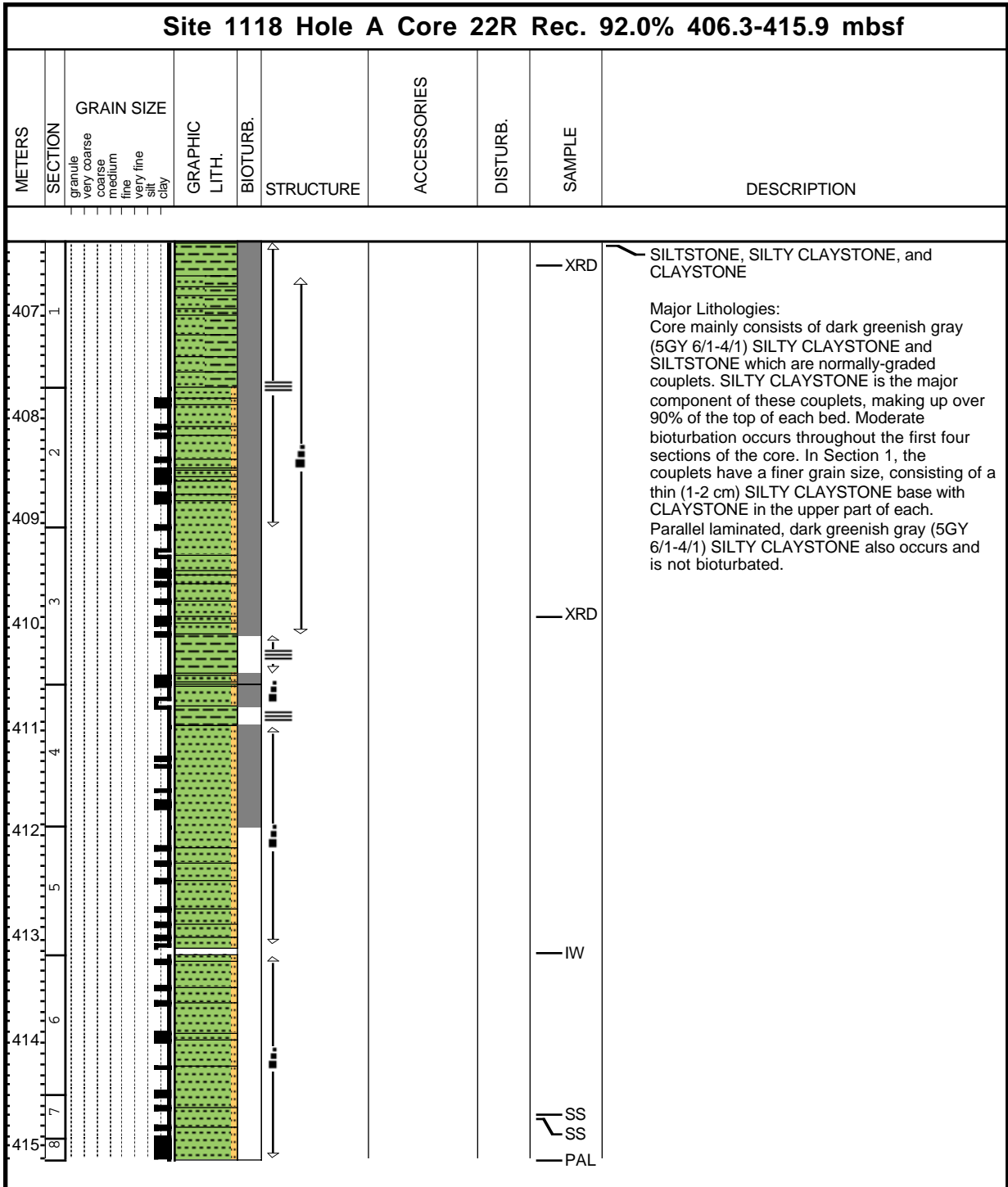
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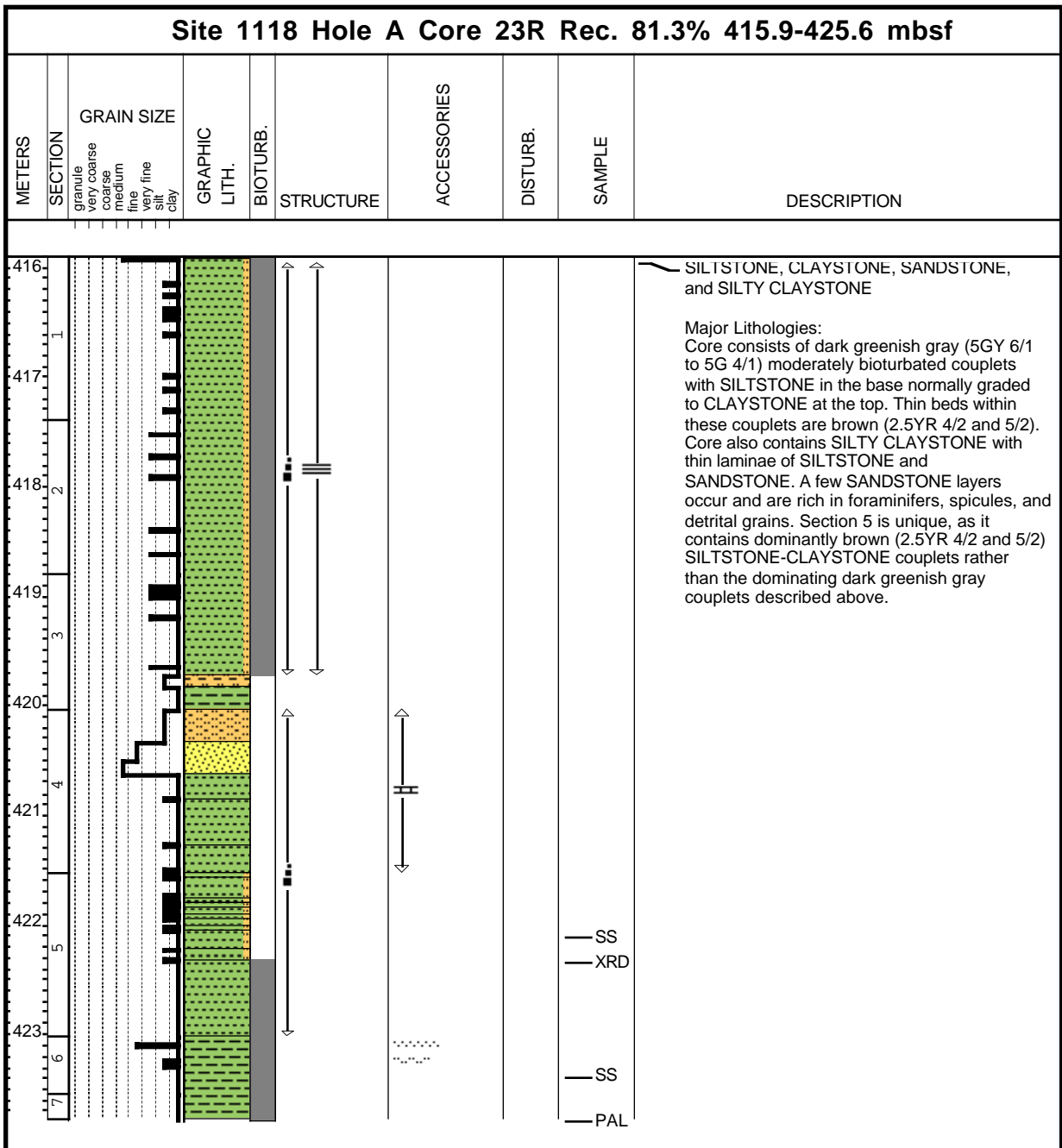
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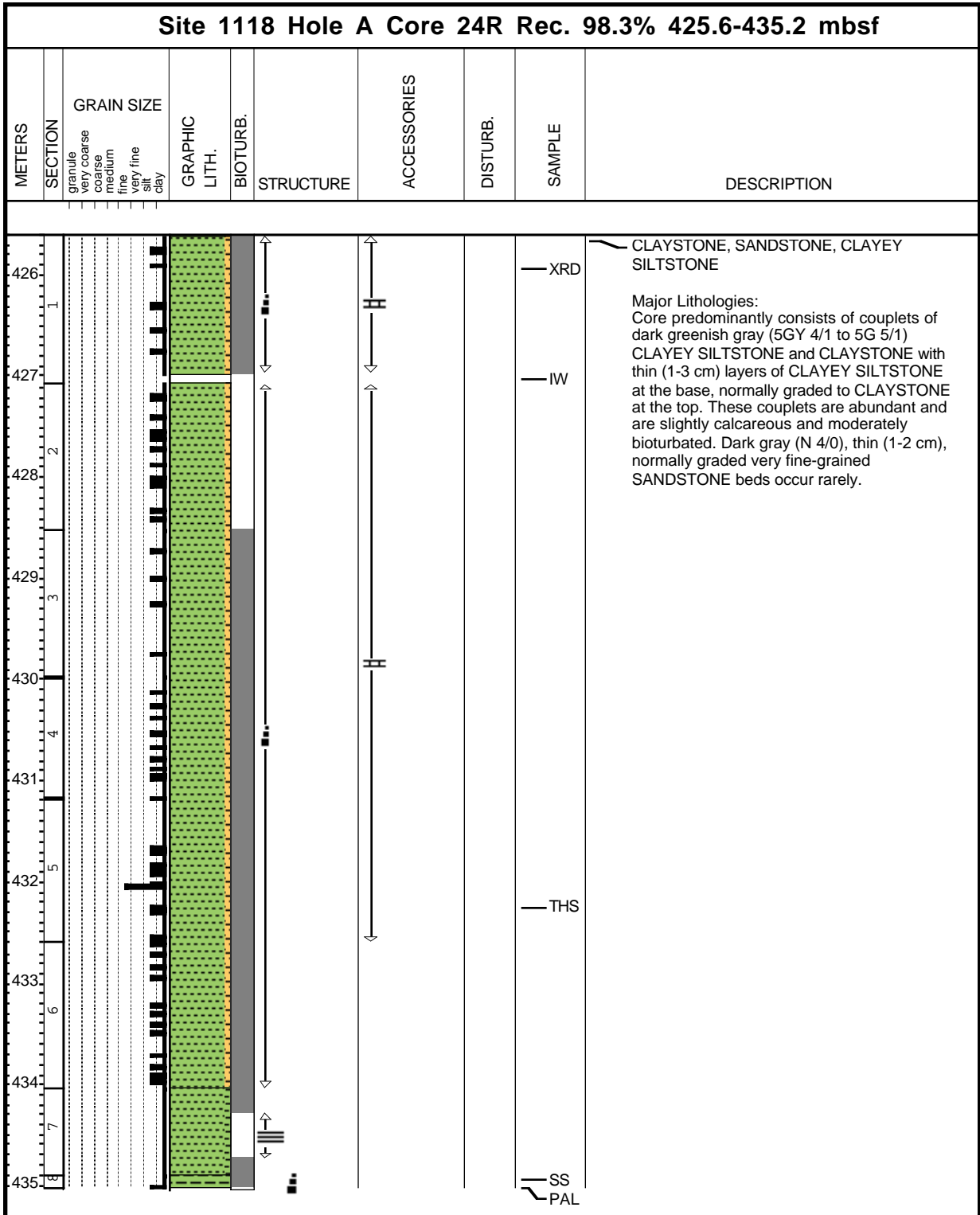
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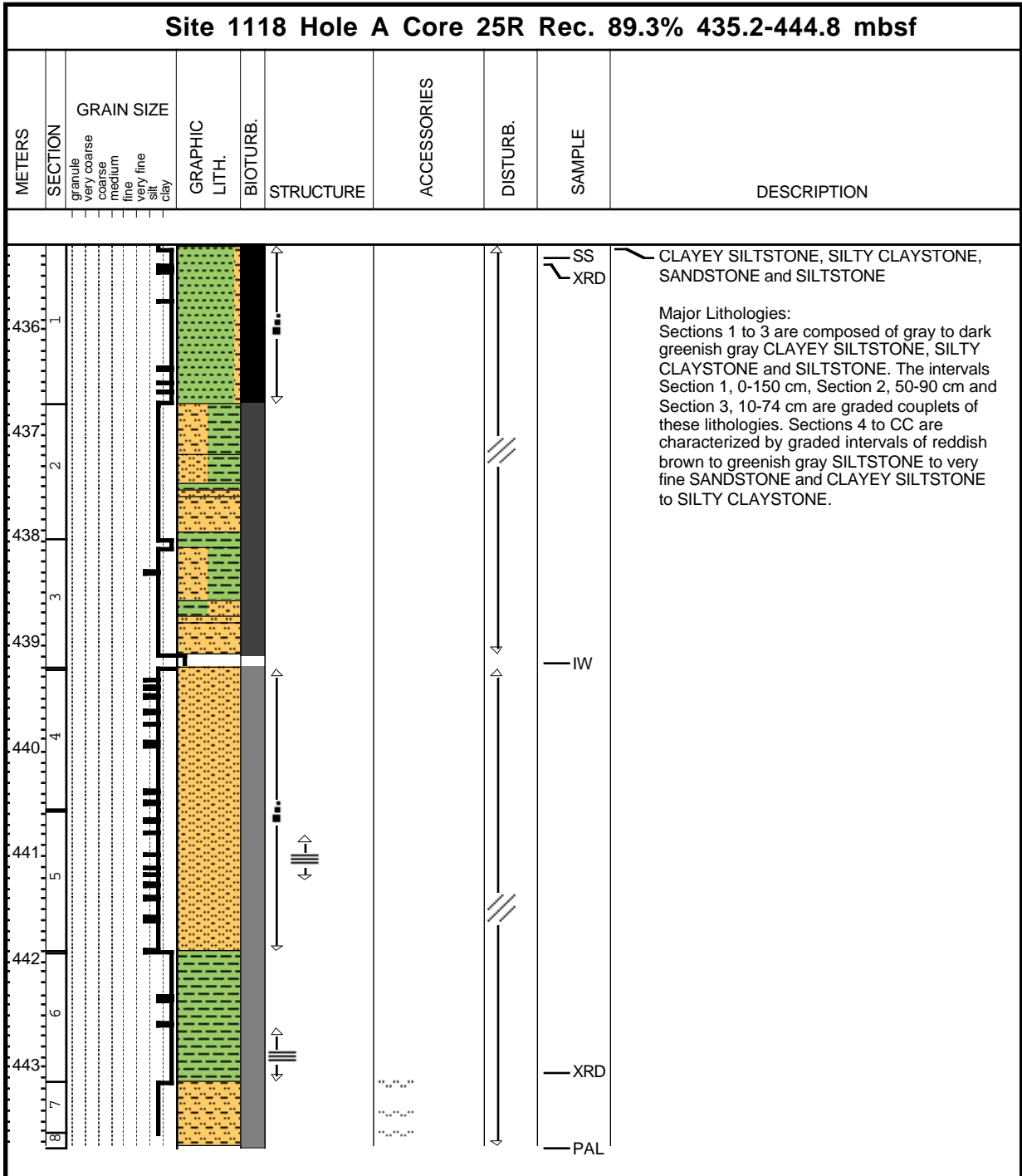
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**Core Photo**

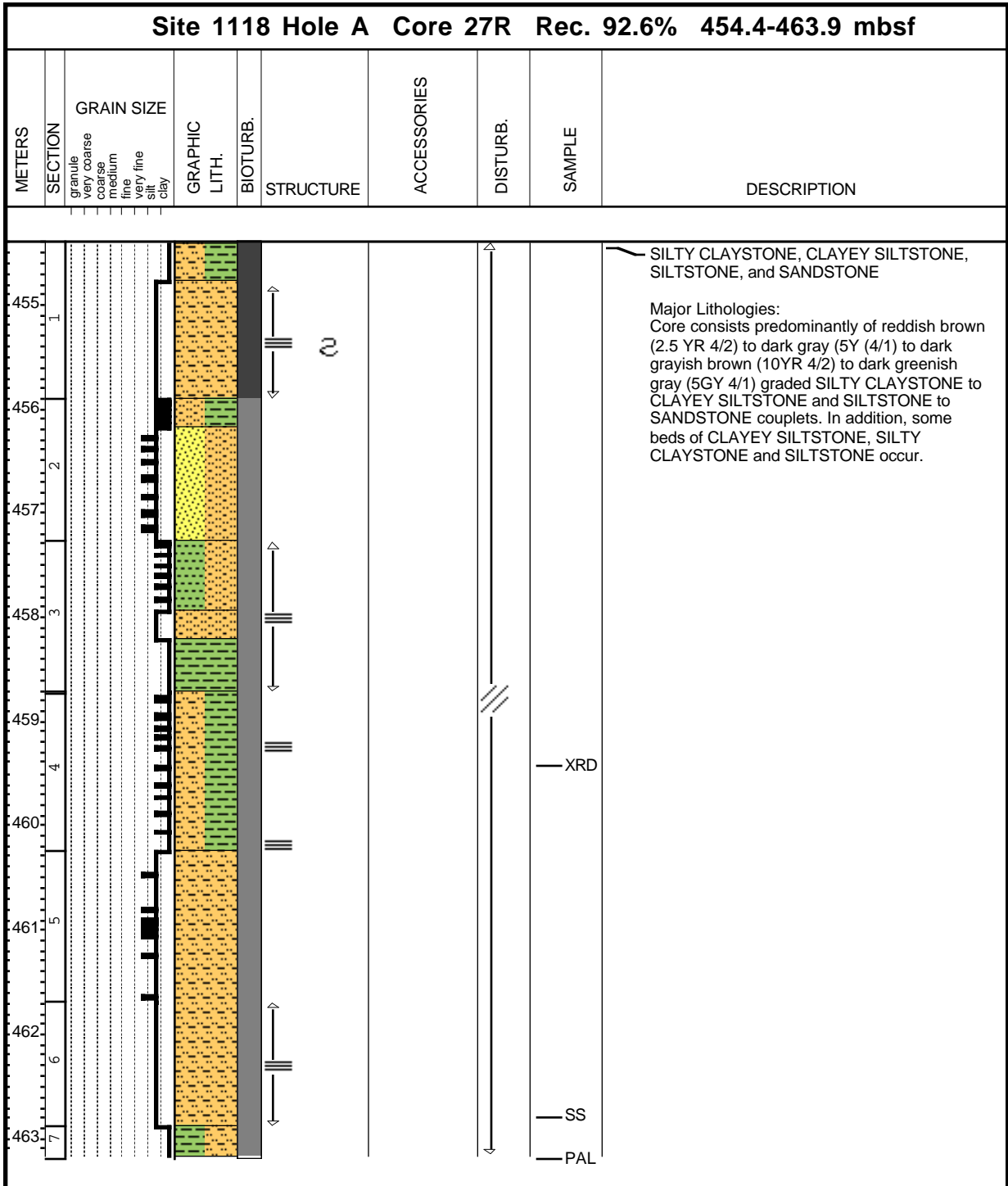


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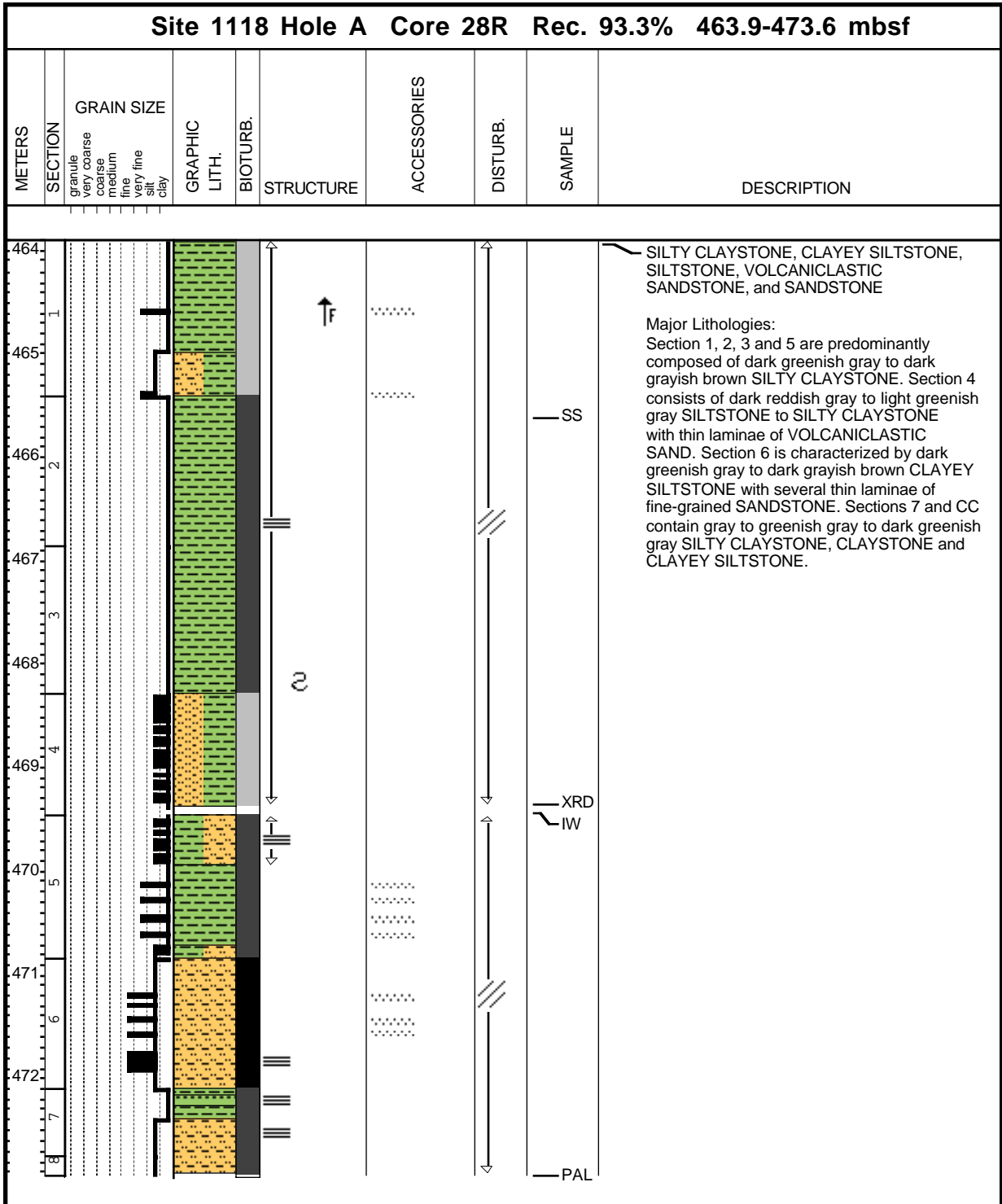




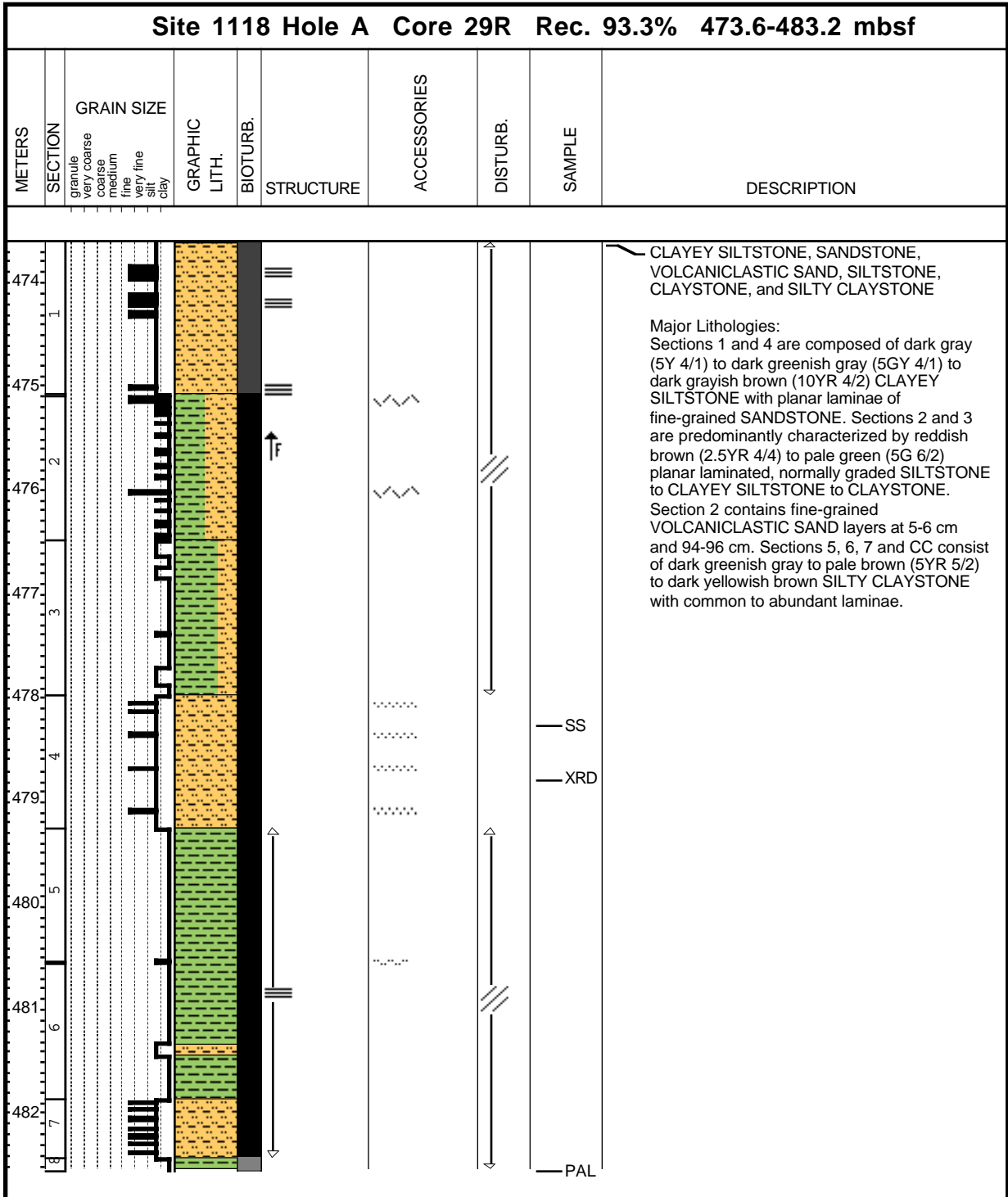
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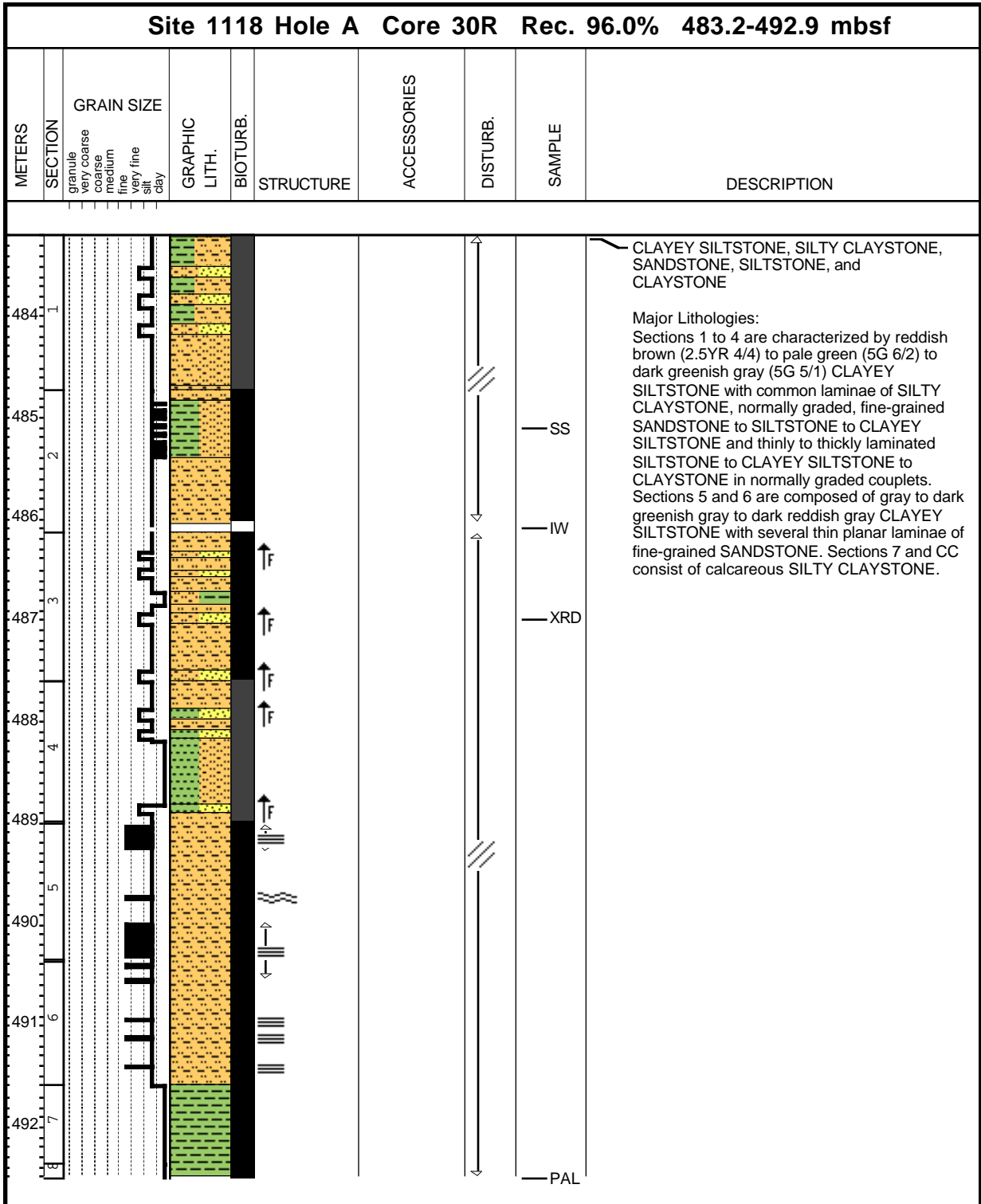
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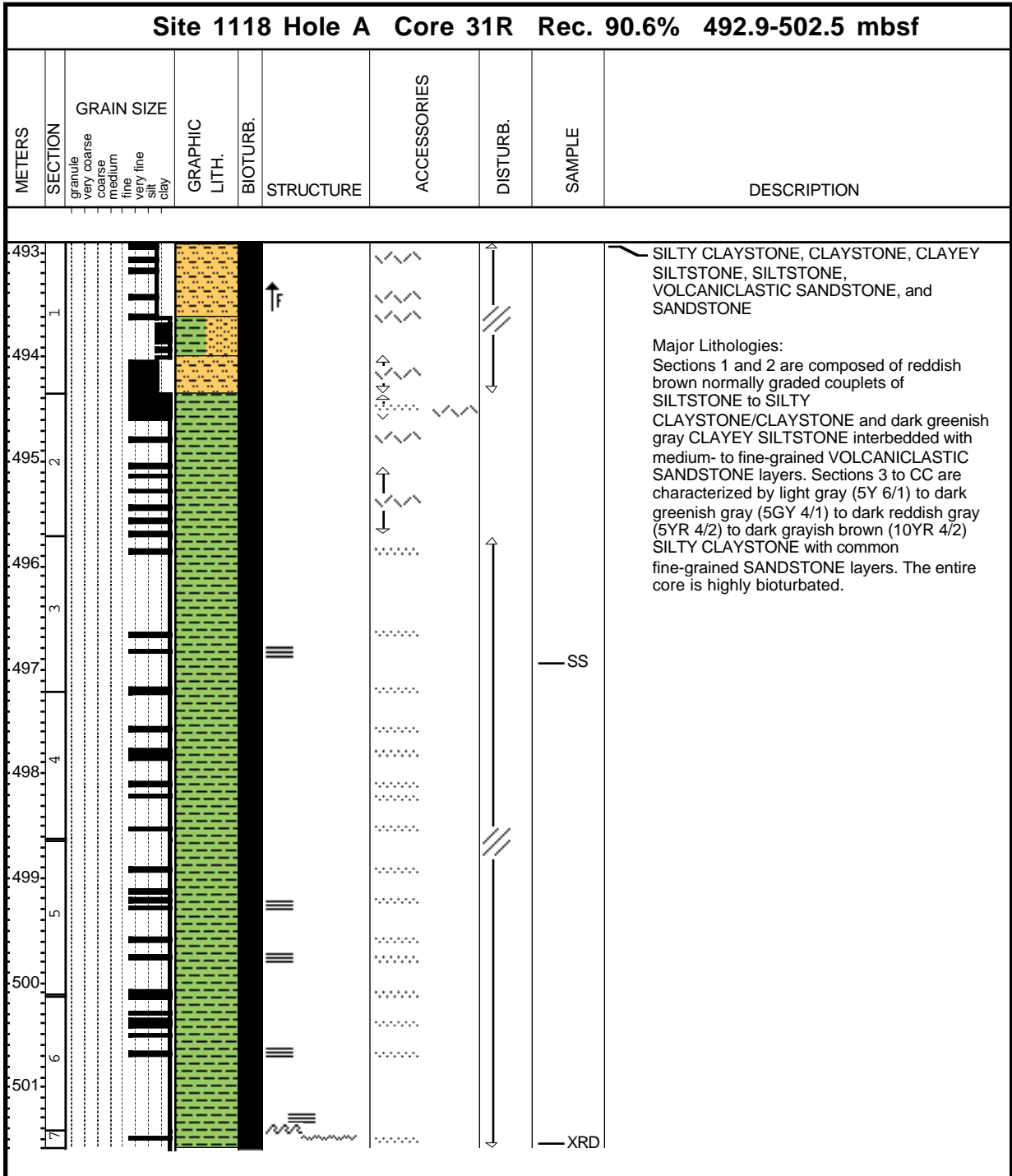
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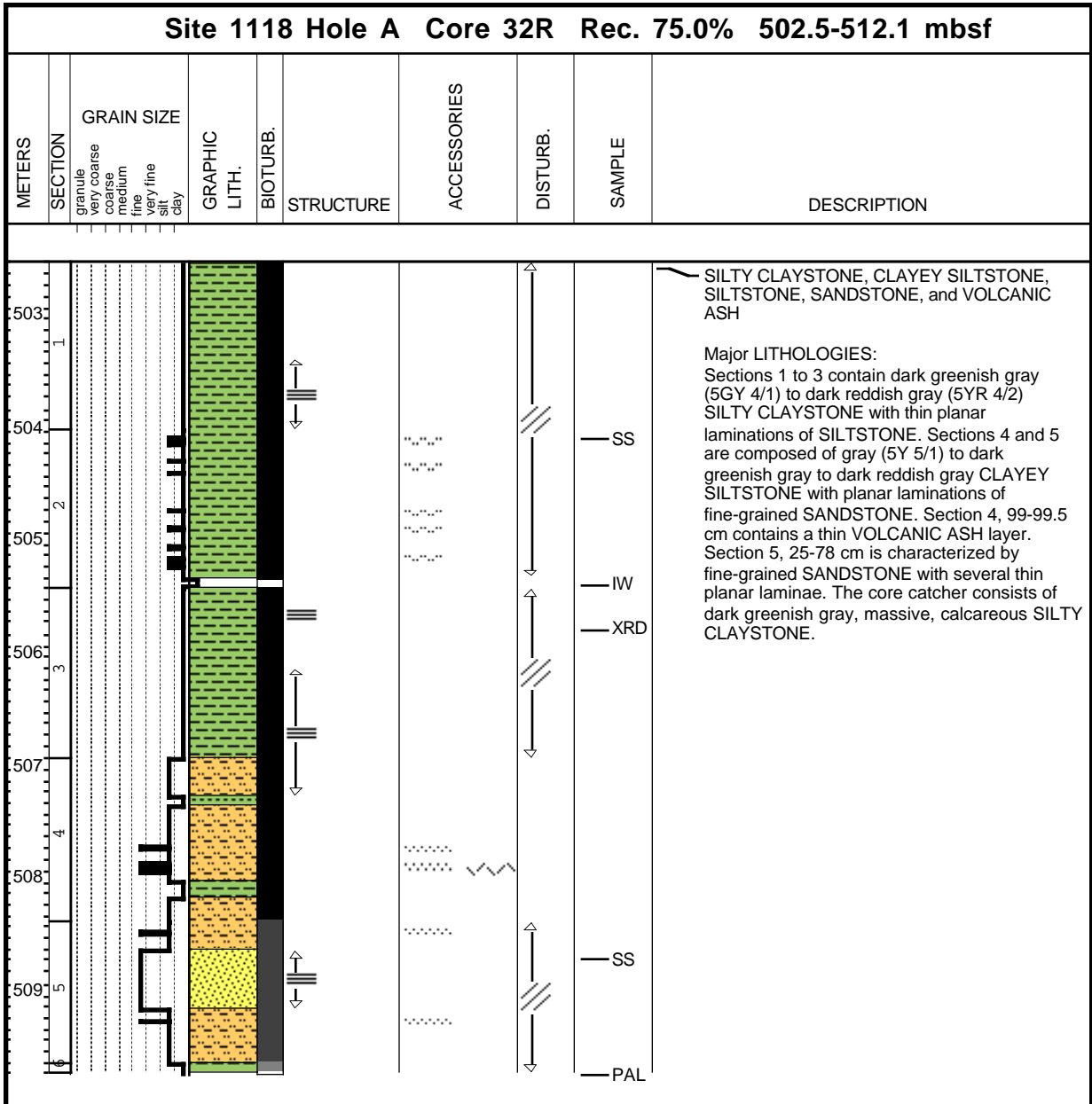
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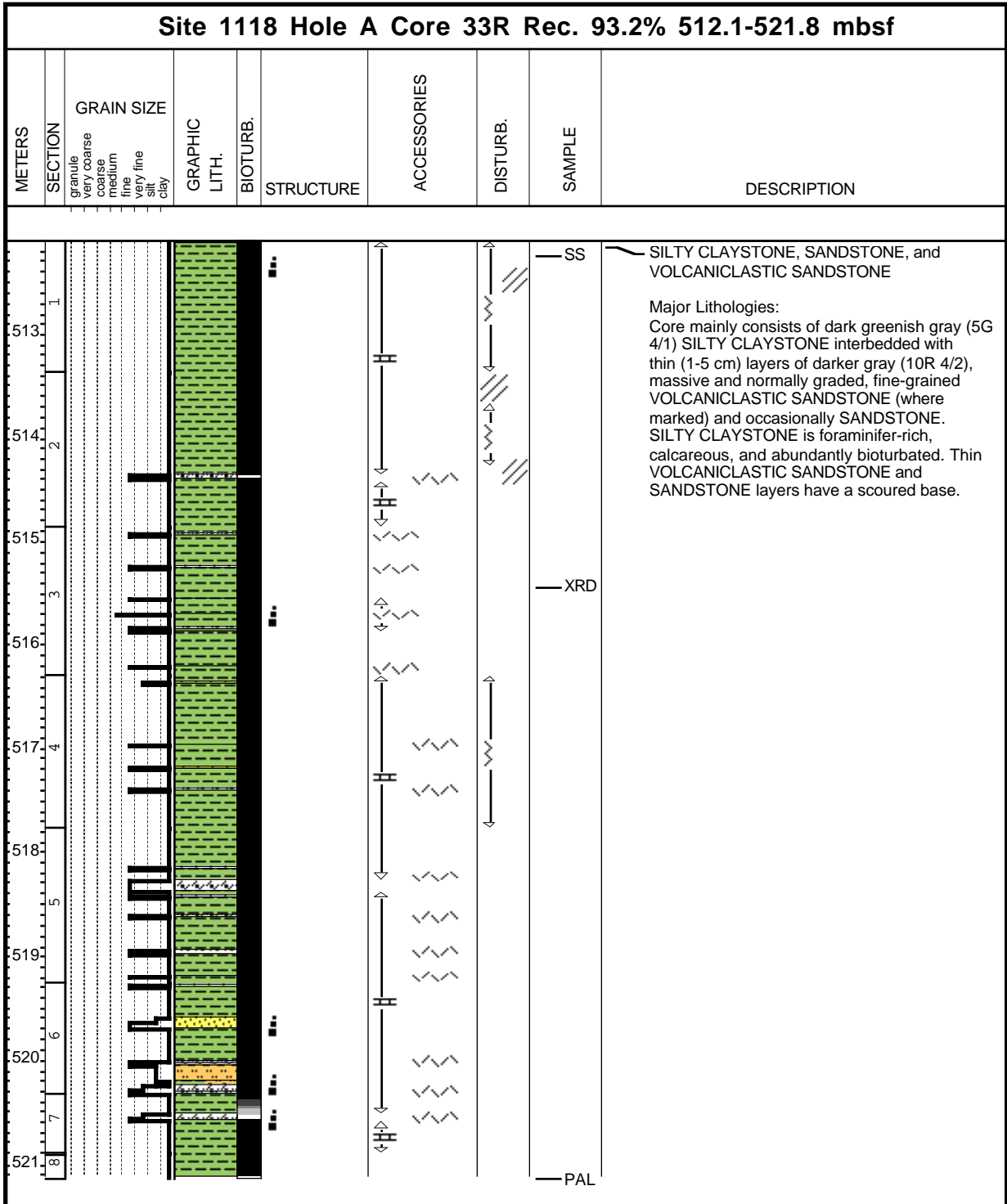
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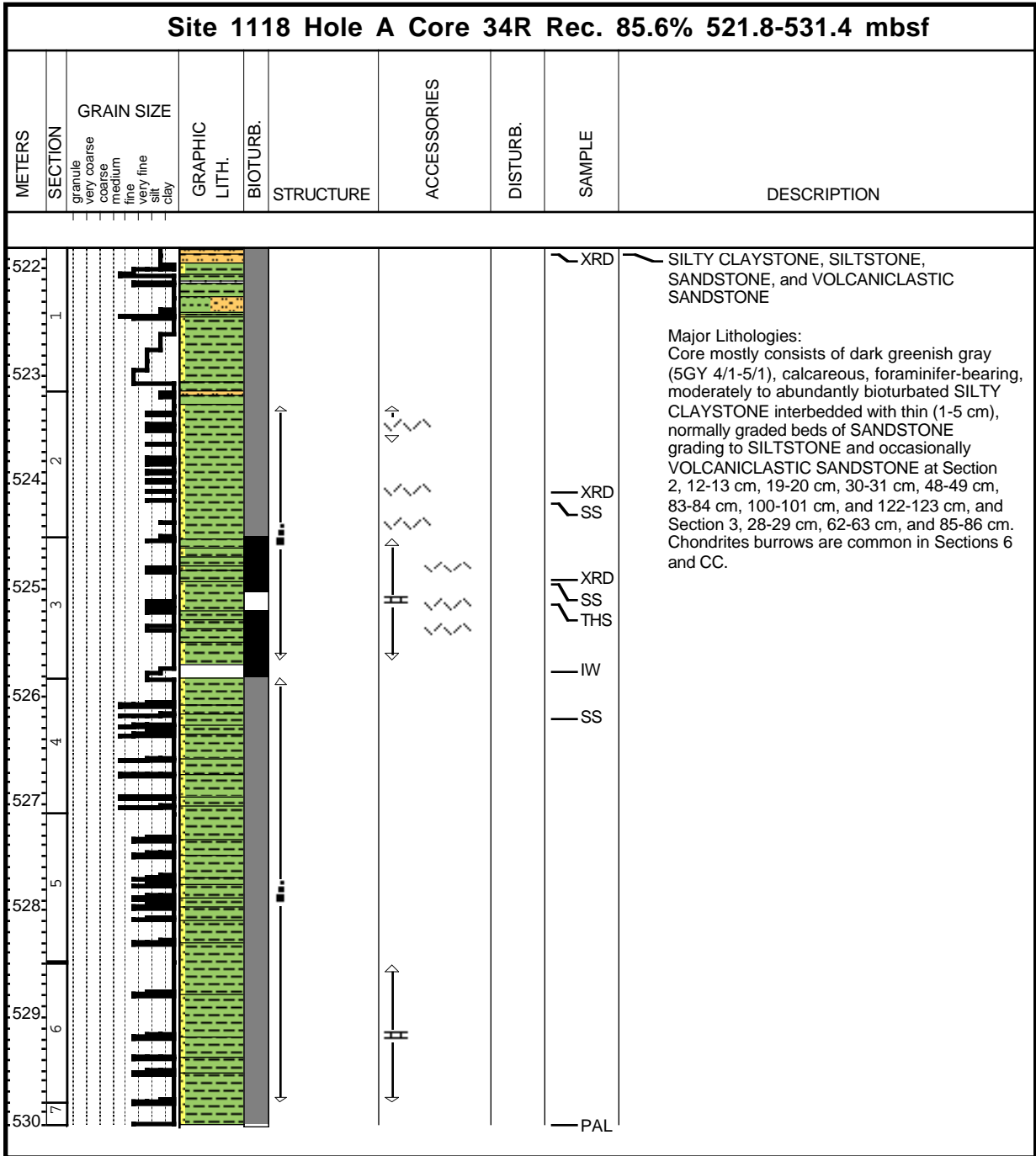
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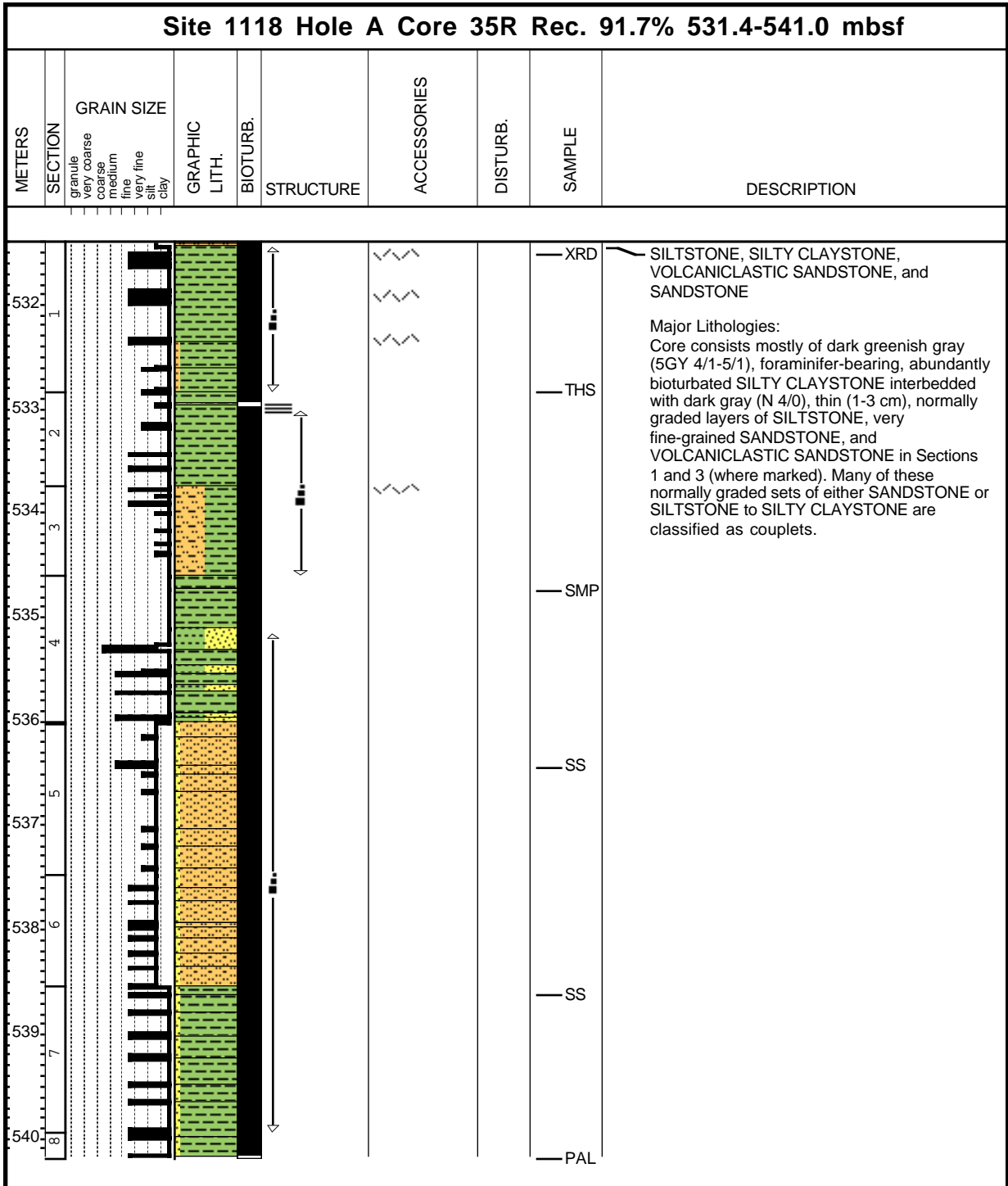
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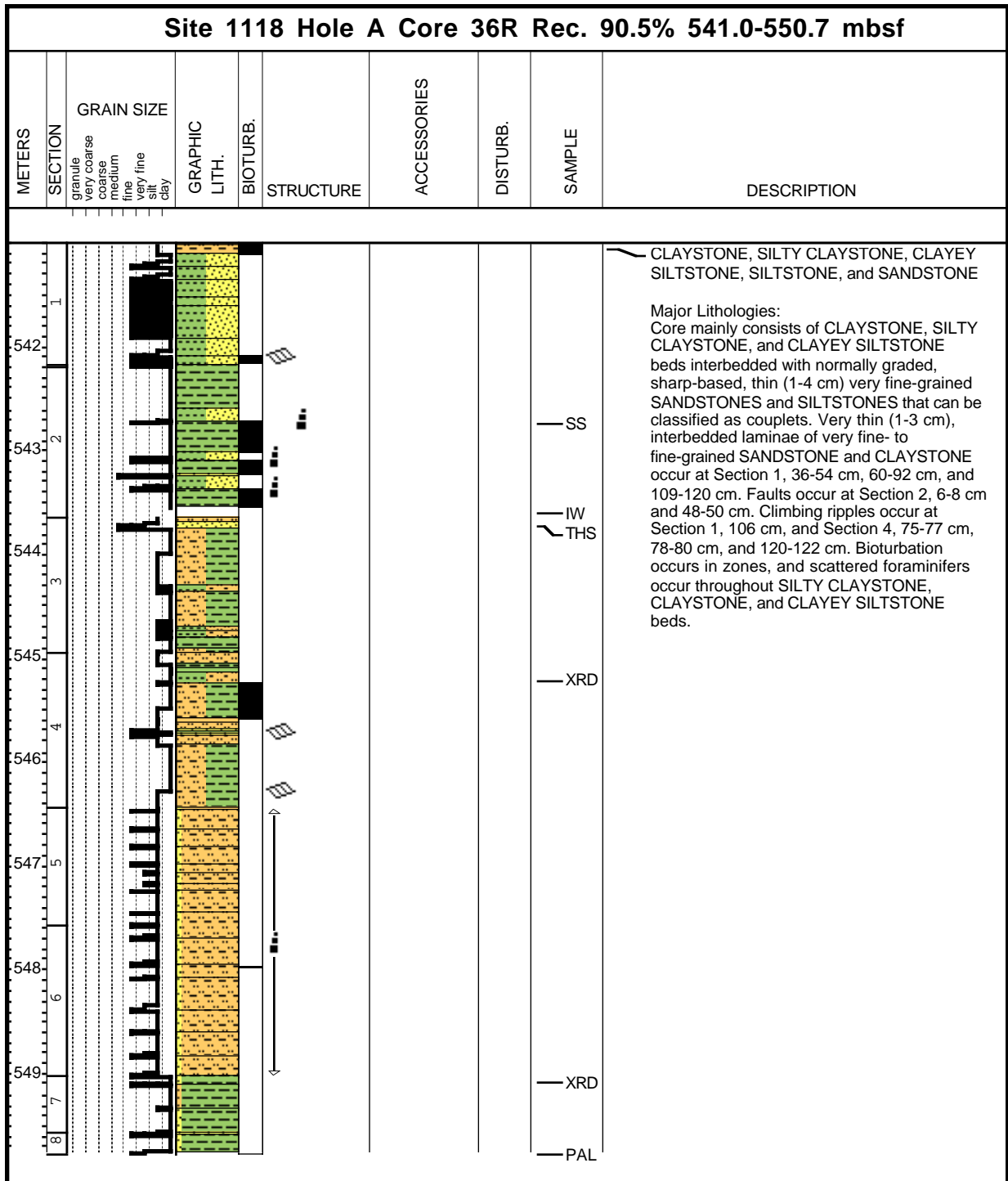
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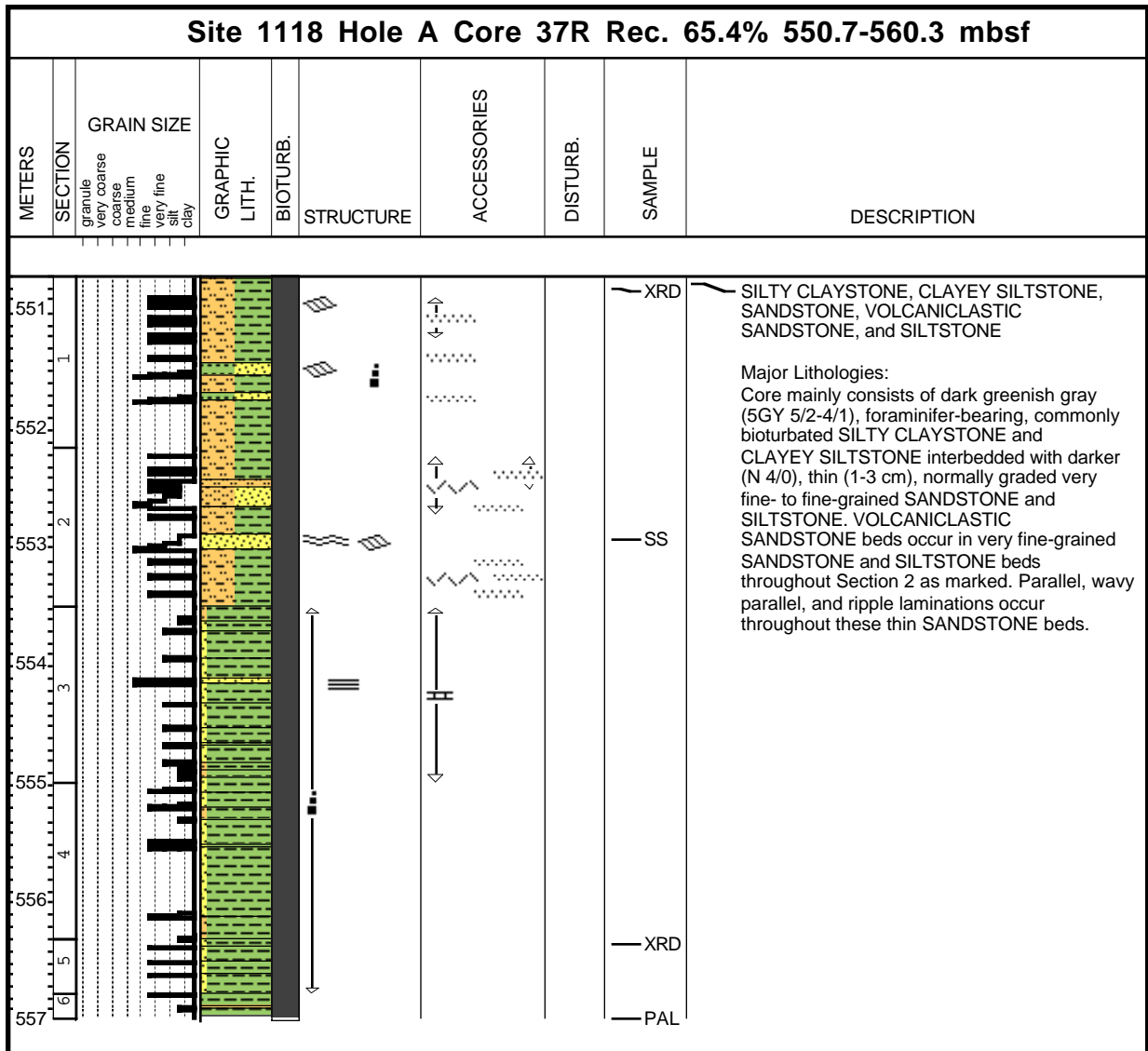
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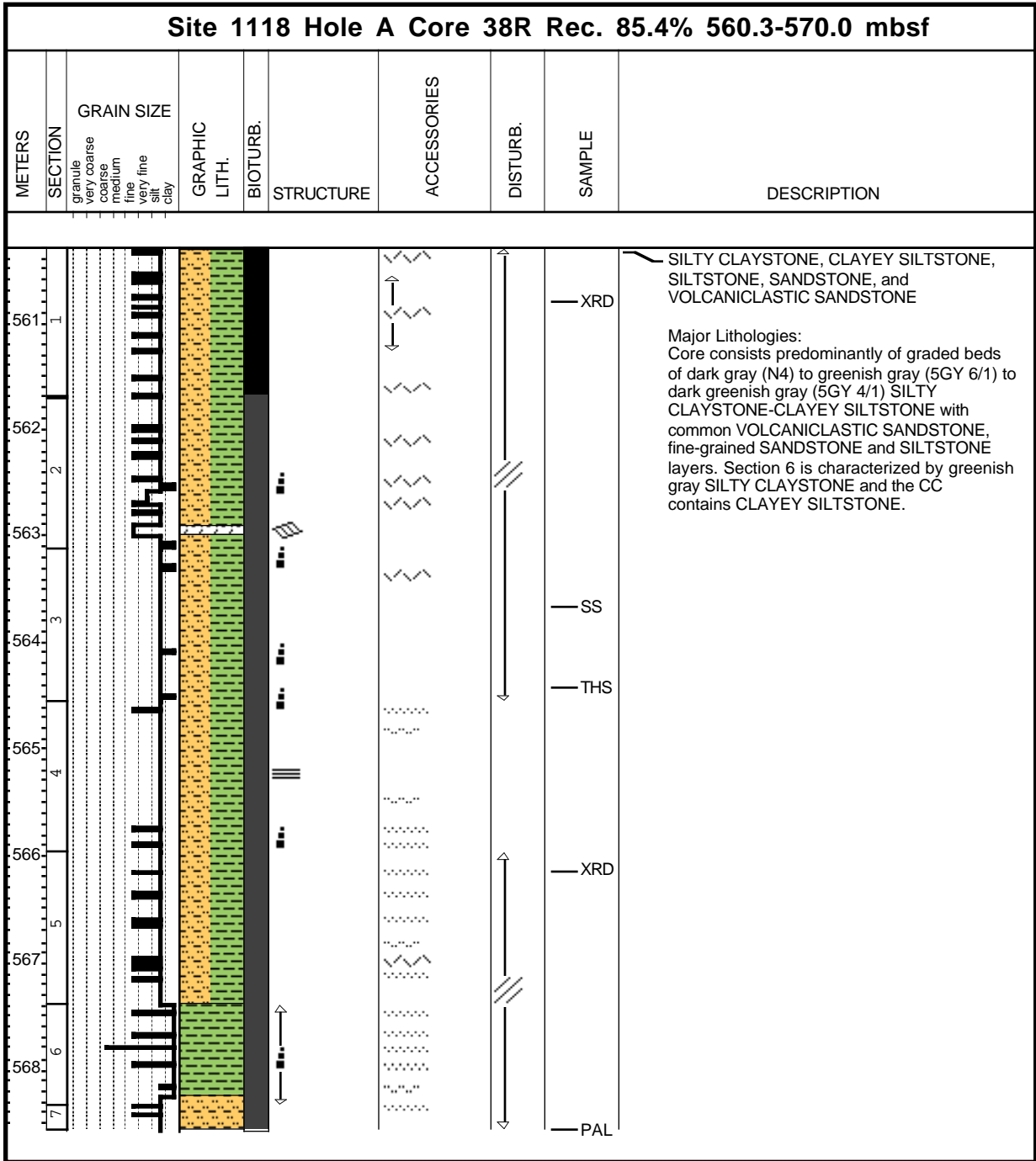
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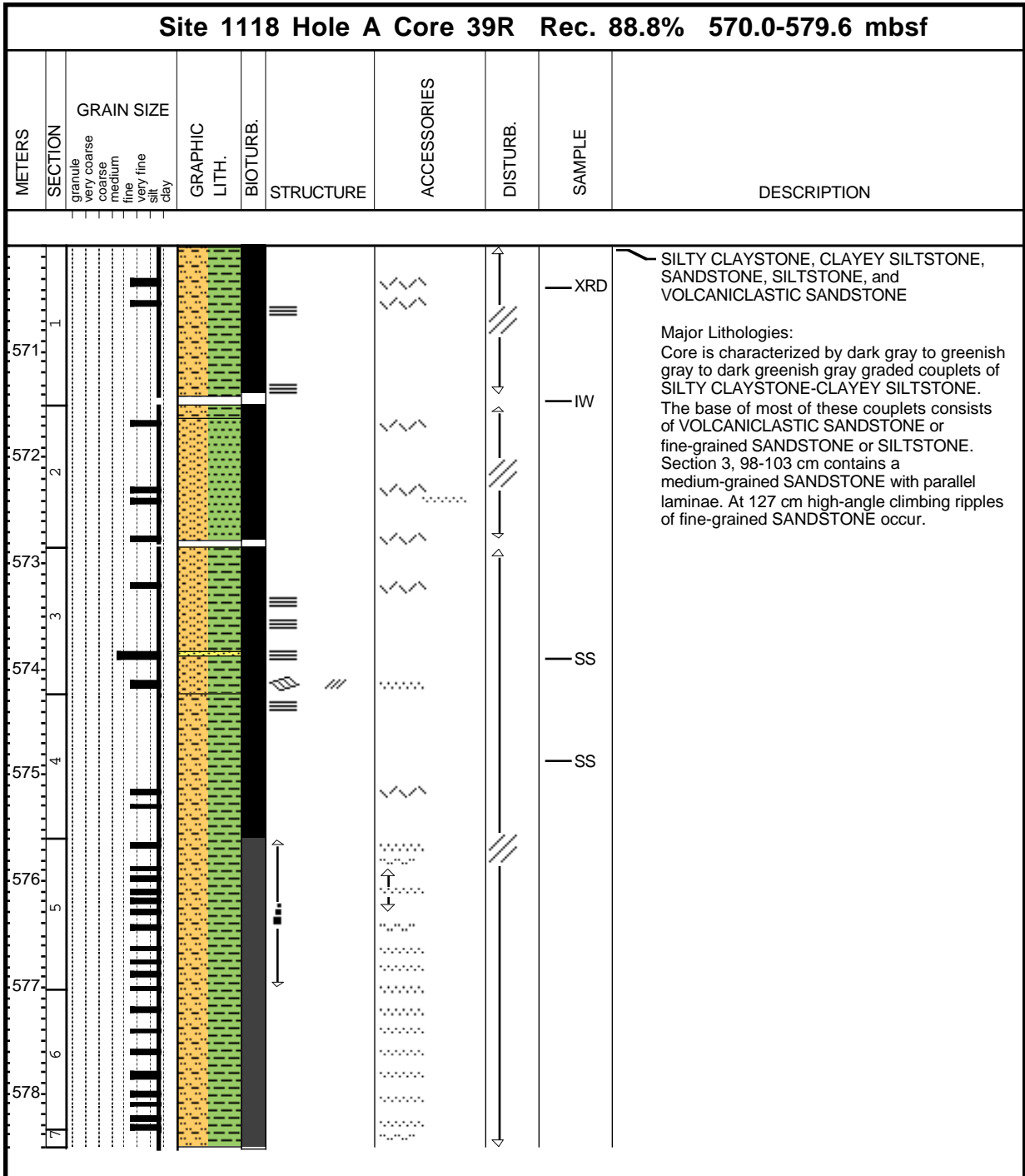
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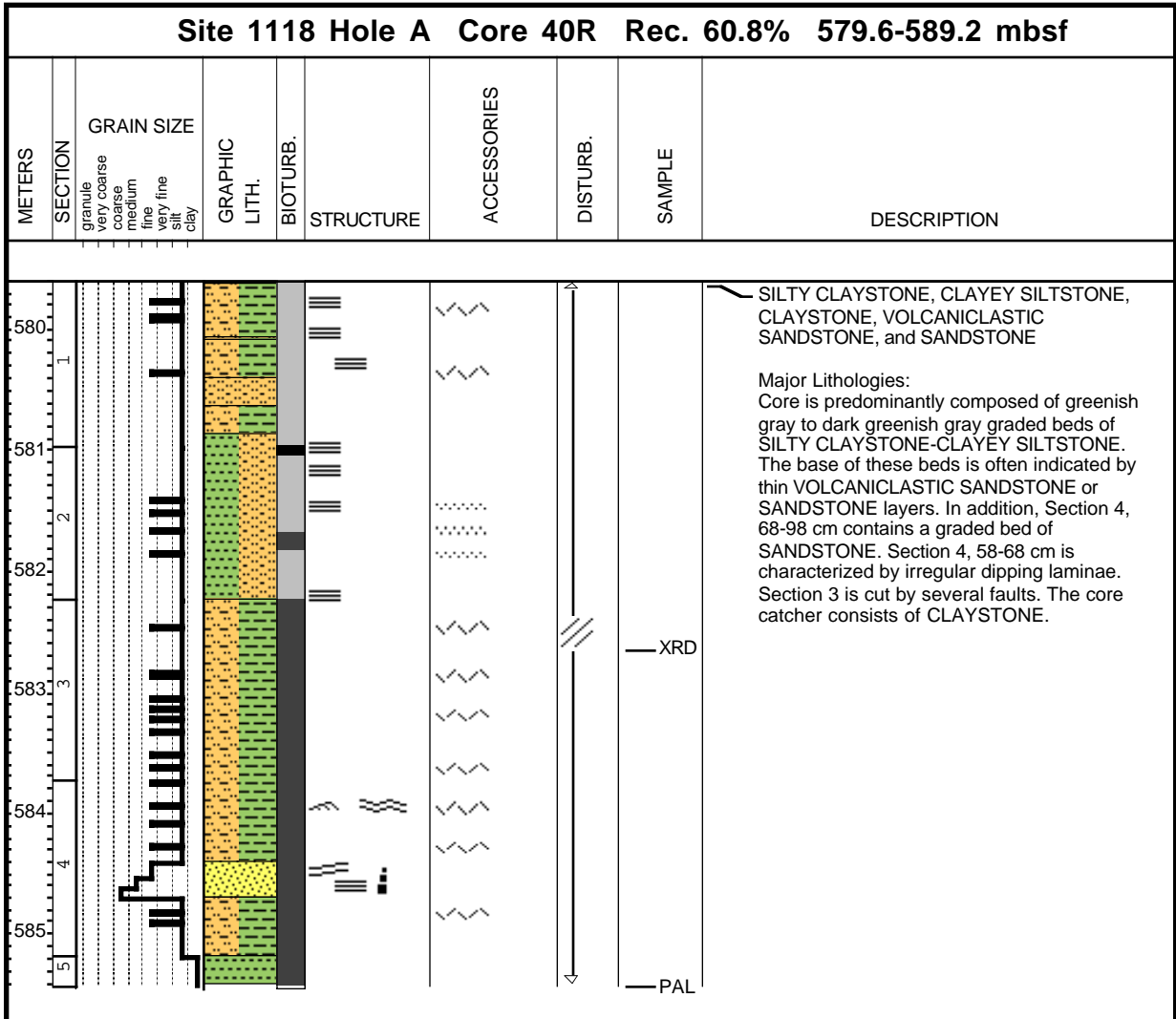
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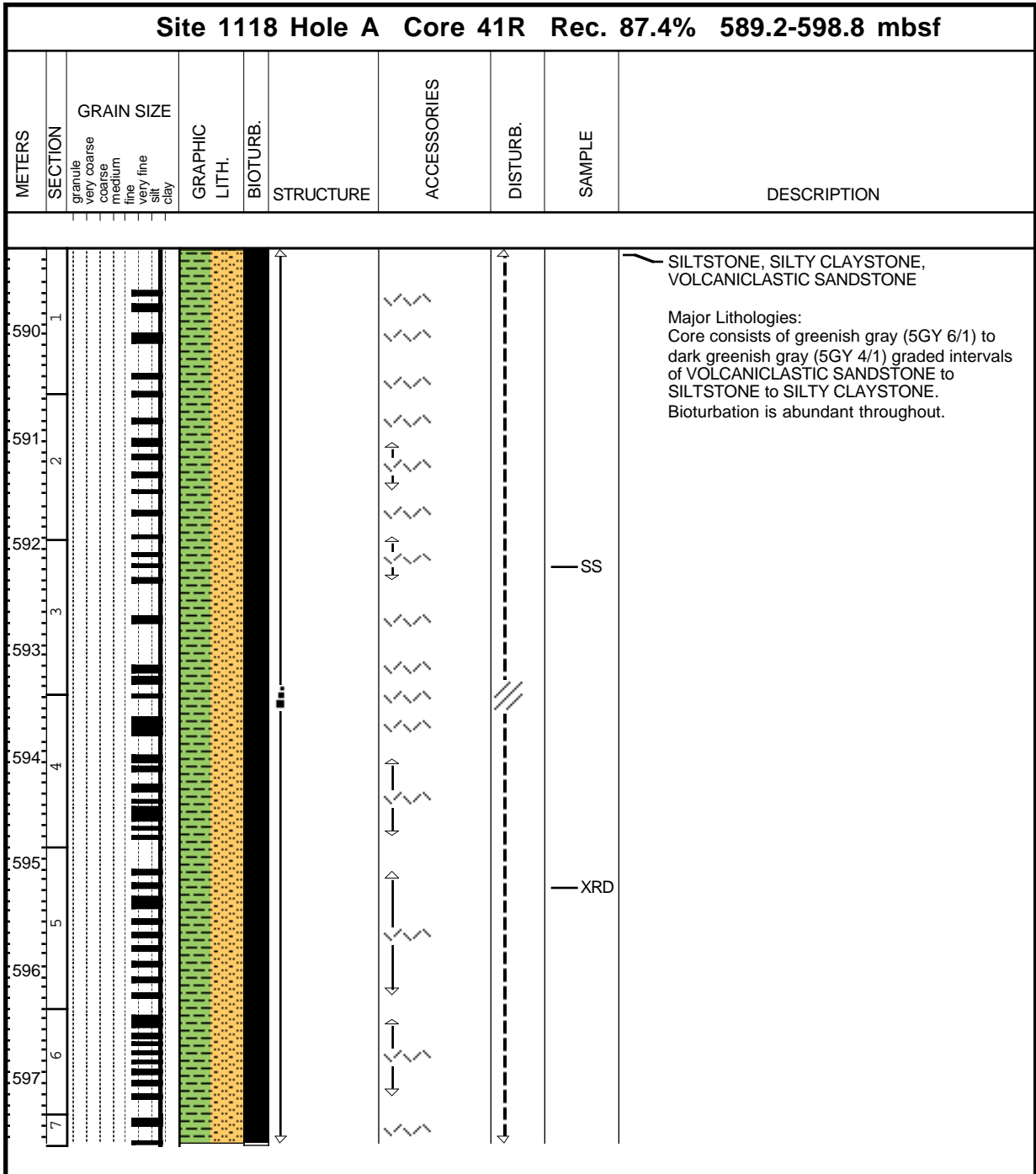
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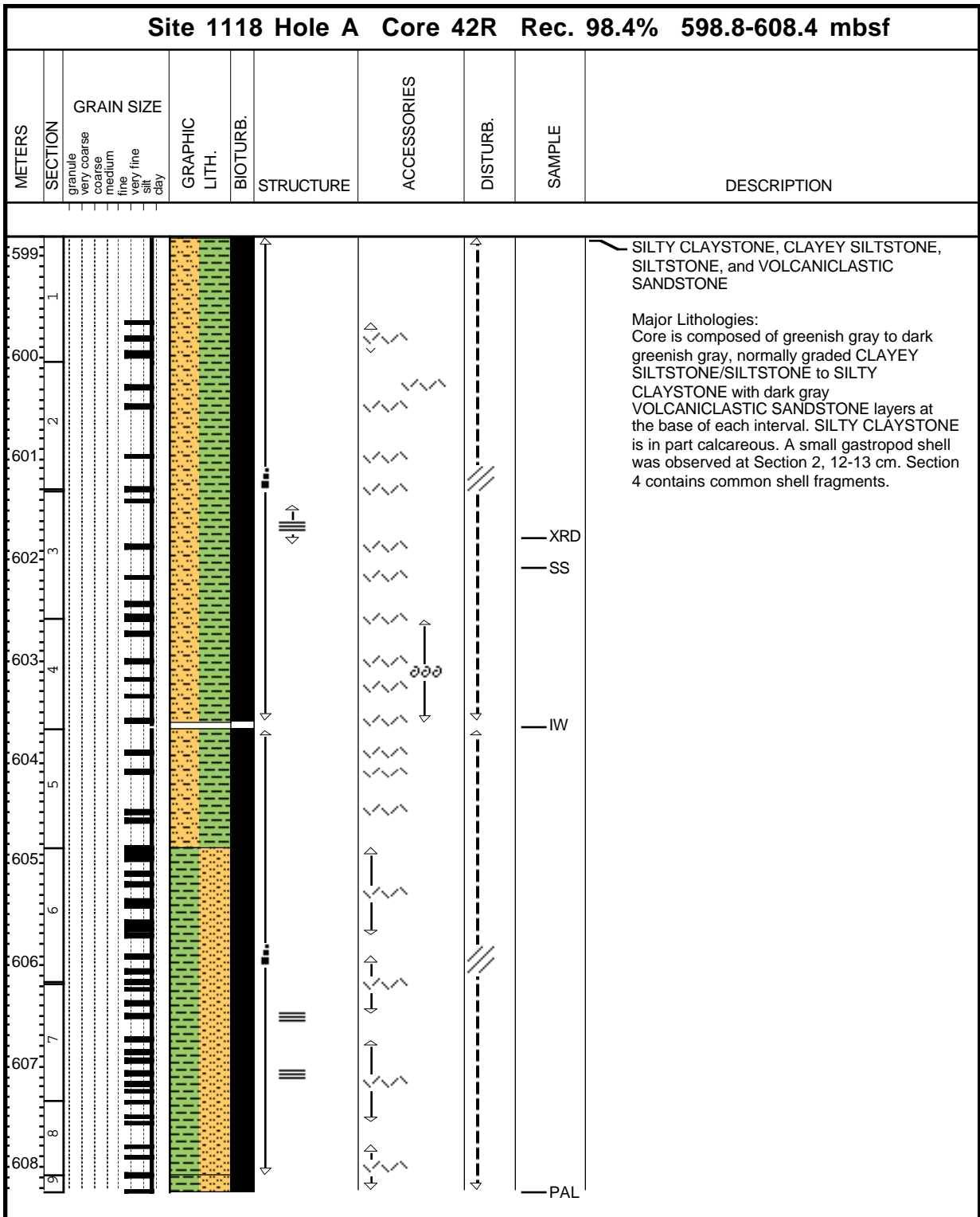
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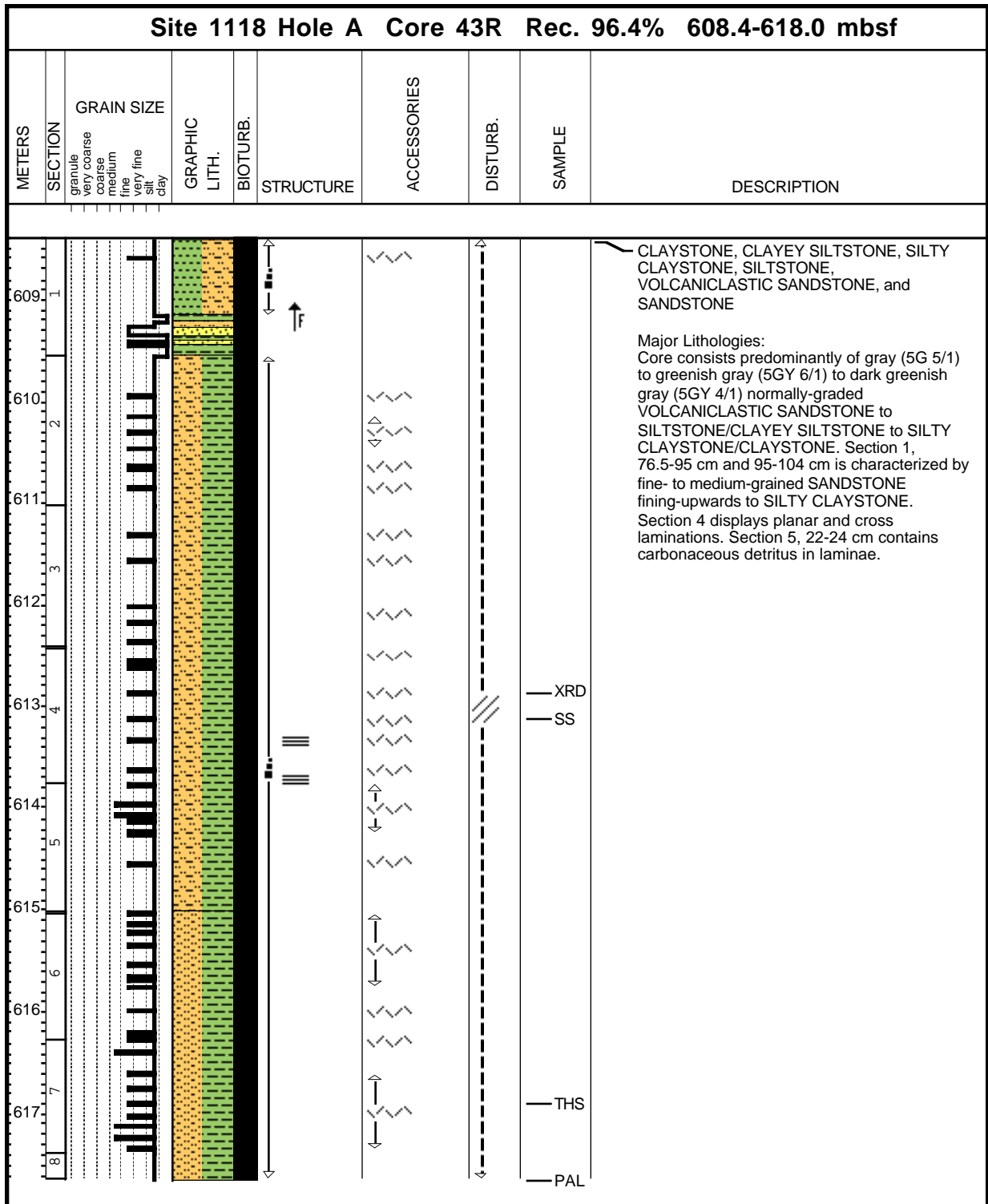
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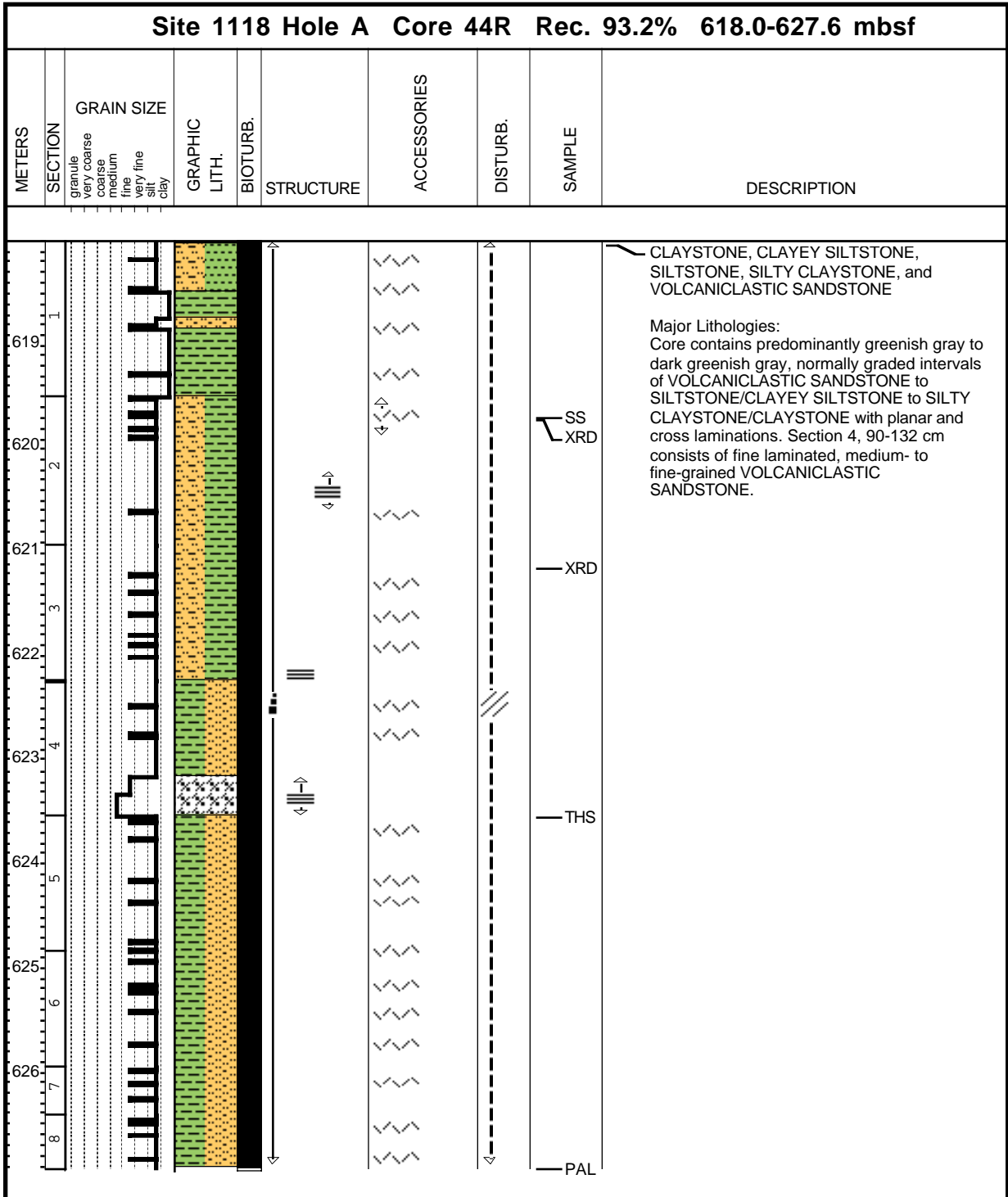
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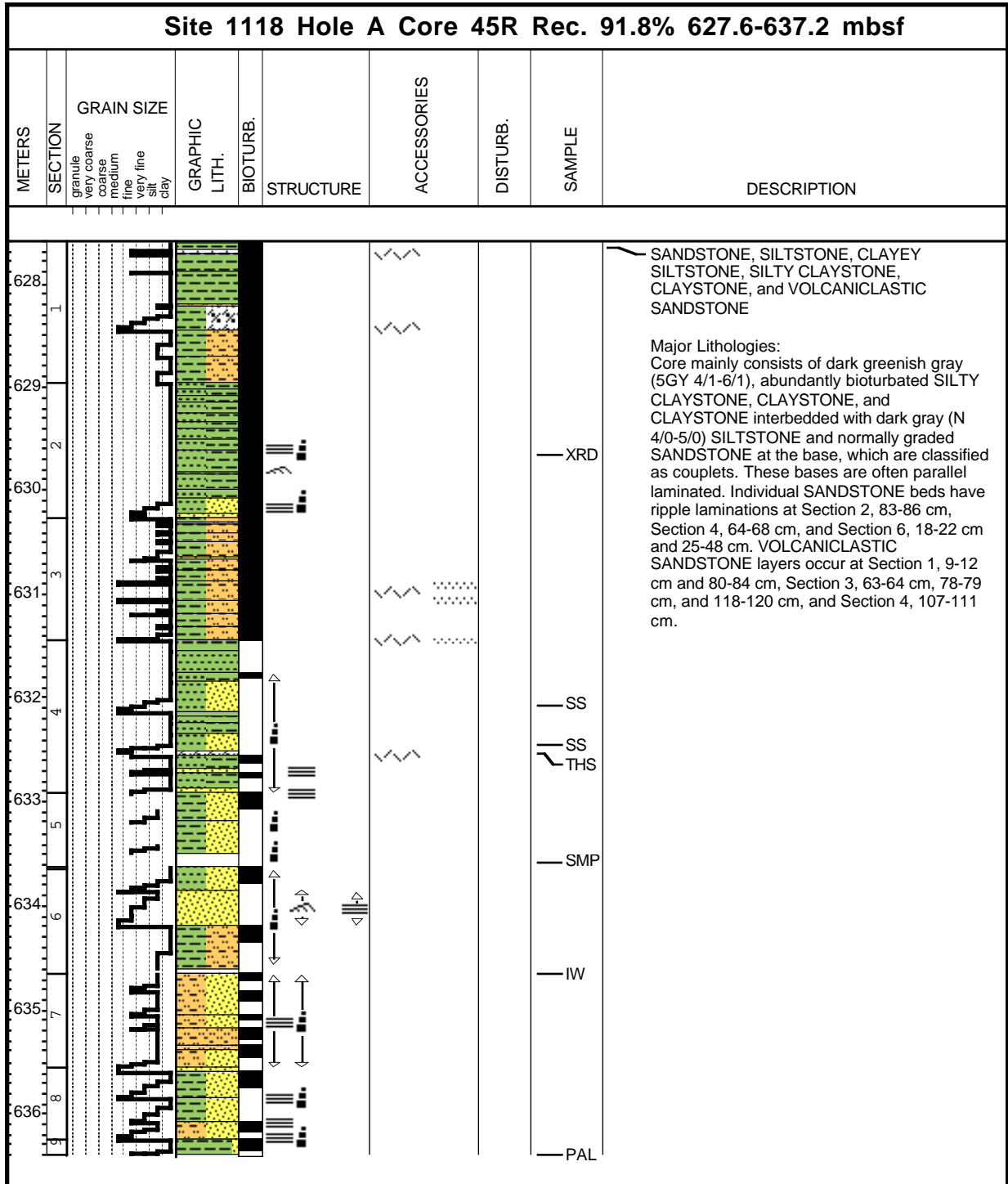
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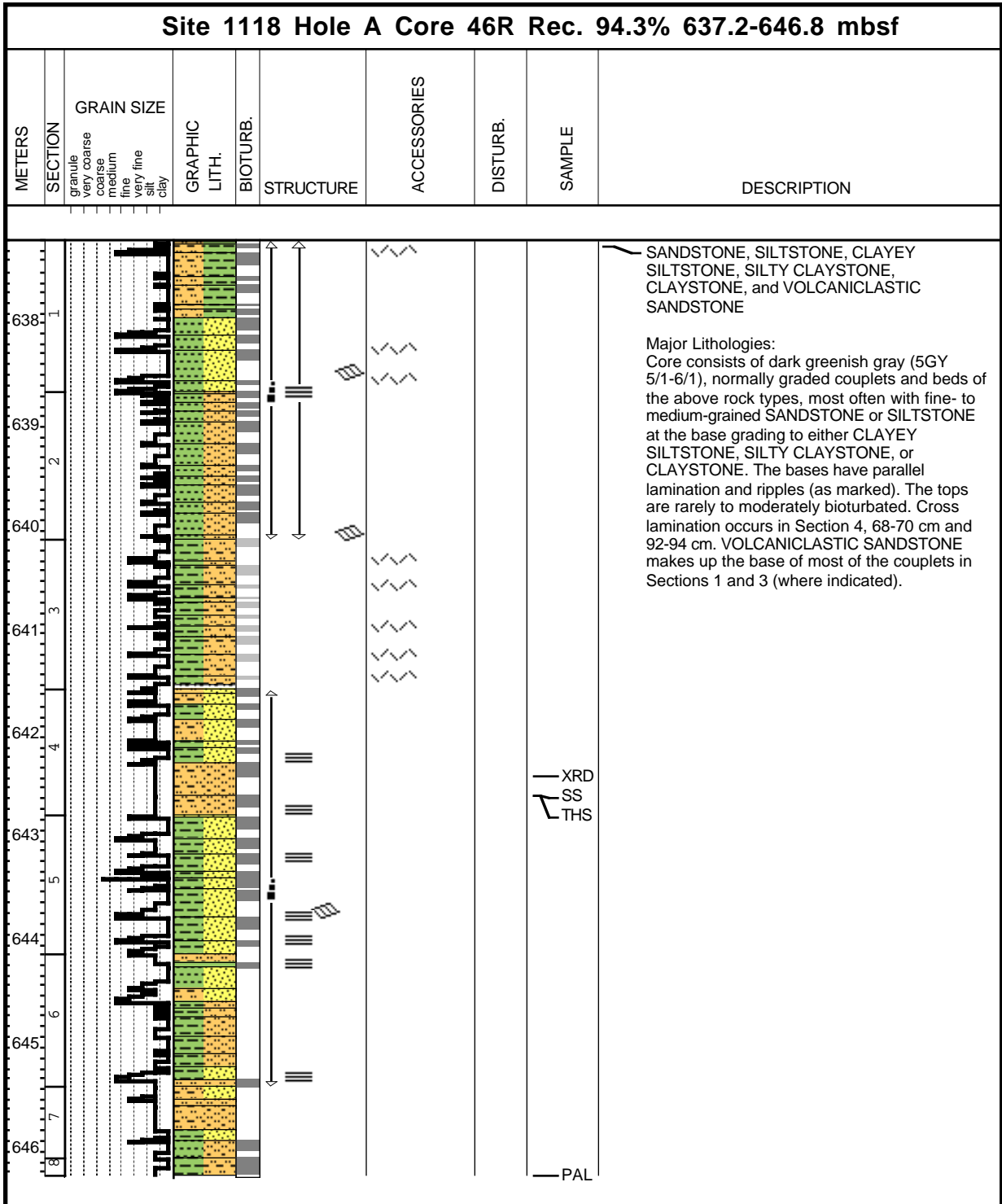
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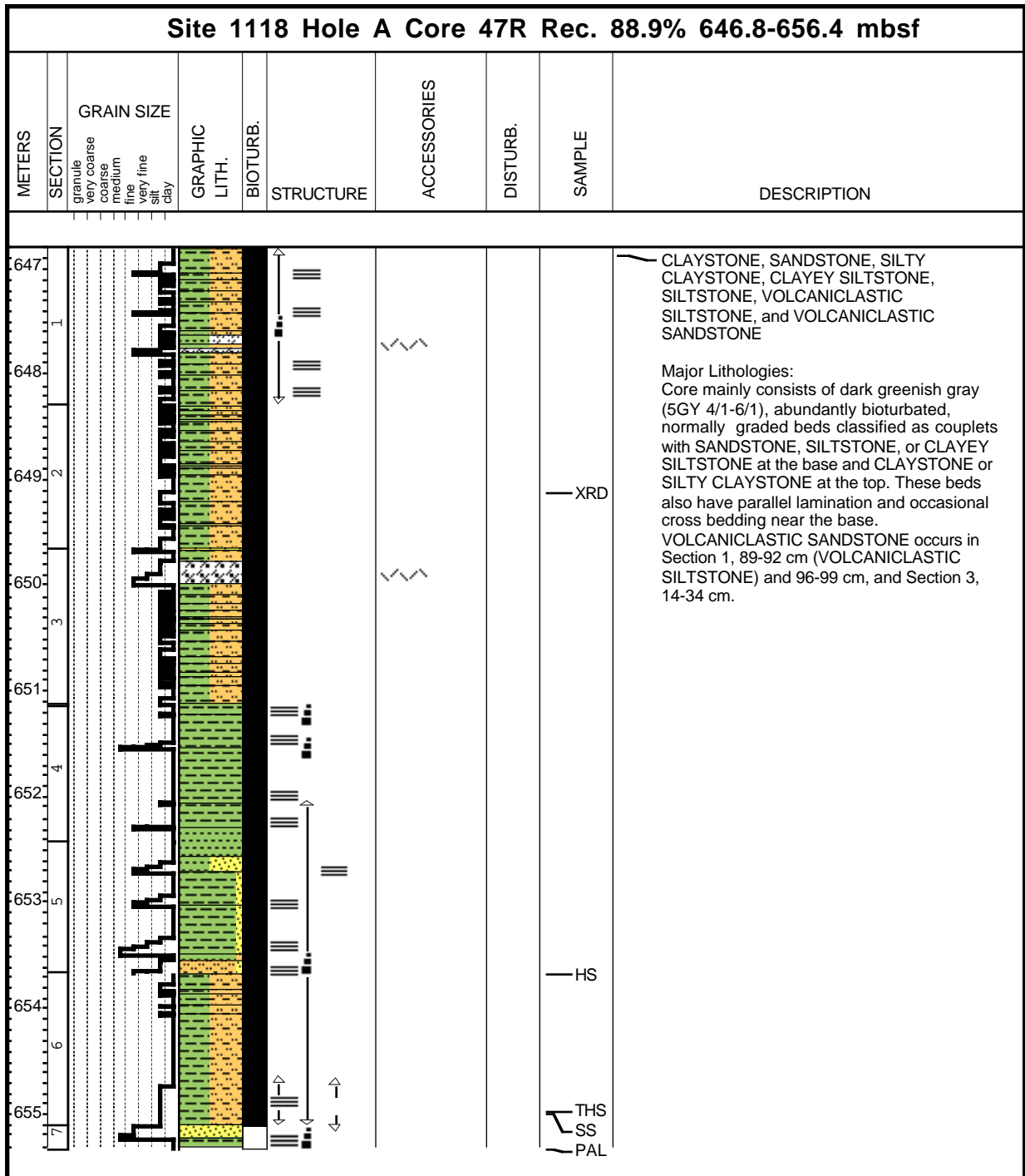
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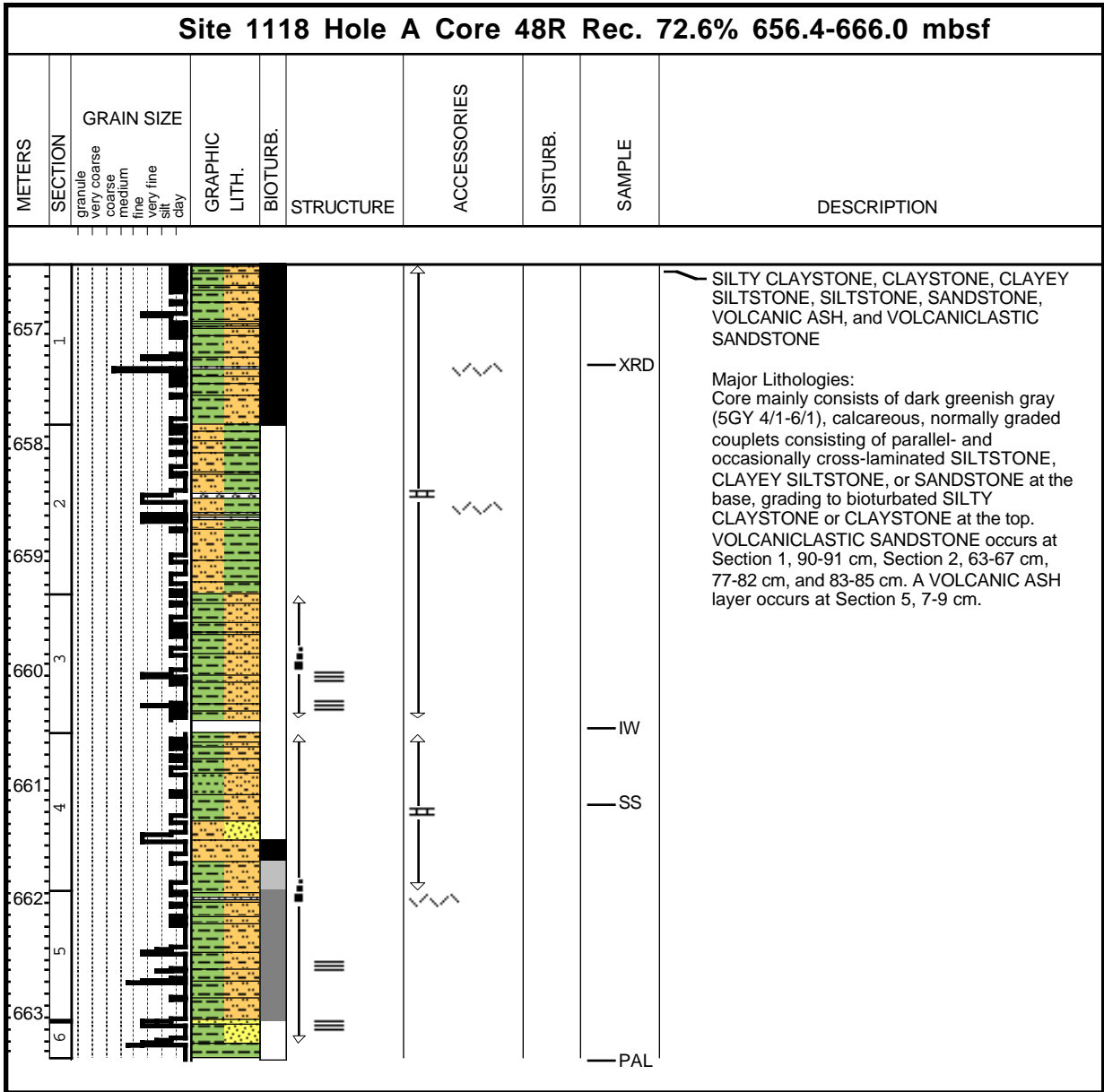
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Core Photo

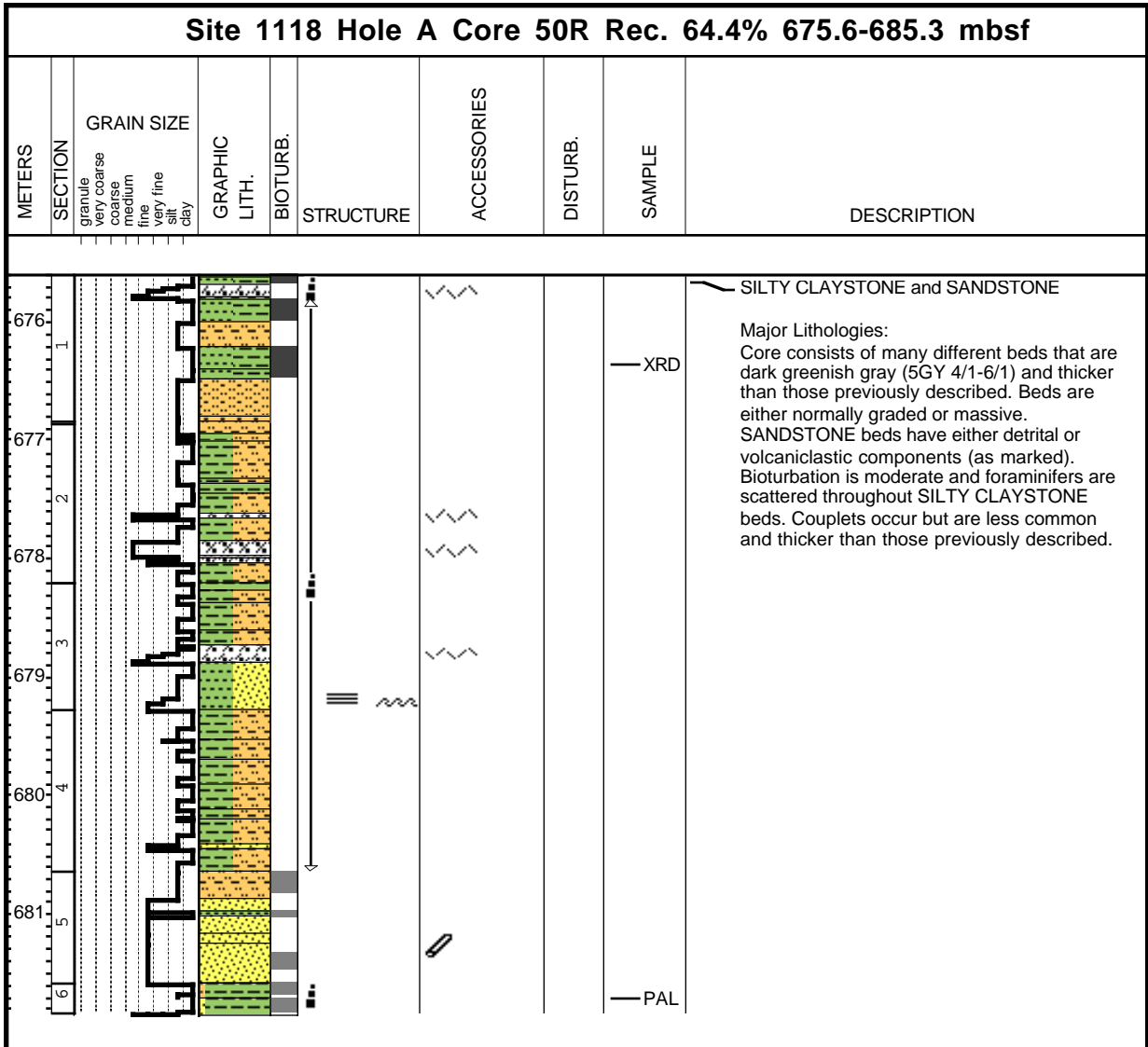


**Core Photo**





Core Photo

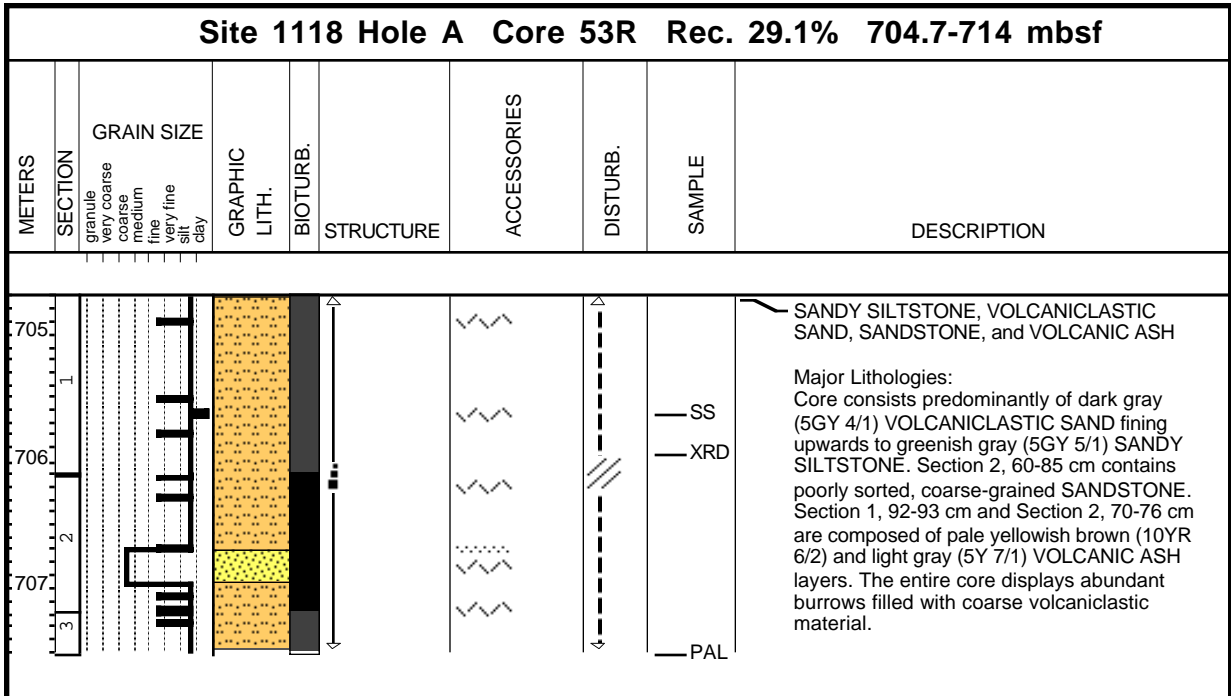




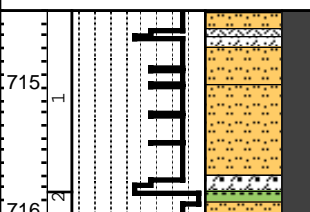
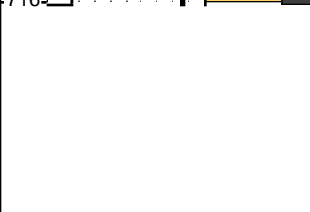
**Core Photo**

Site 1118 Hole A Core 52R Rec. 6.6% 695.0-704.7 mbsf							
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB. STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE DESCRIPTION
1 2		granule very coarse coarse medium fine very fine silt clay					<p>SS PAL</p> <p>VOLCANICLASTIC SAND and SILTSTONE, SANDY SILTSTONE, and CONGLOMERATE</p> <p>Major Lithologies:            Core is predominantly composed of dark gray (5Y 4/1) VOLCANICLASTIC SAND fining upwards to greenish gray (5GY 5/1) SANDY SILTSTONE or VOLCANICLASTIC SILTSTONE. The core catcher contains dark gray subangular, granule CONGLOMERATE at 7-11.5 cm. Granules are mostly volcanic rock fragments, quartz and ferromagnesian minerals</p>

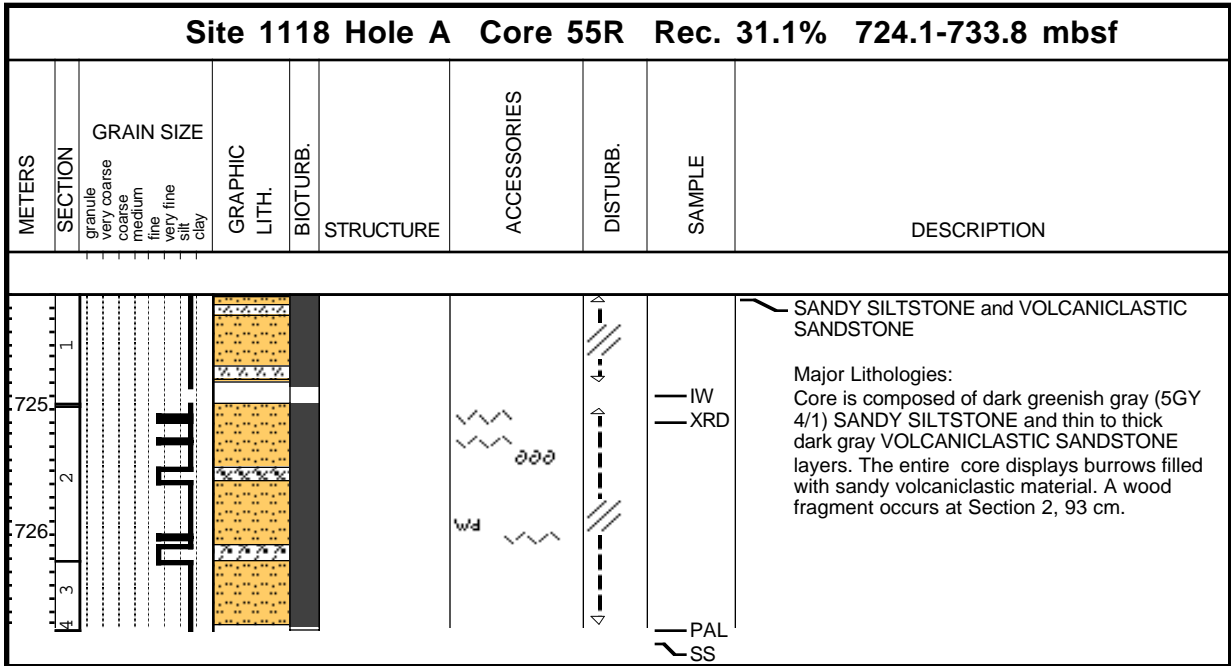
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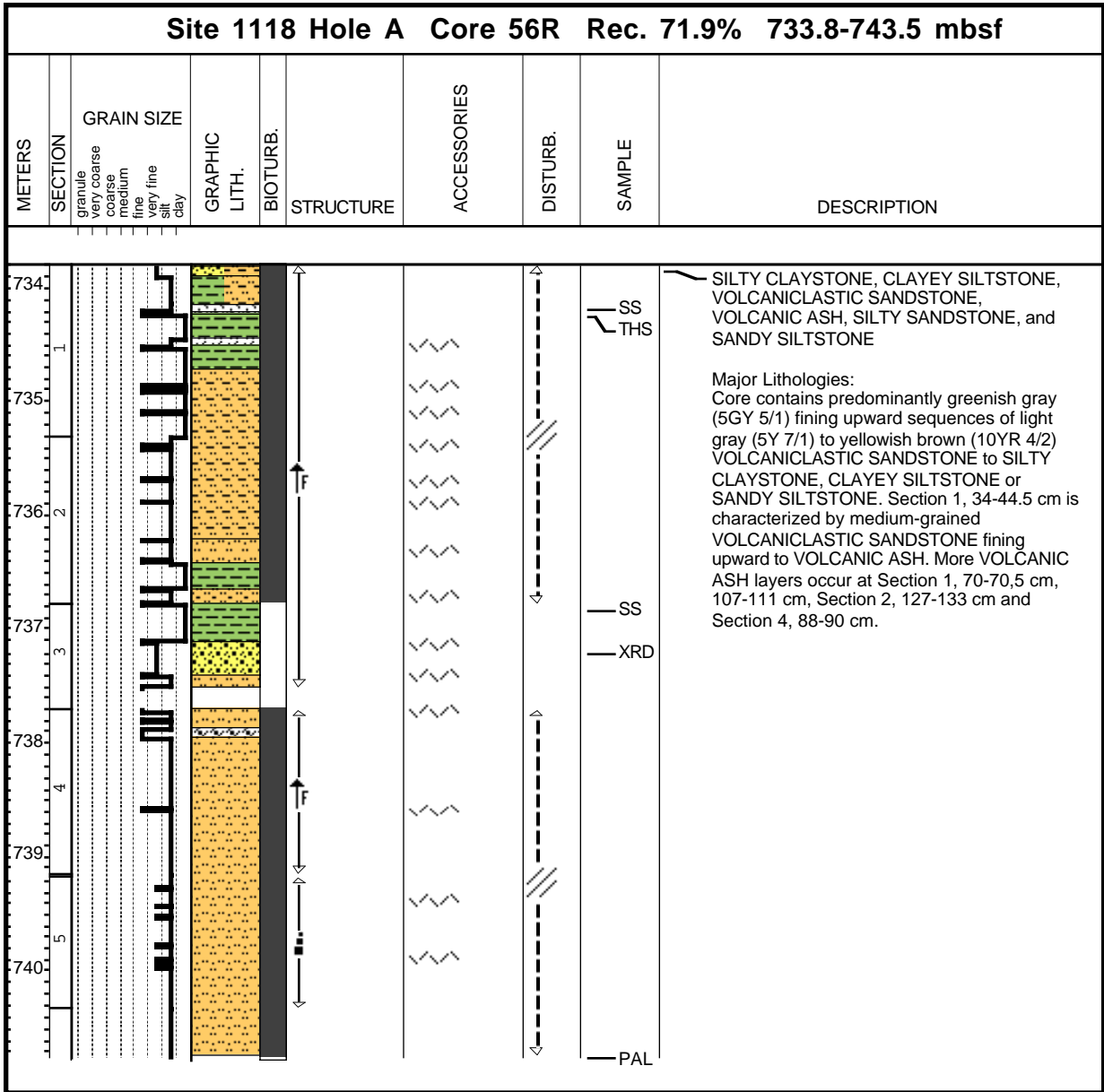
**Core Photo**

Site 1118 Hole A Core 54R Rec. 16.7% 714.4-724.1 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
715.0	1	granule very coarse coarse medium fine very fine silt clay							<p>SANDY SILTSTONE, VOLCANICLASTIC SANDSTONE AND SILTSTONE, VOLCANIC ASH, SILTSTONE, and CLAYSTONE</p> <p>Major Lithologies:                      Section 1 is predominantly characterized by dark gray VOLCANICLASTIC SANDSTONE fining upward to SANDY SILTSTONE. The interval 14-21 cm consists of a fining upward sequence of light gray (5Y 6/1), medium- to fine-grained VOLCANIC ASH. The intervals 21-31 cm and 131.5-141 cm contain VOLCANICLASTIC SILTSTONE and SANDSTONE, respectively. A light gray (5Y 7/1) VOLCANIC ASH layer occurs at 46-47 cm. The core catcher is composed of a fining-upward sequence from dark greenish gray (5GY 4/1) SILTSTONE to greenish gray (5GY 5/1) CLAYSTONE.</p>
716.0	2								

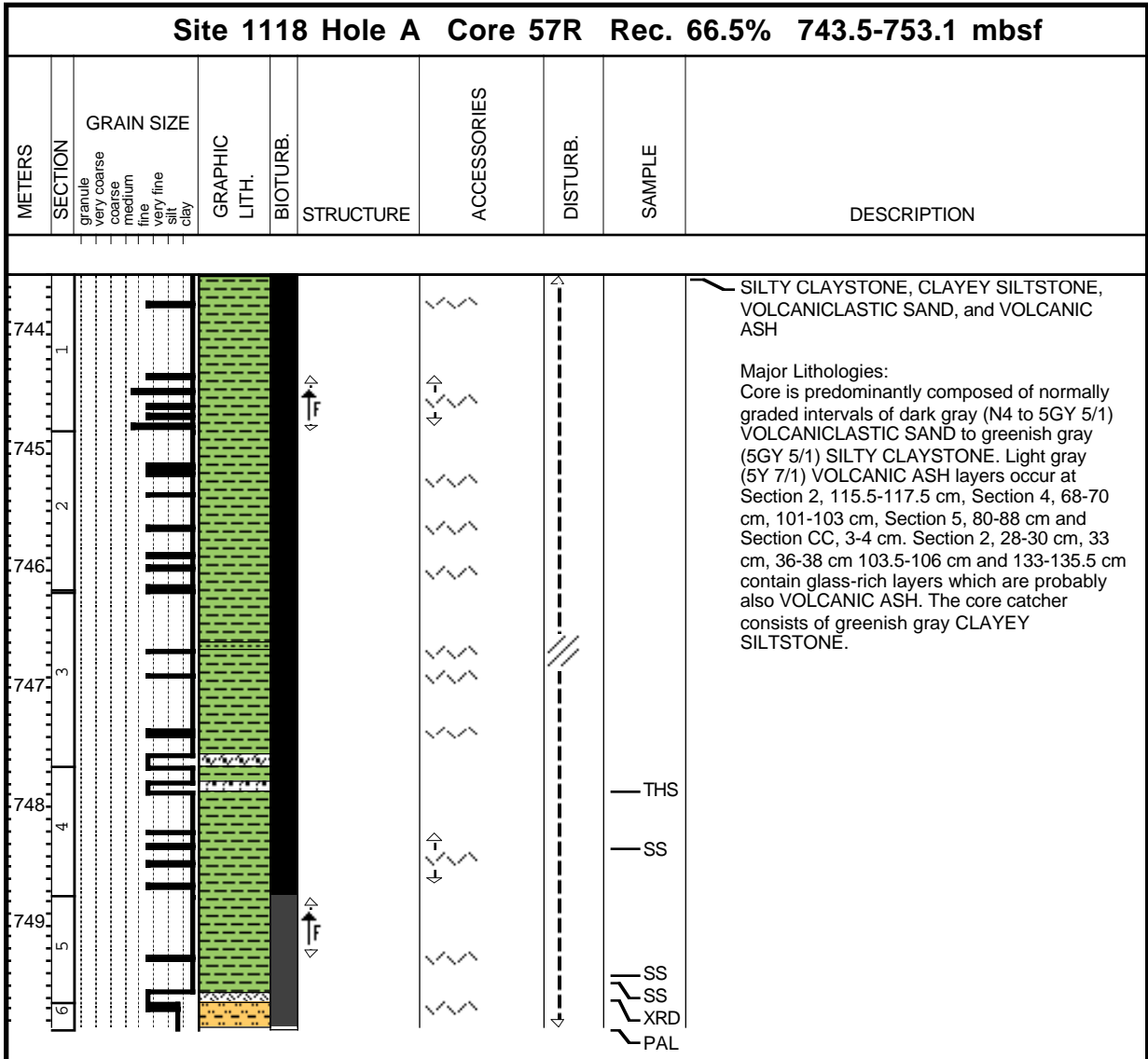
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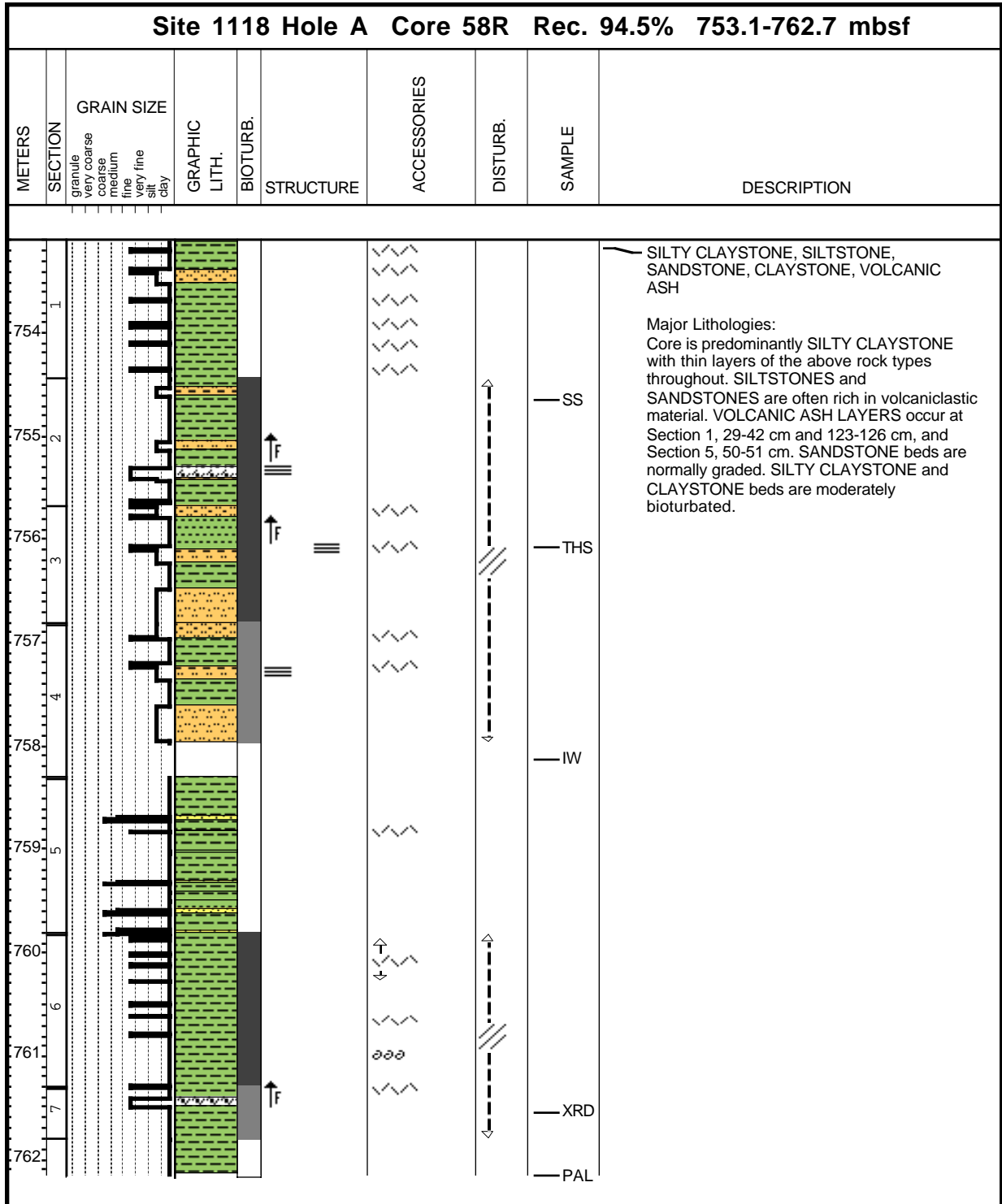
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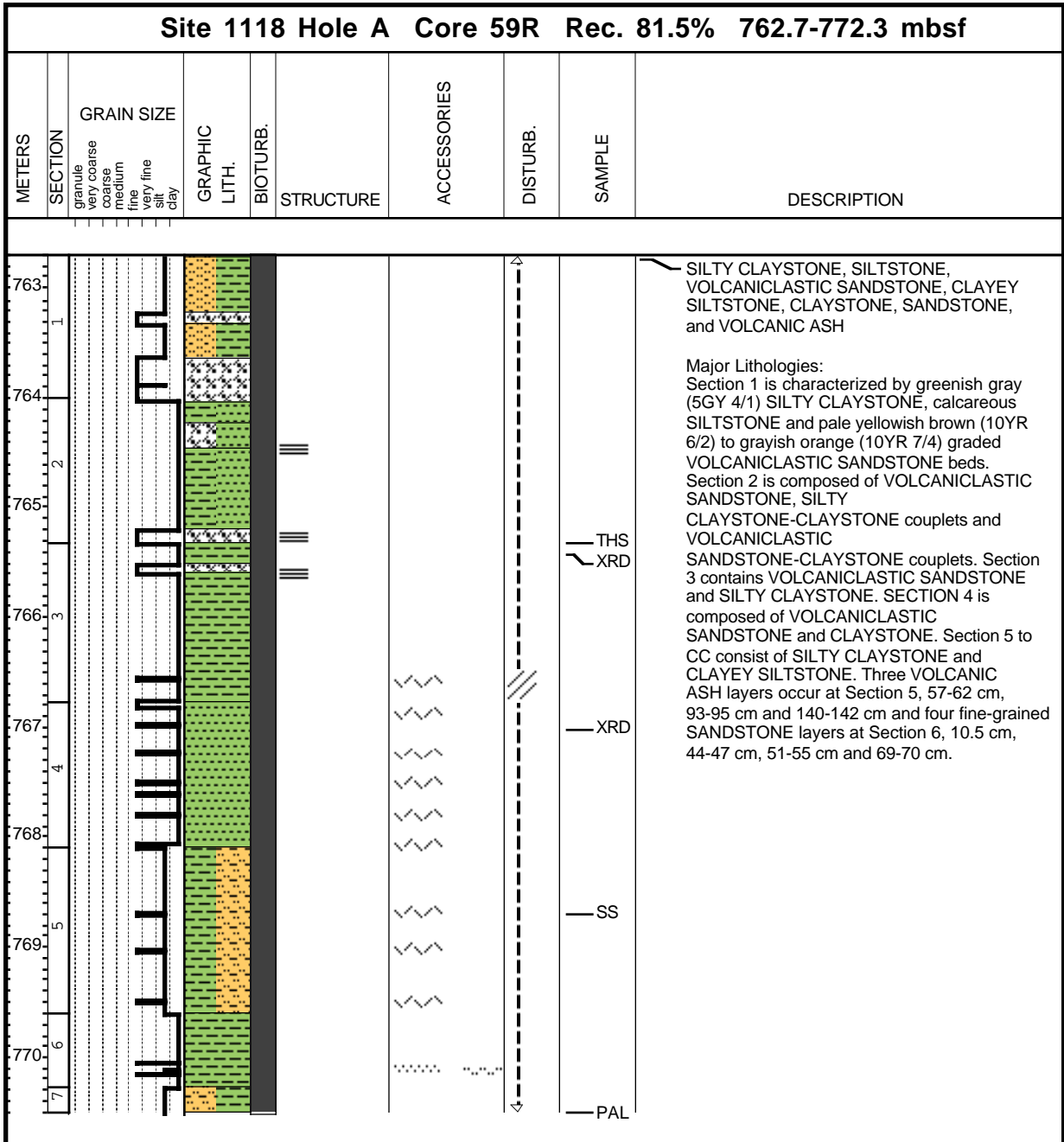
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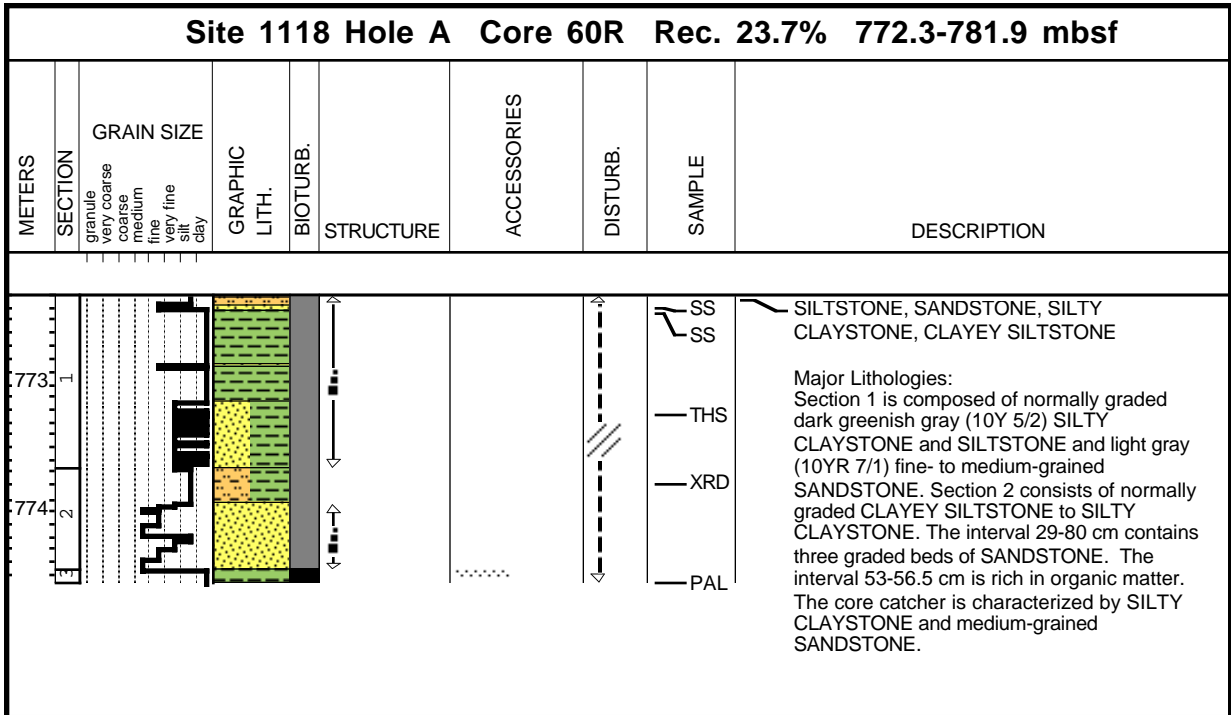
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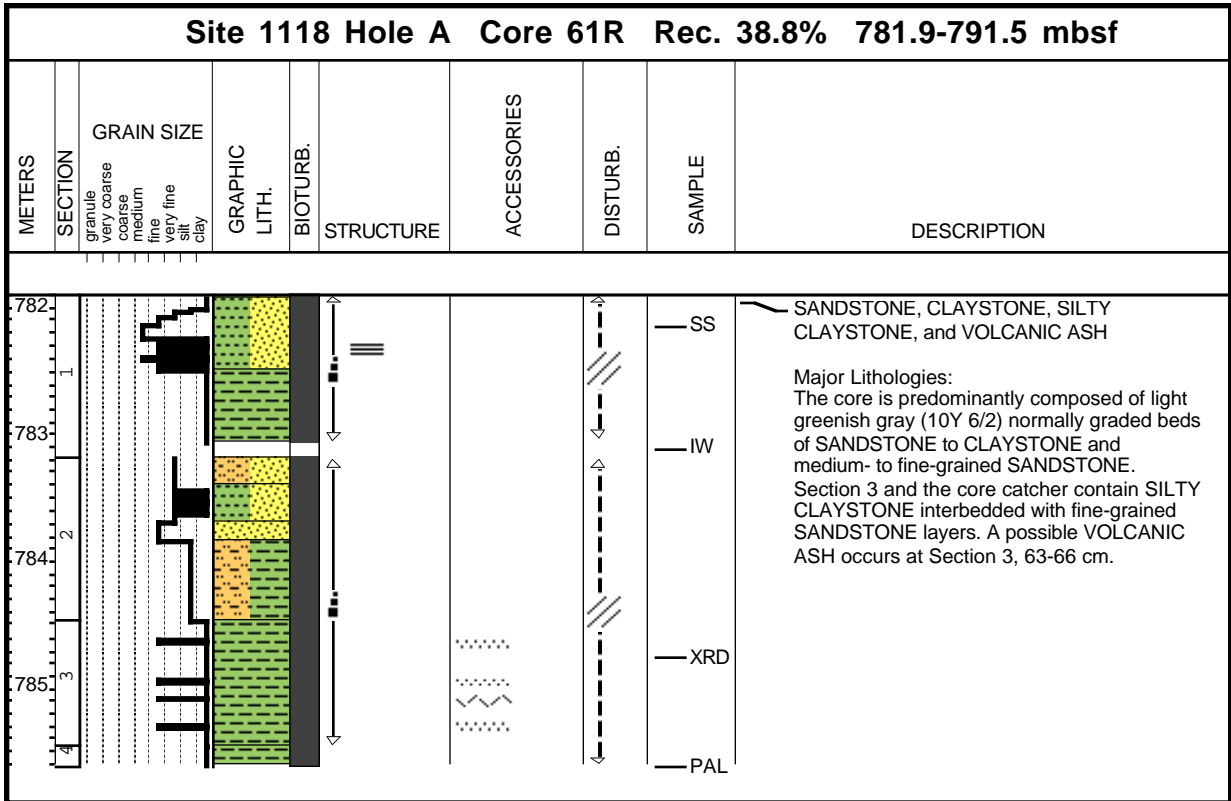
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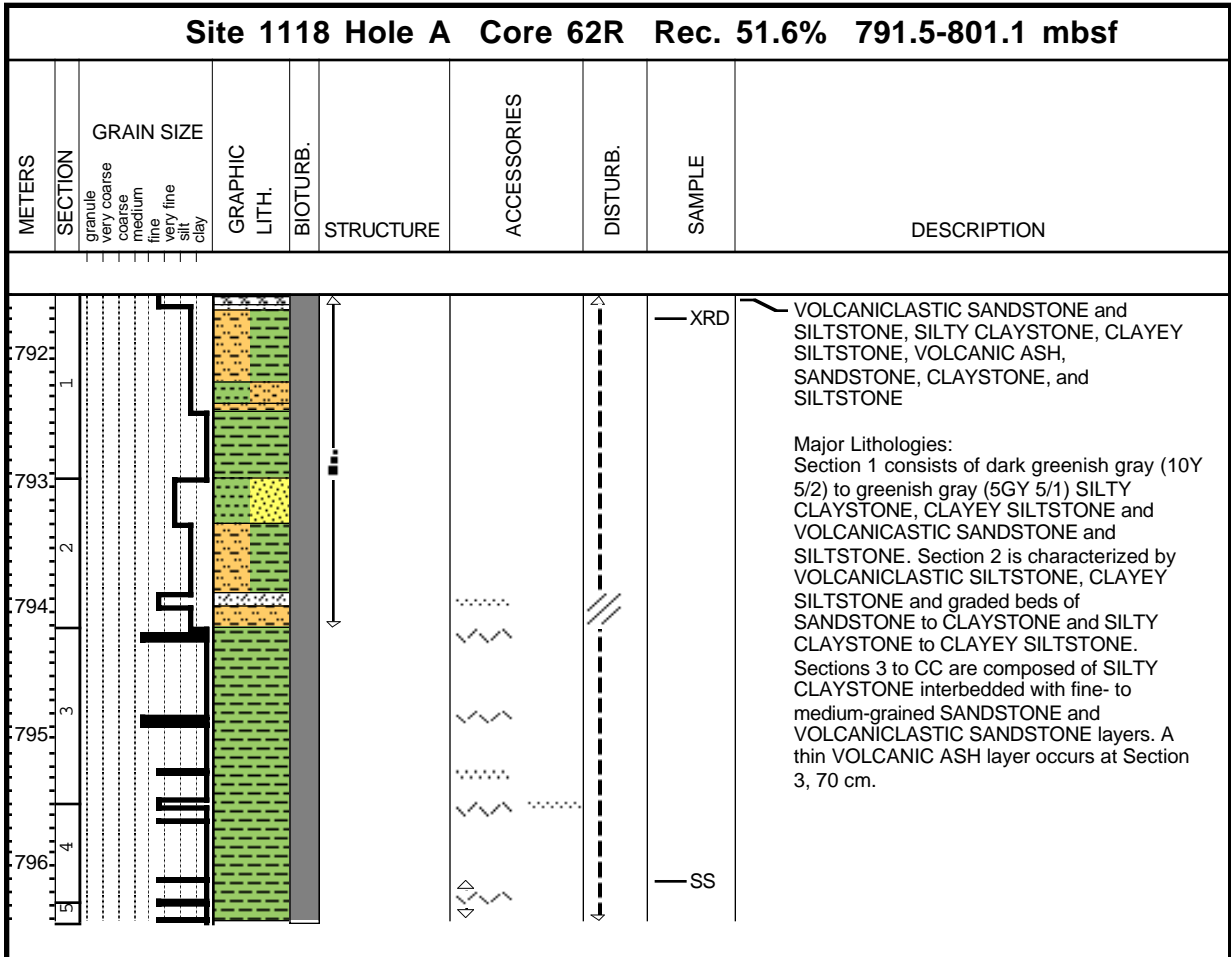
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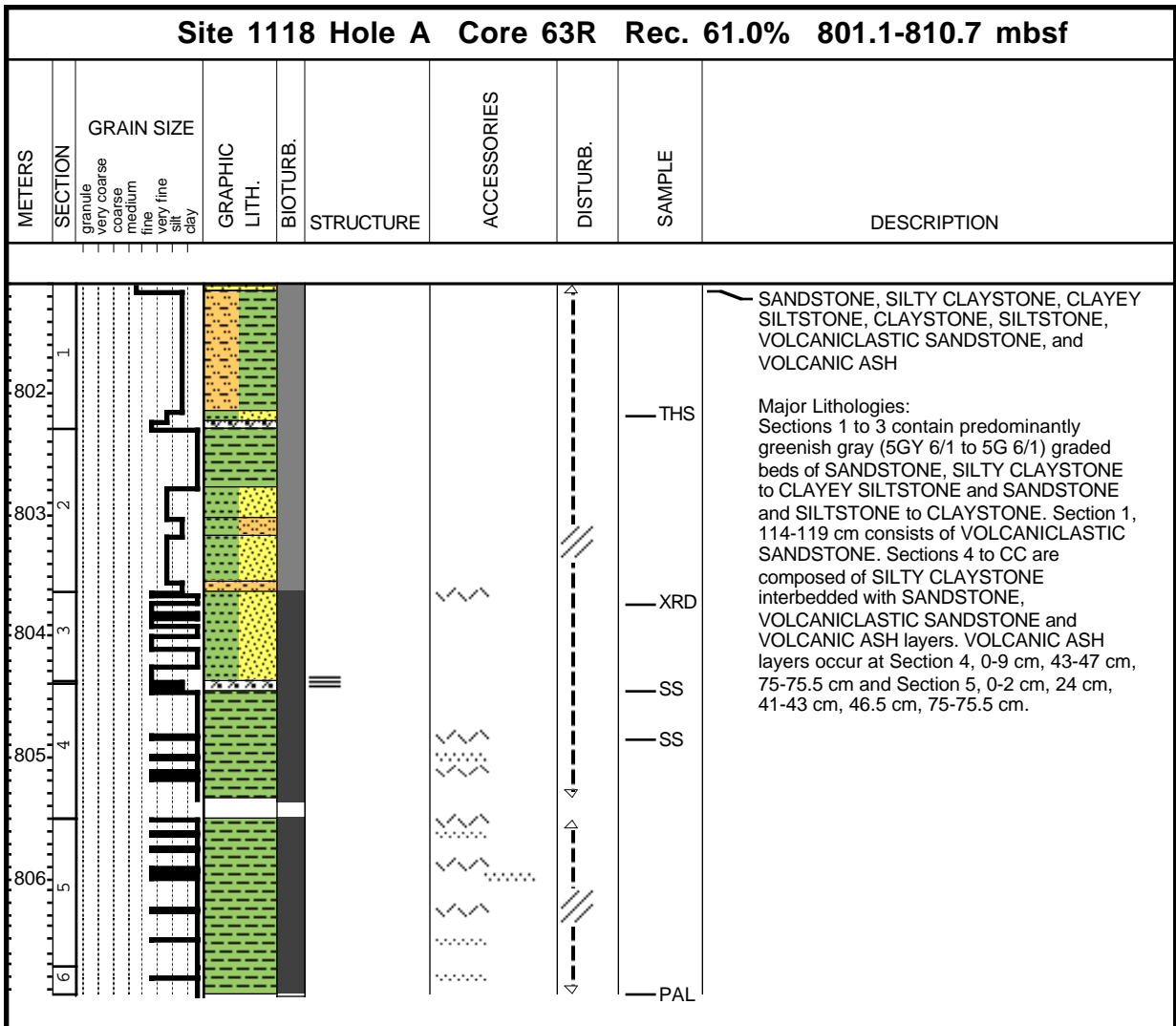
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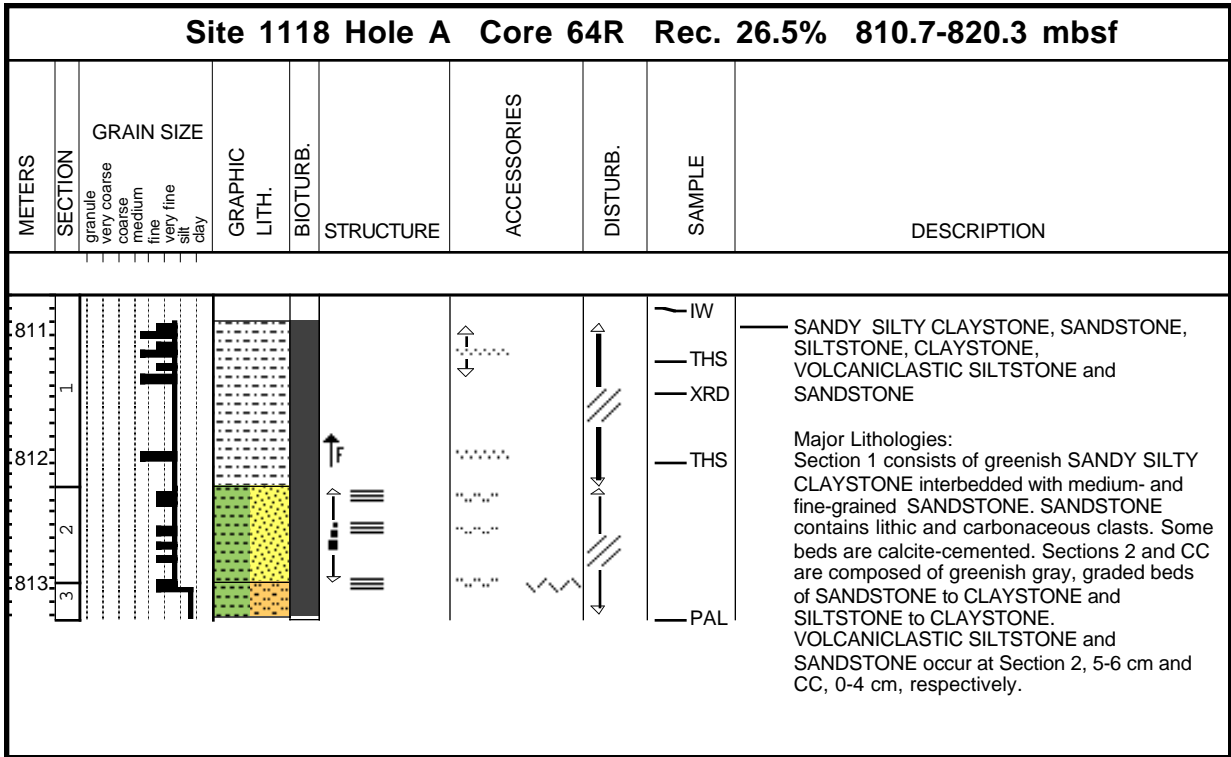
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**Core Photo**



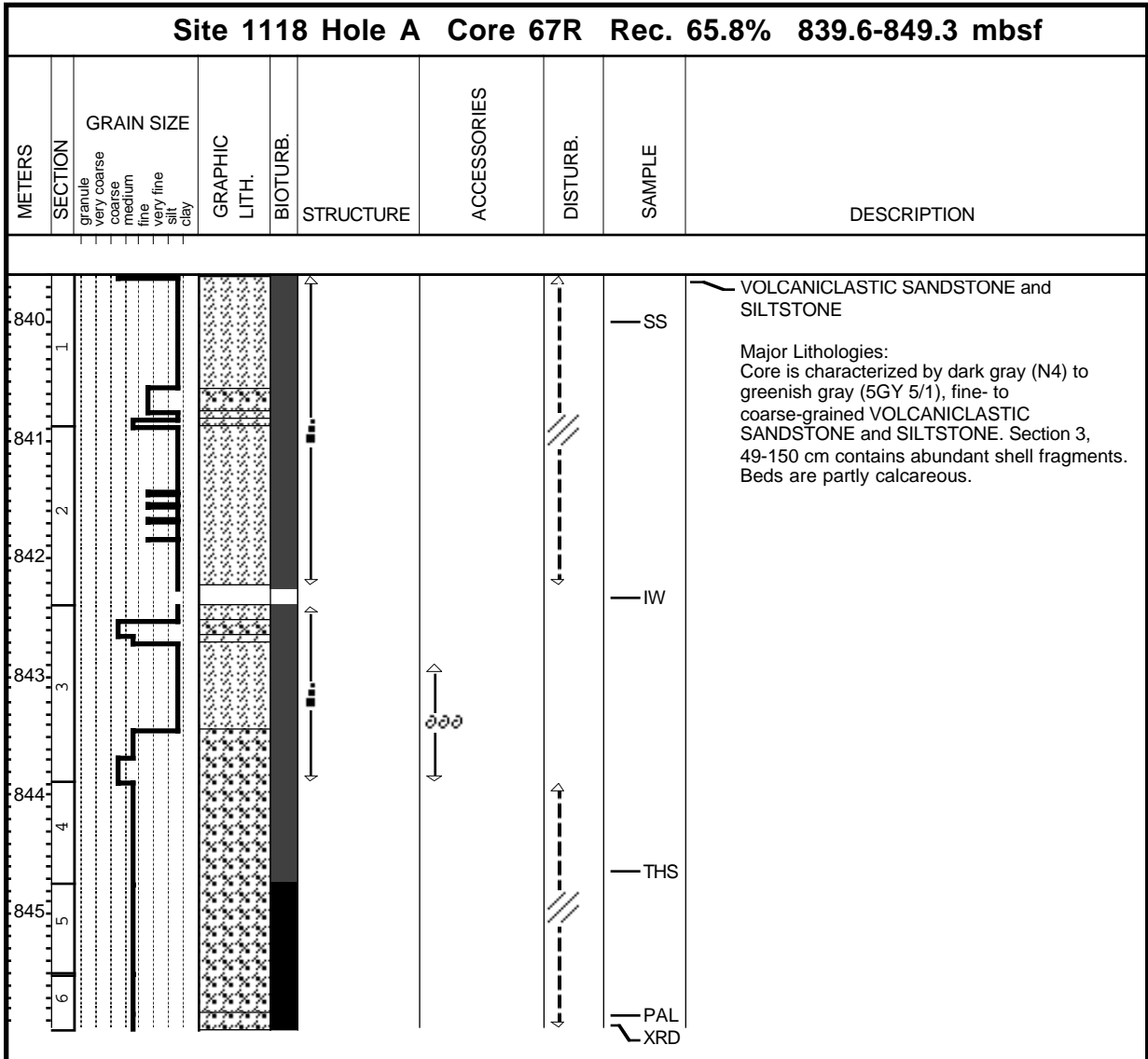
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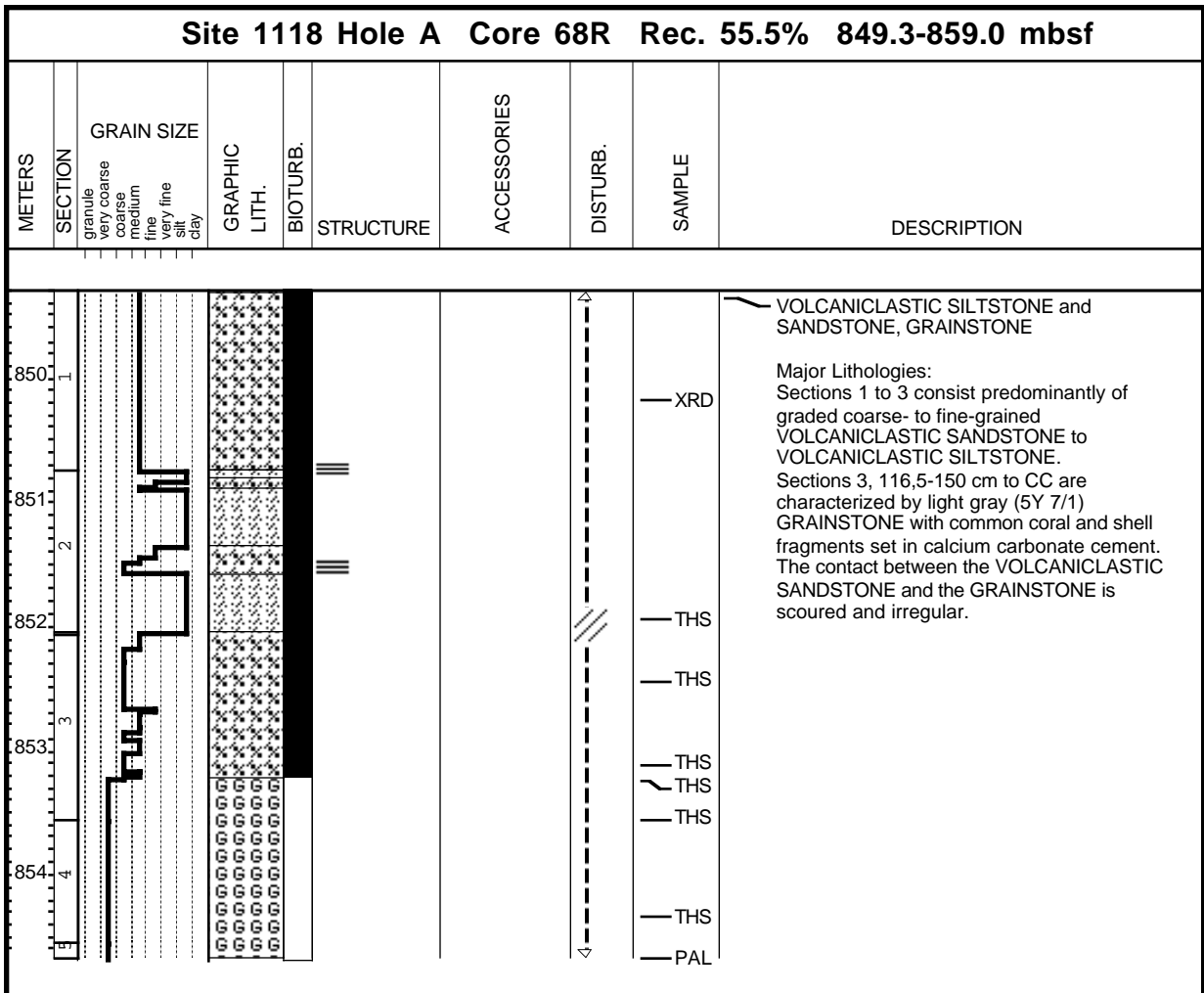




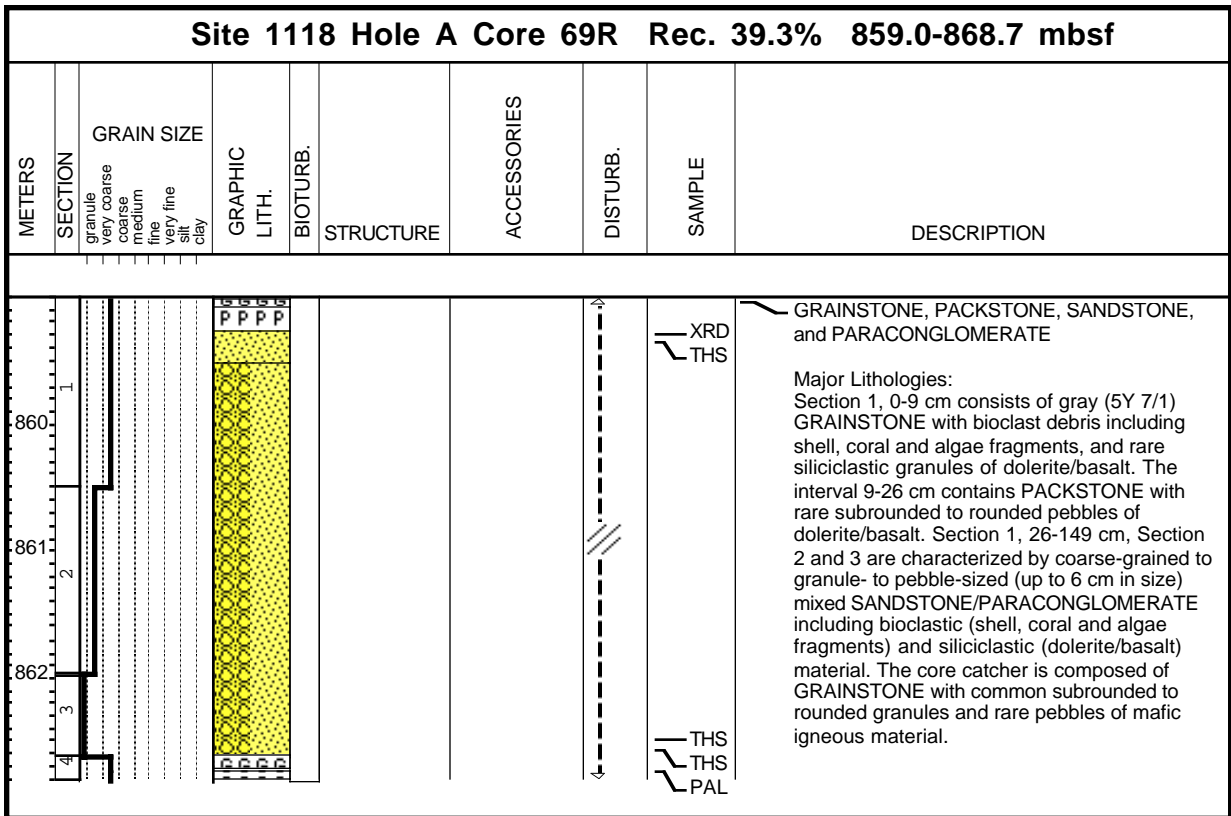
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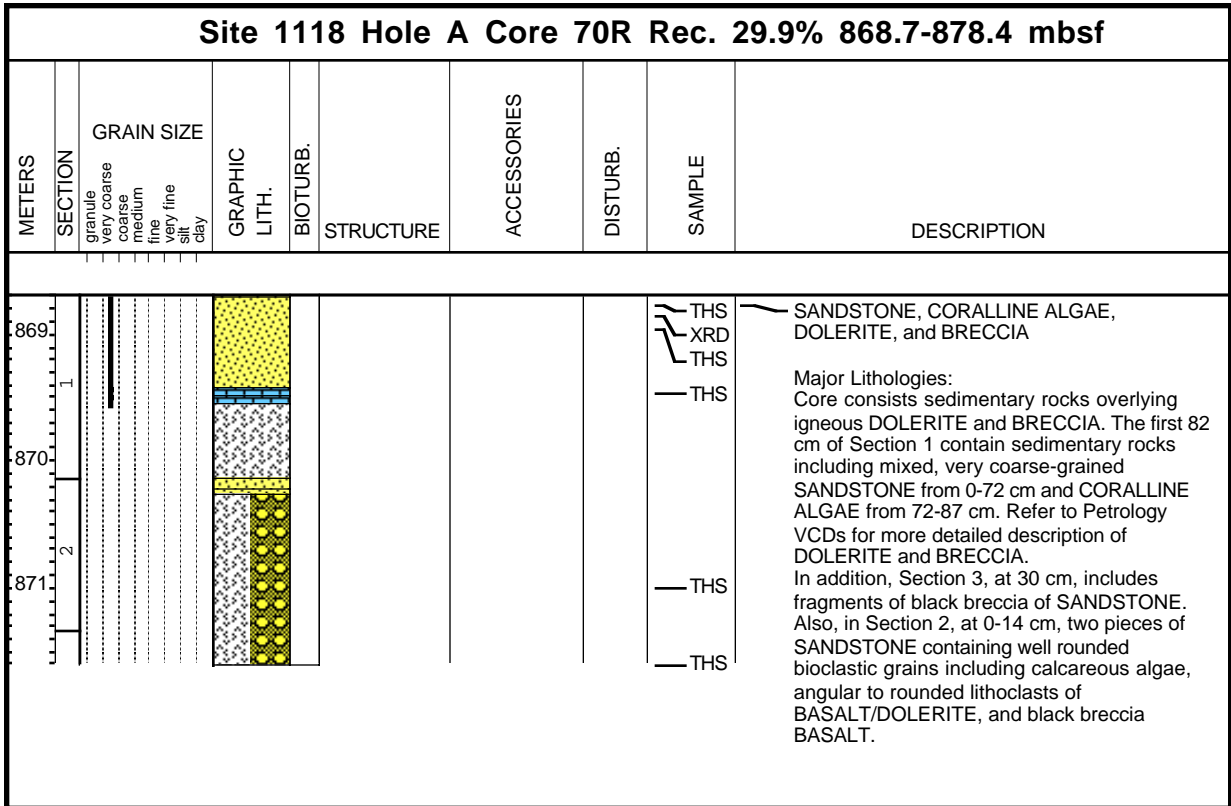
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**Core Photo**

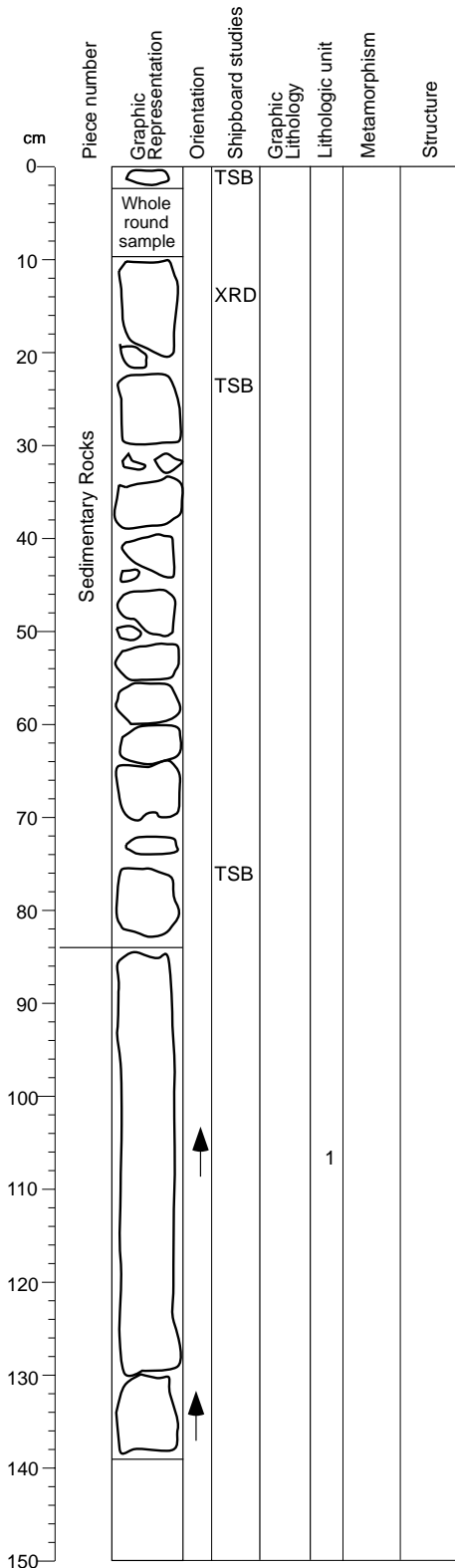


**Core Photo**



**Core Photo**

**180-1118A-70R-1 (868.70-870.14 mbsf)**



**UNIT: 1 Brecciated dolerite**

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	70R	1	-	869.57
Lower contact:	70R	1	-	870.11
Thickness (m): 0.54				
Contact Type: None				

**GENERAL:** The top 87 cm of the section is composed of coarse to very coarse-grained sandstones and clasts of coralline algae (refer to "Lithostratigraphy" section, this chapter). The bottom from 87-141 cm is a fine- to medium grained dolerite.

**GRAIN SIZE:** Fine- to medium-grained

**TEXTURE:** Ophitic

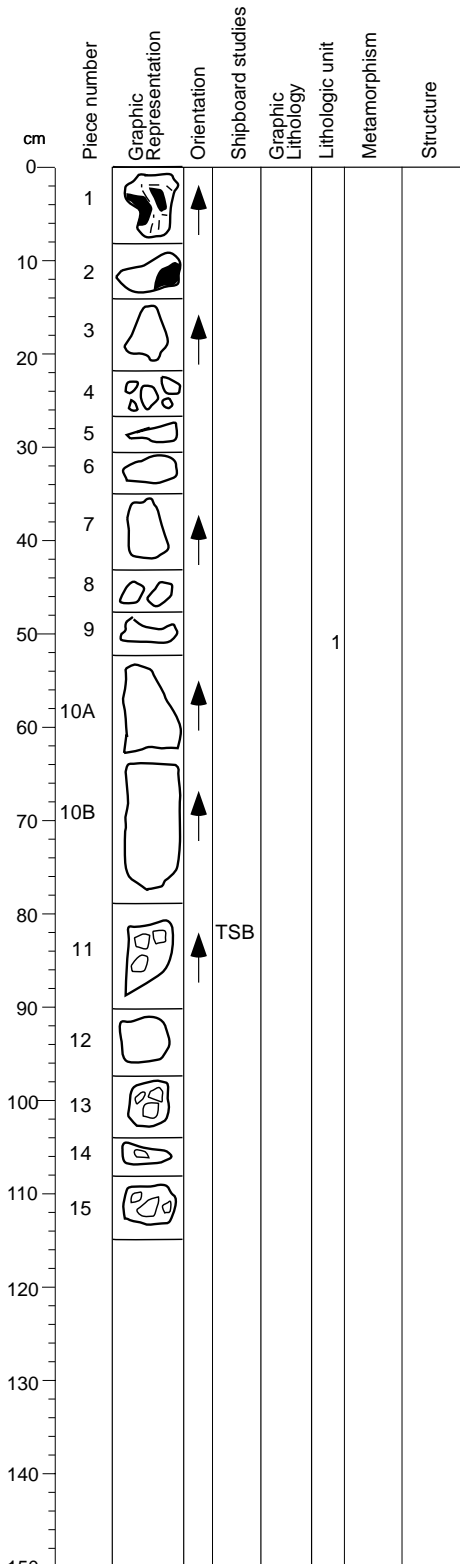
**ALTERATION:** Negligible to slight iron oxidation

**COMMENTS:** This is the first appearance of dolerite rocks within the brecciated dolerite unit in Hole 1118A. In general, dolerite within the unit is composed of plagioclase (sausseritized in parts), clinopyroxene (partly chloritized), magnetite (often dendritic), iron-oxide, and pyrite. Texture is predominantly ophitic with less common granular textures.

CORE/SECTION

**Core Photo**

**180-1118A-70R-2 (870.14-871.34 mbsf)**



**UNIT: 1 Brecciated dolerite**  
**Pieces: 1-15**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	70R	2	1	870.11
<b>Lower contact:</b>	70R	2	15	871.25
<b>Thickness (m):</b>	1.15			
<b>Contact Type:</b>	None			

**GENERAL:** These are clasts and rock pieces ascribed to one unit, brecciated dolerite. Brecciation within the unit ranges from negligible to pervasive. Breccia contains sub-angular dolerite clasts within a clay-sized, dark brown to black matrix, believed to be altered dolerite.

**GRAIN SIZE:** Fine- to medium-grained (most dolerite)

**TEXTURE:** Ophitic (dolerite), cataclastic (breccia)

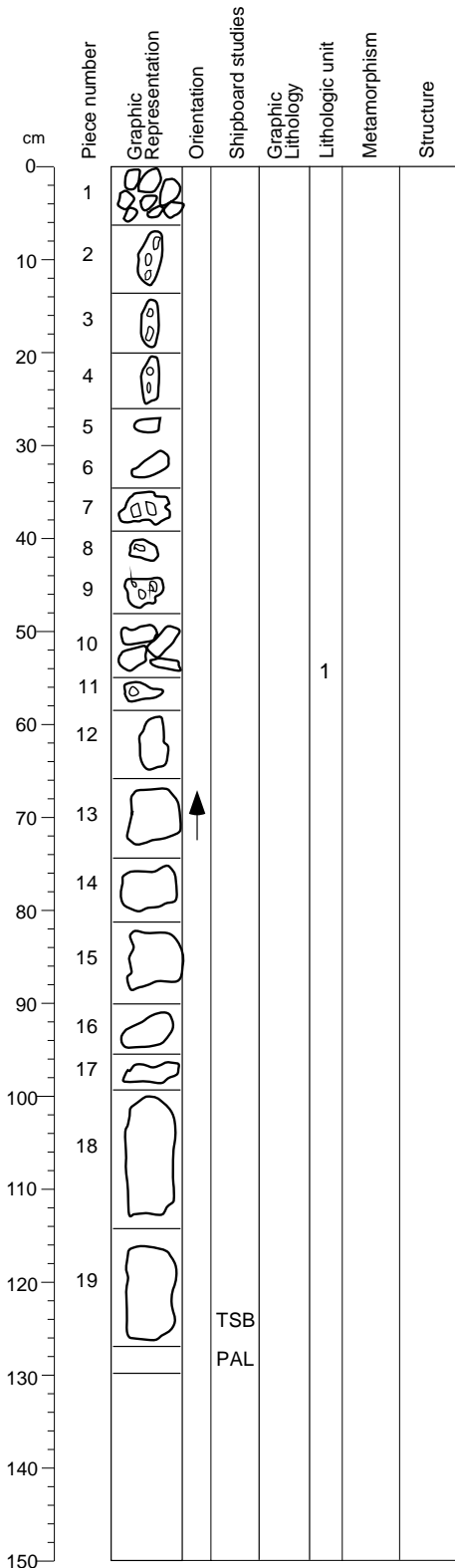
**ALTERATION:** Variable iron oxidation and chloritization

**COMMENTS:** Pieces 1 and 2 are breccia with white, calcitic matrix and dark basalt clasts (2X2 cm, rounded to sub angular). Pieces 3 and 6 are coarse-grained altered dolerite clasts with pyrite and chlorite alteration products. Pieces 4, 5, and 7-9 are darker dolerite clasts that are moderately to pervasively altered. Pieces 10 and 12 are fresh to slightly-altered, fine- to medium-grained dolerite clasts with pyrite grains. Pieces 11 and 13-15 are breccia with angular (up to 2X2 cm), variably weathered clasts of basalt and dolerite within the dark colored matrix described above.

CORE/SECTION

**Core Photo**

**180-1118A-70R-3 (871.34-878.40 mbsf)**



**UNIT: 1 Brecciated dolerite**  
**Pieces: 1-19**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	70R	CC	1	871.25
<b>Lower contact:</b>	70R	CC	19	872.52
<b>Thickness (m): 1.27</b>				
<b>Contact Type: None</b>				

**GENERAL:** These are clasts and rock pieces ascribed to one unit, brecciated dolerite. Brecciation within the unit ranges from negligible to pervasive. Breccia contains sub-angular dolerite clasts within a clay-sized, dark brown to black matrix, believed to be altered dolerite.

**GRAIN SIZE:** Fine- to medium-grained (most dolerite)

**TEXTURE:** Ophitic (dolerite), cataclastic (breccia)

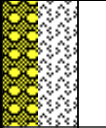
**STRUCTURE:** Brecciation, slickensides

**ALTERATION:** Variable iron oxidation and chloritization

**COMMENTS:** Pieces 9 and 10 are dark pebbles that appear to be very weathered remains of basalt or dolerite. Some surfaces are slickensided. One clast within Tray 10 is a less-weathered dolerite. Pieces 2-4, 7-9, and 11 are breccia similar to those described in Section 2. Some isolated pieces of matrix material have slickensided surfaces, suggesting faulting. Pieces 12-19 are fine- to medium-grained, fresh to slightly altered dolerite clasts similar to those described above. Pieces 18 and 19 are a bit darker, more altered and are medium-grained.

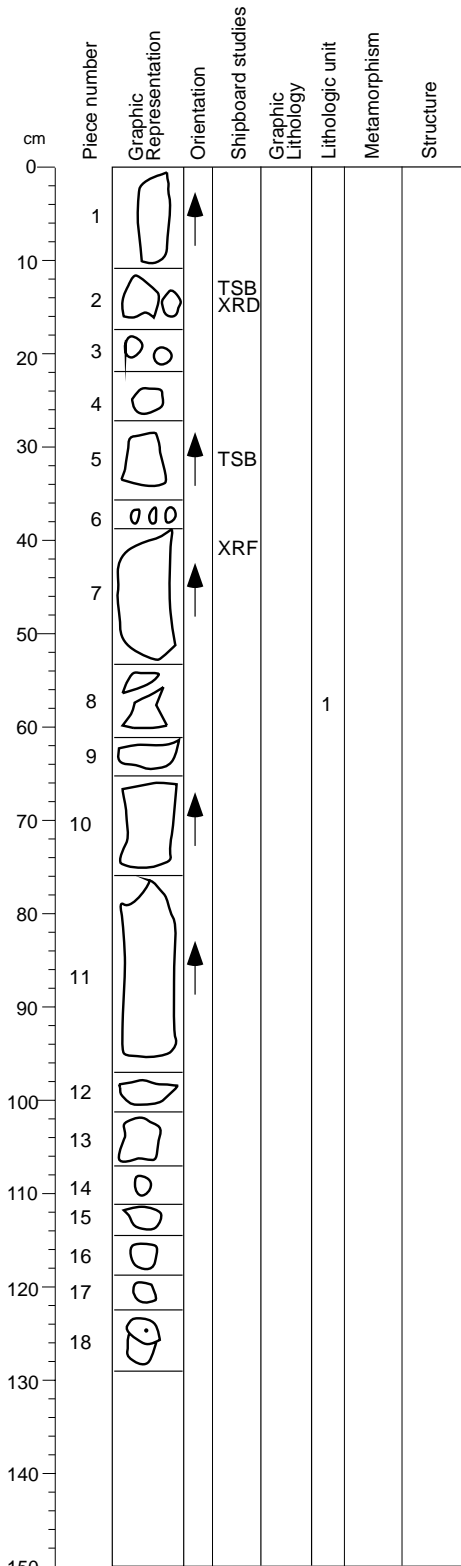
CORE/SECTION

**Core Photo**

Site 1118 Hole A Core 71R Rec. 20.8% 878.4-883.2 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
879 1 2	1 2	granule very coarse coarse medium fine very fine silt clay							<p><b>BRECCIATED DOLERITE</b></p> <p>Major Lithologies:            Core consists of variably altered and brecciated DOLERITE. Refer to Petrology VCDs for more detailed description.            In addition, a few pieces of polymictic BRECCIA are recovered in Section 1, at 13-16 cm and 51-61 cm.</p>

**Core Photo**

**180-1118A-71R-1 (878.4-883.20 mbsf)**



**UNIT: 1 Brecciated dolerite**  
**Pieces: 1-18**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	71R	1	1	878.40
<b>Lower contact:</b>	71R	1	18	879.69
<b>Thickness (m): 1.29</b>				
<b>Contact Type: None</b>				

**GENERAL:** These are clasts and rock pieces ascribed to one unit, brecciated dolerite. Brecciation within the unit ranges from negligible to pervasive. Breccia contains sub-angular dolerite clasts within a clay-sized brown matrix, believed to be altered dolerite.

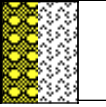
**GRAIN SIZE:** Fine- to medium-grained

**TEXTURE:** Ophitic (dolerite), cataclastic (breccia)

**ALTERATION:** Negligible to slight iron oxidation to pervasive

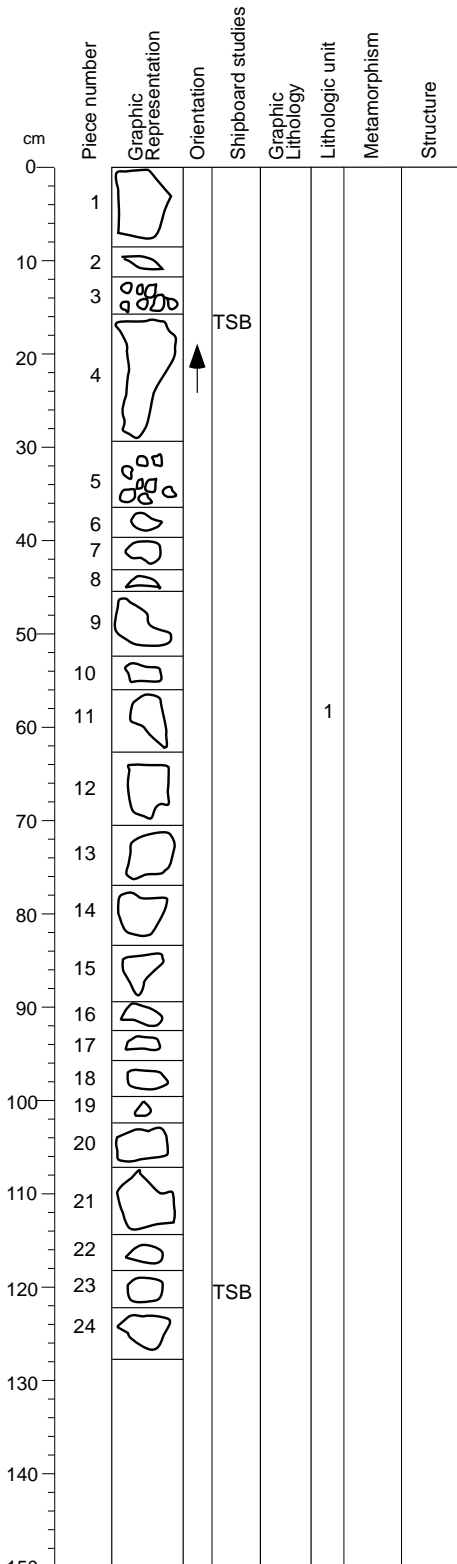
**COMMENTS:** Pieces 1, 7, 9-15, and 17-18 are fresh dolerite. Piece 16 is slightly altered to Fe-oxides. Pieces 2-6 and 8 are very altered and brecciated, containing the above-described brown matrix with sub-angular dolerite clasts. Piece 18 has a finer grain-size than other dolerite clasts.

**Core Photo**

Site 1118 Hole A Core 72R Rec. 17.2% 883.2-887.9 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
884									<p>— THS                      — THS                      — PAL</p> <p>BRECCIATED DOLERITE and BRECCIA</p> <p>Major Lithologies:                      Core consists of variably altered and brecciated DOLERITE. Refer to Petrology VCDs for more detailed description.                      Also, three pieces of polymictic BRECCIA were recovered from the interval.</p>

**Core Photo**

**180-1118A-72R-1 (883.2-887.9 mbsf)**



**UNIT: 1 Brecciated dolerite**  
**Pieces: 1-24**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	72R	1	1	883.20
<b>Lower contact:</b>	72R	1	24	884.48
<b>Thickness (m): 1.28</b>				
<b>Contact Type: None</b>				

**GENERAL:** These are clasts and rock pieces ascribed to one unit, brecciated dolerite. Brecciation within the unit ranges from negligible to pervasive. Breccia contains sub-angular dolerite clasts within a clay-sized brown matrix, believed to be altered dolerite.

**GRAIN SIZE:** Fine- to medium-grained

**TEXTURE:** Ophitic (dolerite), cataclastic (breccia)

**ALTERATION:** Negligible to slight iron oxidation to pervasive

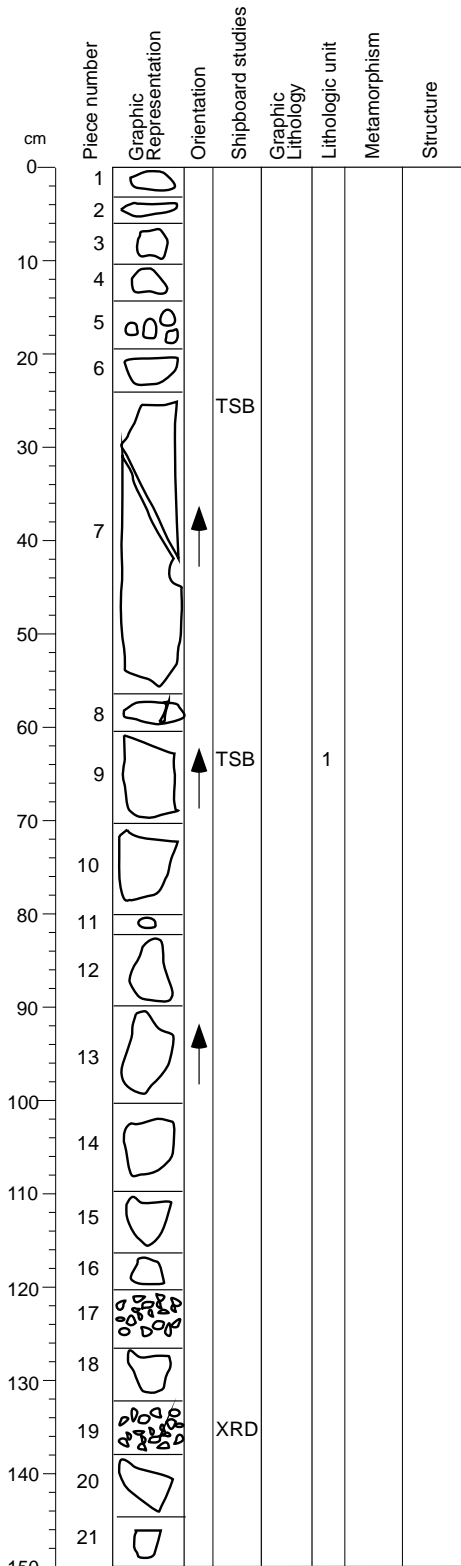
**COMMENTS:** Pieces 1, 4, 6-13, and 15-24 are dolerite clasts. Piece 4 is slickensided on one side, Pieces 12 and 13 are slightly weathered. Pieces 2 and 3 are chips of brecciated dolerite (mostly brown material as described above). Pieces 5 and 14 are breccia (as described above), with slickensides occurring on Piece 14.

CORE/SECTION



**Core Photo**

**180-1118A-73R-1 (887.9-889.4 mbsf)**



**UNIT: 1 Brecciated dolerite**

**Pieces: 1-21**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	73R	1	1	887.90
<b>Lower contact:</b>	73R	1	21	889.40
<b>Thickness (m):</b>	1.50			
<b>Contact Type:</b>	None			

**GENERAL:** These are clasts and rock pieces ascribed to one unit, brecciated dolerite. All pieces in this core are dolerite with variable degrees of sub-aerial weathering.

**GRAIN SIZE:** Fine- to medium-grained

**TEXTURE:** Ophitic

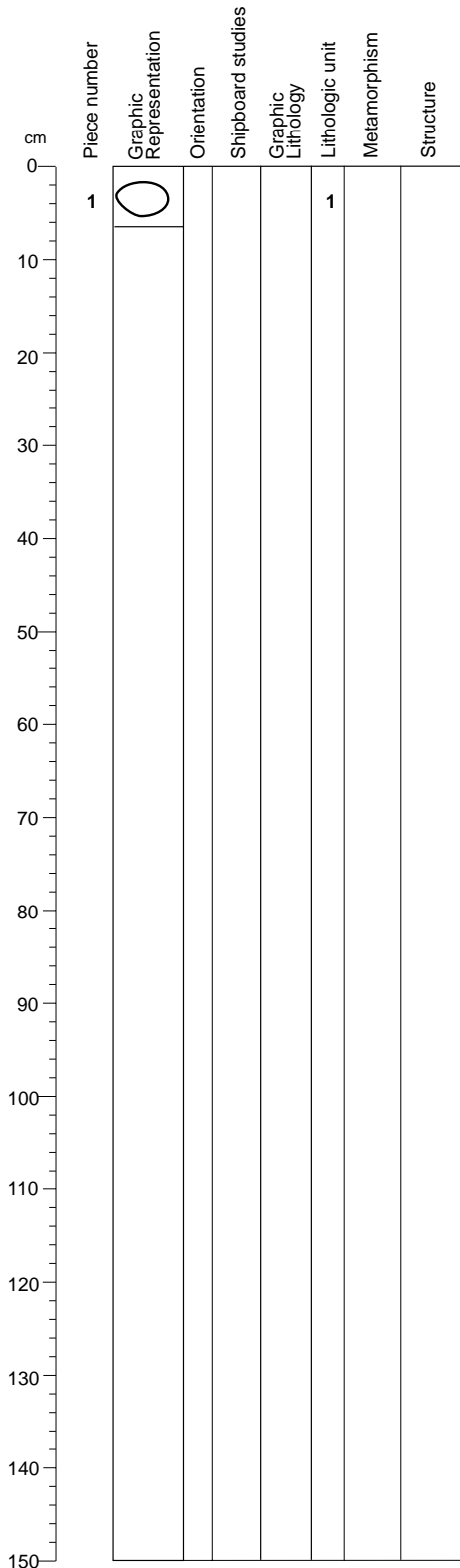
**ALTERATION:** Negligible to slight iron oxidation

**COMMENTS:** Piece 3 has a finer grain-size than the rest. Pieces 16-21 are subaerially-weathered to ranging extent. Piece 20 has clear onion-skin oxidation.

CORE/SECTION

**Core Photo**

**180-1118A-73R-2 (887.9-897.5 mbsf)**



**UNIT: 1 Brecciated dolerite**  
**Pieces: 1**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	73R	2	1	889.40
<b>Lower contact:</b>	73R	2	1	889.46
<b>Thickness (m): 0.06</b>				
<b>Contact Type: None</b>				

**GENERAL:** This a single dolerite clast belonging to the brecciated dolerite unit.

**GRAIN SIZE:** Medium-grained

**TEXTURE:** Ophitic

**ALTERATION:** Slight onion-skin weathering

**COMMENTS:** This piece is similar to previously-described dolerite clasts. Red and green weathering products co exist as onion-skin weathering products.

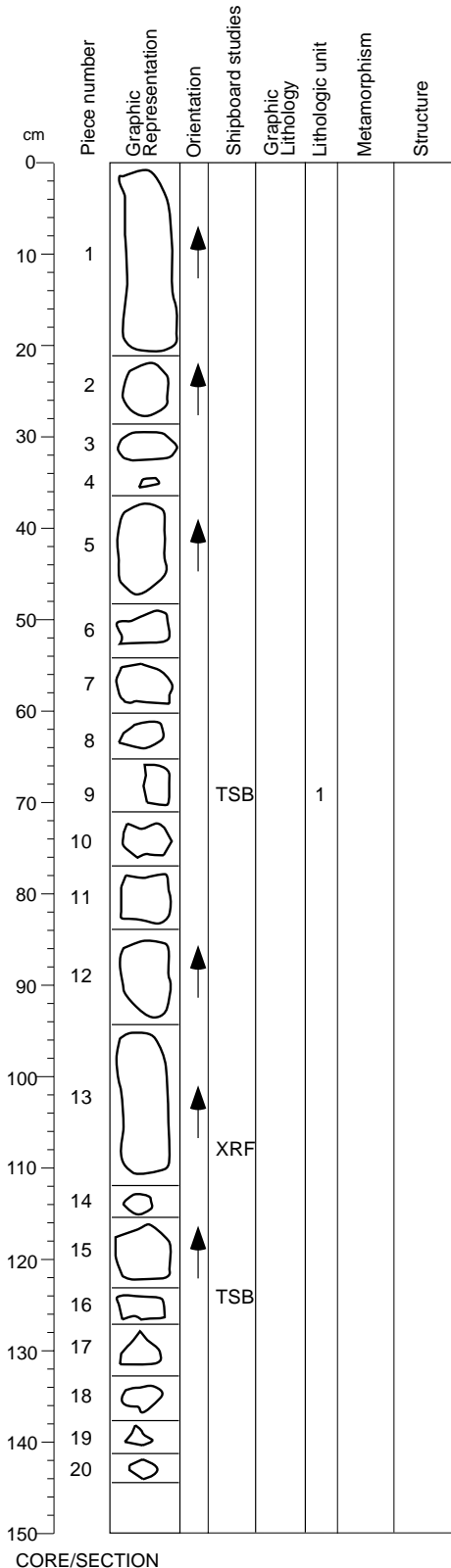
CORE/SECTION

**Core Photo**

Site 1118 Hole A Core 74R Rec. 35.9% 897.5-905.6 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
	granule very coarse coarse medium fine very fine silt clay								
898.1	1								<p><b>BRECCIATED DOLERITE and CONGLOMERATE</b></p> <p>Major Lithologies:                      Core consists of variably altered and brecciated DOLERITE. Refer to Petrology VCDs for more detailed description.                      Also, pieces of weathered DOLERITE are present in Section 3, that were possibly derived from CONGLOMERATE.</p>
899.2	2							— THS — THS / XRD \ THS	
900.3	3							— THS / XRD	
900.4	4								

**Core Photo**

**180-1118A-74R-1 (897.5-898.94 mbsf)**



**UNIT: 1 Brecciated dolerite**

**Pieces: 1-20**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	74R	1	1	897.50
<b>Lower contact:</b>	74R	1	20	898.94
<b>Thickness (m): 1.44</b>				
<b>Contact Type: None</b>				

**GENERAL:** All pieces are dolerite. Some pieces are not brecciated, while others are sub-angular clasts separated from the original unit by brecciation. Brown matrix material (as previously described) was not recovered in this section.

**GRAIN SIZE:** Fine- to medium-grained

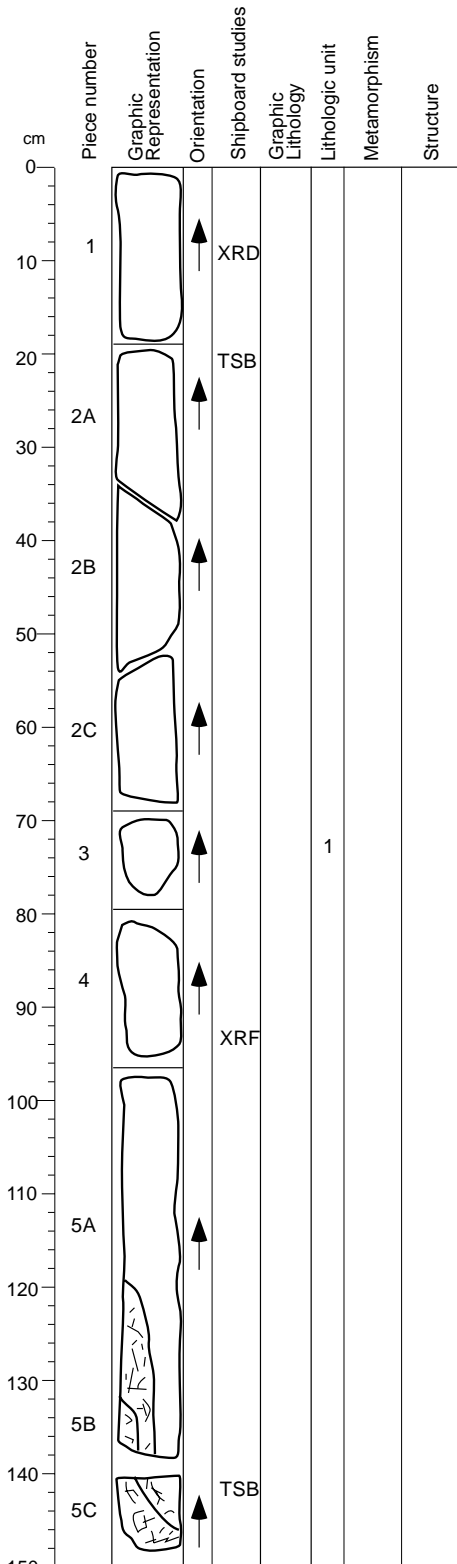
**TEXTURE:** Ophitic

**ALTERATION:** Negligible to slight to moderate iron oxidation

**COMMENTS:** Pieces 2-4, 6-10, and 14 through 20 are sub-angular clasts that have been separated by brecciation. Slight to moderate onion-skin weathering can be seen on Pieces 2-4 and 6-9. Piece 16 is very fine-grained. Pieces 1, 5, 11-13 are fresh and unbrecciated.

**Core Photo**

**180-1118A-74R-2 (898.94-900.44 mbsf)**



**UNIT: 1 Brecciated dolerite**

**Pieces: 1-5**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	74R	2	1	898.94
<b>Lower contact:</b>	74R	2	5	900.53
<b>Thickness (m):</b>	1.49			
<b>Contact Type:</b>	None			

**GENERAL:** All pieces are fresh to very slightly altered (Fe-oxidation), unbrecciated dolerite that lie within the brecciated dolerite unit.

**GRAIN SIZE:** Medium- to coarse-grained

**TEXTURE:** Ophitic

**STRUCTURE:** One fault occurs with slickensided black and white material, separating pieces 2A and 2B.

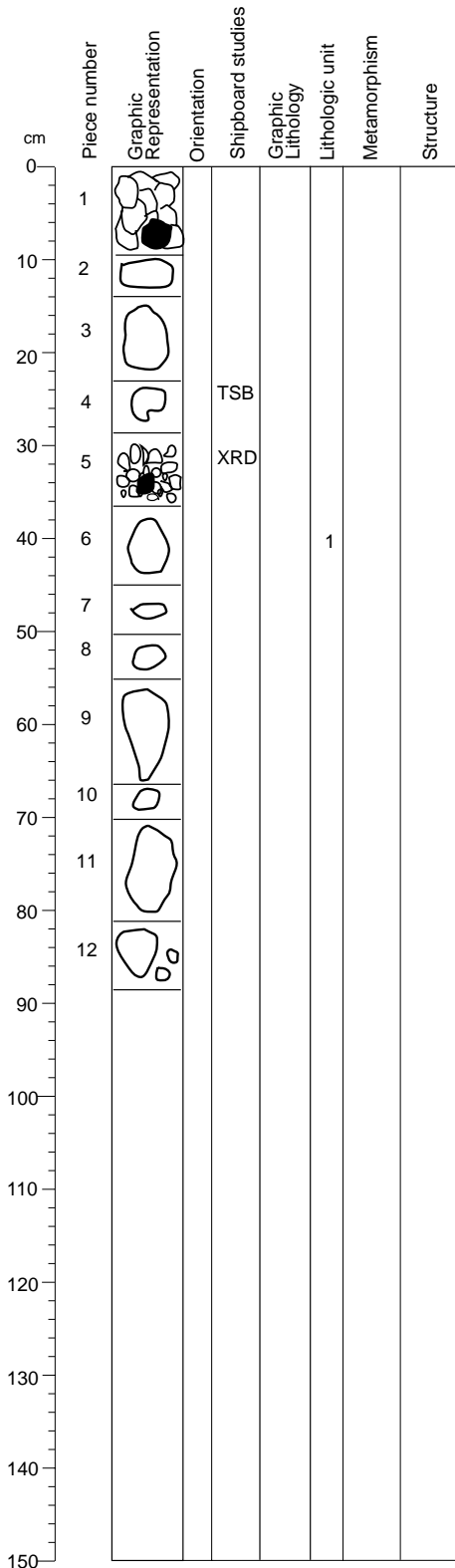
**ALTERATION:** Negligible to slight iron oxidation

**COMMENTS:** Pieces 1 and 2 are medium-grained. Grain size increases gradationally to coarse-grained towards the bottom of the section. A pegmatitic zone occurs in Pieces 5A, 5B, and 5C where illustrated. This has a similar mineralogy to the rest of the dolerite, but is coarser grained. A fracture runs through this pegmatitic zone. Pyrite grains occur throughout.

CORE/SECTION

**Core Photo**

**180-1118A-74R-3 (900.44-905.60 mbsf)**



**UNIT: 1 Brecciated dolerite**

**Pieces: 1-12**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	74R	3	1	900.53
<b>Lower contact:</b>	74R	3	12	901.41
<b>Thickness (m): 0.88</b>				
<b>Contact Type: None</b>				

**GENERAL:** Both slightly altered dolerite clasts, separated by brecciation, and very altered, earthy brown and green material, likely derived from the dolerite, occur in this section.

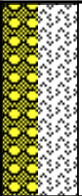

**GRAIN SIZE:** Medium- to coarse-grained

**TEXTURE:** Ophitic (dolerite), breccia

**ALTERATION:** Onion-skin weathering on dolerite clasts and pervasive alteration in breccia clasts.

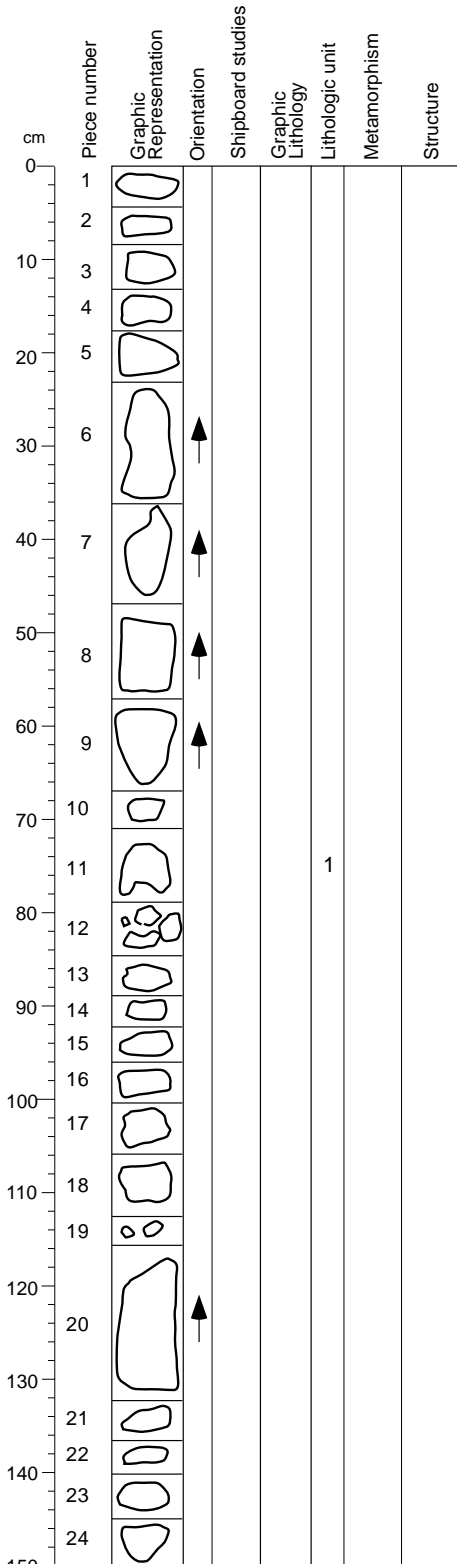
**COMMENTS:** Pieces 1, 4, 5, and 6 consist of the previously described brown and green material which is most likely a product of brecciation. Pieces 2, 3, and 7-12 are dolerite clasts similar to those previously described.

Core Photo

Site 1118 Hole A Core 75R Rec. 23.5% 905.6-917.0 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
906	1								<p><b>BRECCIATED BASALT/DOLERITE, SAND, and CONGLOMERATE</b></p> <p>Major Lithologies:                      Core consists of variably altered and brecciated DOLERITE. Refer to Petrology VCDs for more detailed description. In addition, rare sediment intercalations are present, as follows: Section 1, at 80-85 cm, poorly sorted dark brown, angular BASALT/DOLERITE is seen. SAND/granule grains up to 3 cm in size show very variable degrees of alteration; at 114-115.5 cm, a small pebble (1.5 cm) of BASALT contains cracks (2-3 mm) infilled with orange/brown sandy siltstone. Also, in Section 2, at 0-3 cm, is a poorly sorted polymictic CONGLOMERATE with angular to sub-angular to rounded pebbles and granules of BASALT/DOLERITE in a brown clayey siltstone matrix. At 4-8 cm is BASALT/DOLERITE pebbles coated with poorly sorted sandy siltstone; at 8-10 cm similar material is seen; at 28-43 cm is weathered DOLERITE with a mud-filled fissure, made up of brown inferred paleosol.</p>
907	2								

**Core Photo**

**180-1118A-75R-1 (905.60-907.10 mbsf)**



**UNIT: 1 Brecciated dolerite**

**Pieces: 1-12**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	75R	1	1	905.60
<b>Lower contact:</b>	75R	1	24	907.10
<b>Thickness (m): 1.50</b>				
<b>Contact Type: None</b>				

**GENERAL:** These are dolerite and breccia clasts similar to those described above.

**GRAIN SIZE:** Medium-grained

**TEXTURE:** Ophitic (dolerite), breccia

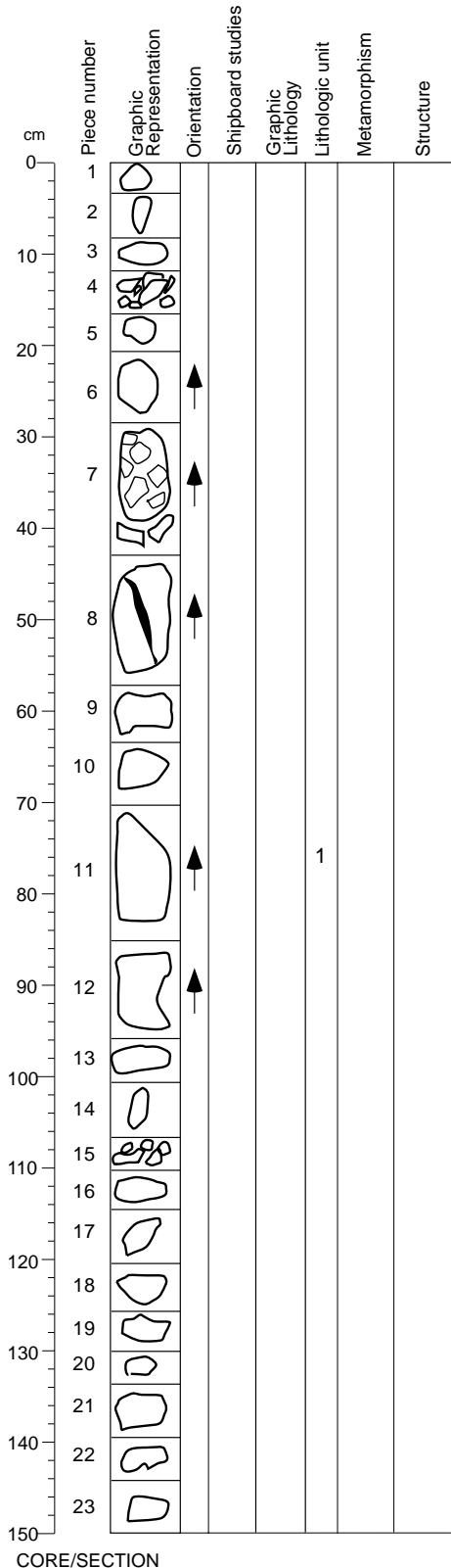
**ALTERATION:** Negligible to slight

**COMMENTS:** Pieces 12, 19, 22, and 24 are breccia containing angular dolerite clasts within the previously described clay-sized, brown matrix. Pieces 1-11, 13-18, 20-21, and 23 are sub-angular dolerite clasts similar to those previously-described.

CORE/SECTION

**Core Photo**

**180-1118A-75R-2 (907.10-908.60 mbsf)**



**UNIT: 1 Brecciated dolerite**

**Pieces: 1-23**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	75R	2	1	907.10
<b>Lower contact:</b>	75R	2	23	908.60
<b>Thickness (m): 1.50</b>				
<b>Contact Type: None</b>				

**GENERAL:** These are dolerite and breccia clasts similar to those described above.

**GRAIN SIZE:** Fine- to medium-grained

**TEXTURE:** Ophitic (dolerite), breccia

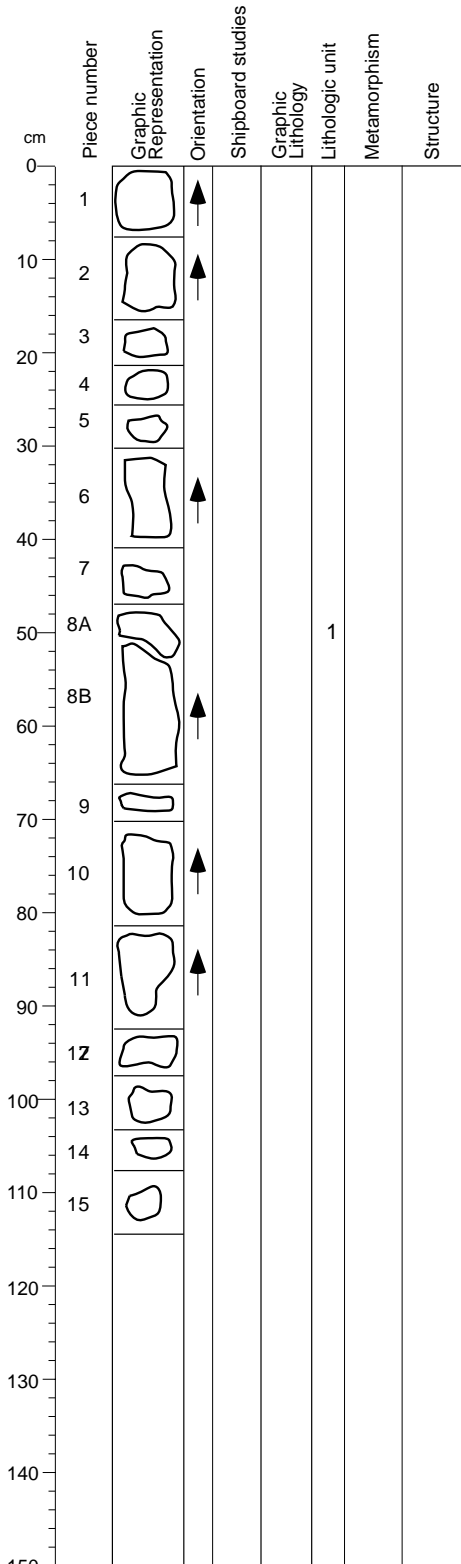
**ALTERATION:** Negligible to slight

**COMMENTS:** Pieces 1, 4, 7, 8, 9, and 15 are breccia rocks similar to those previously-described. Piece 7 has a large, brecciated dolerite clast in which brown matrix is clearly filling in between separated angular pieces. Piece 8 also has a large, brecciated dolerite clast with angular clasts separated by brown matrix material and calcite. Pieces 2, 3, 5, 6, 10-14, and 16-23 are sub-angular dolerite clasts similar to those previously-described. Pieces 5, 6, 8, and 22 have calcite veins, while Pieces 11, 12, and 13 have white veins that are not calcite.

CORE/SECTION

**Core Photo**

**180-1118A-75R-3 (908.60-917.0 mbsf)**



**UNIT: 1 Brecciated dolerite**

**Pieces: 1-23**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	75R	3	1	908.60
<b>Lower contact:</b>	75R	3	15	909.75
<b>Thickness (m):</b>	1.15			
<b>Contact Type:</b>	None			

**GENERAL:** These are dolerite rocks similar to those described above.

**GRAIN SIZE:** Fine- to medium-grained

**TEXTURE:** Ophitic

**ALTERATION:** Negligible

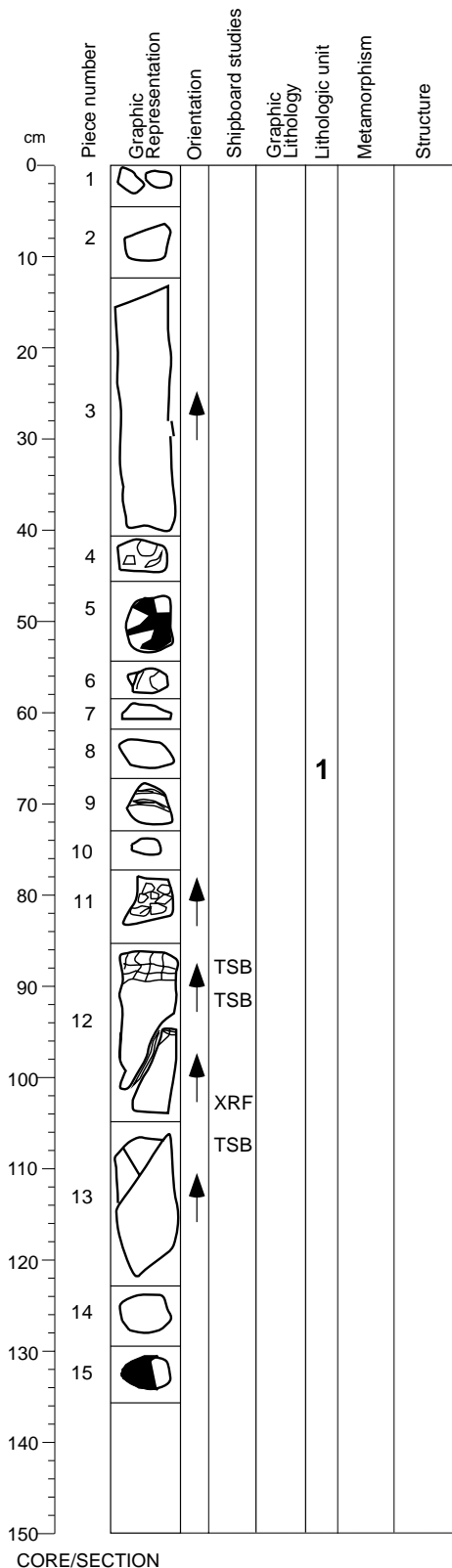
**COMMENTS:** These are unbrecciated dolerite rocks similar to those previously-described. Pyrite grains occur throughout.

CORE/SECTION

**Core Photo**

Site 1118 Hole A Core 76R Rec. 24.2% 917.0-926.6 mbsf									
METERS	SECTION	GRAIN SIZE	GRAPHIC LITH.	BIOTURB.	STRUCTURE	ACCESSORIES	DISTURB.	SAMPLE	DESCRIPTION
918	1								<p>BRECCIATED DOLERITE, SANDSTONE, and BASALT</p> <p>Major Lithologies:                      The core consists of variably altered and brecciated DOLERITE. Refer to Petrology VCDs for more detailed description. In addition, several intervals of sediment are present. At 40-57 cm, are pieces of matrix-supported BRECCIA, composed of angular to sub-rounded clasts of DOLERITE/BASALT in an orange brown sandy/silty matrix with variably-altered grains. The clasts include coarse, well-cemented SANDSTONE (in a second cycle clast). Some clasts include onion-skin weathering showing that this occurred before incorporation into the sediment. In Section 2, at 98-103 cm, very weathered orange-brown silty claystone, and small pieces of very weathered BASALT are seen. At 103-113 cm is brown silty claystone with small very rounded altered BASALT clasts; at 113-119 cm there is very weathered DOLERITE, that is fissured with altered sand grains and granules of weathered BASALT/DOLERITE in the fissures.</p>
919	2							<p>THS</p> <p>THS</p> <p>THS</p>	

**Core Photo**



**180-1118A-76R-1 (917.0-918.34 mbsf)**

**UNIT: 1 Brecciated dolerite**  
**Pieces: 1-15**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	76R	1	1	917.00
<b>Lower contact:</b>	76R	1	15	918.30
<b>Thickness (m): 1.36</b>				
<b>Contact Type: None</b>				

**GENERAL:** These are dolerite and breccia rocks similar to those described above.

**GRAIN SIZE:** Medium-grained

**TEXTURE:** Ophitic (dolerite), brecciated

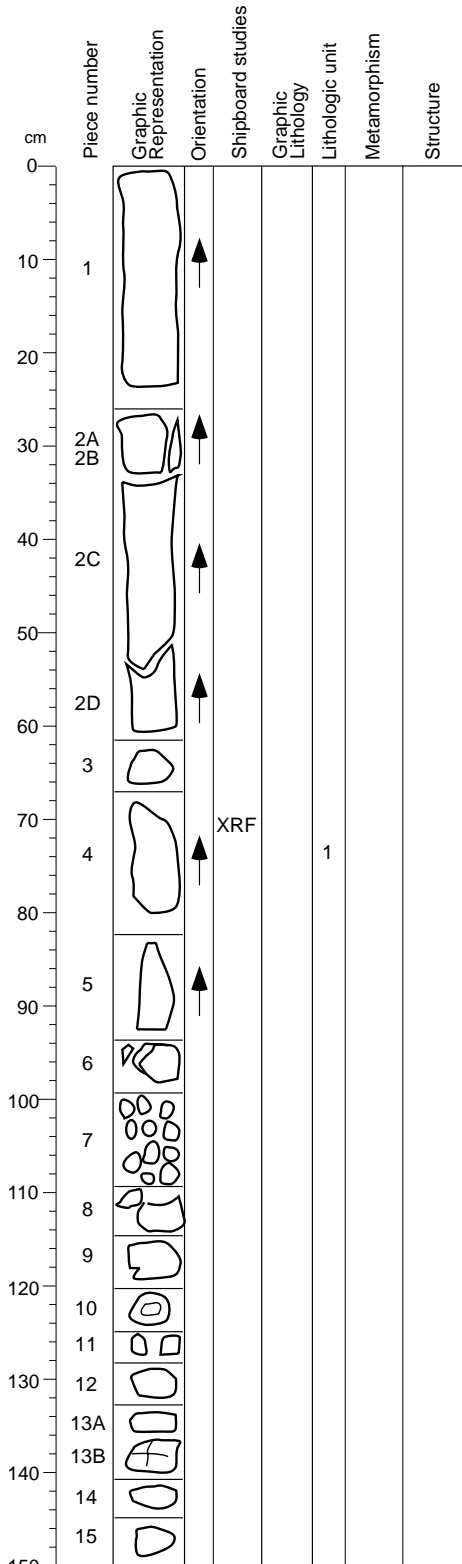
**ALTERATION:** Variable

**COMMENTS:** These are variably altered and variably-weathered dolerite and breccia clasts similar to those previously-described. Tray 1, contains two uncut clasts, one is moderately altered, the other is pervasively altered to brown material. Piece 7 is also uncut and moderately altered. Pieces 2, 3, 8, and 14 are fresh to slightly-altered dolerite clasts. Pieces 4-6 are breccia similar to those previously-described. Piece 9 has onion-skin veins of calcite. Pieces 11 and 12 consist of very coarse-grained pegmatite material, containing calcite and/or zeolite and green minerals (probably chlorite). Pieces 12 and 13 have crosscutting veins filled with calcite. Piece 15 contains a fresh dolerite clast within a greenish, altered matrix which is only slightly finer in grain size.

CORE/SECTION

**Core Photo**

**180-1118A-76R-2 (918.34-926.00 mbsf)**



**UNIT: 1 Brecciated dolerite**  
**Pieces: 1-15**

Interval Location:	Core	Section	Piece	Depth (mbsf)
<b>Upper contact:</b>	76R	2	1	918.30
<b>Lower contact:</b>	76R	2	15	919.80
<b>Thickness (m): 1.50</b>				
<b>Contact Type: None</b>				

**GENERAL:** These are dolerite and breccia rocks similar to those described above.

**GRAIN SIZE:** Fine- to medium-grained

**TEXTURE:** Ophitic (dolerite), brecciated

**ALTERATION:** Variable

**COMMENTS:** These are variably altered and variably-weathered dolerite and breccia clasts similar to those previously-described. Pieces 1-6 are fresh to slightly altered, fine- to medium-grained dolerite clasts similar to those described previously. Tray 7 consists of brown material, a product of heavy alteration and brecciation of dolerite. Pieces 8 and 9 are breccia rocks similar to those previously described. Pieces 10-15 are moderately altered, medium grained dolerite clasts. Piece 10 has onion skin weathering, while Piece 13B has a network of Fe-oxidation that appears to be the initial stages of the creation of the previously-described breccia rocks.

CORE/SECTION







Thin-section number	Core, section interval (cm)	Depth (mbsf)	Described by	Lithology (dominant/minor)	Granule	Size	Minerals											Rock fragments							Bioclasts							Sedimentary rock name	Comments		
							Minerals (%)	Quartz	Feldspar	Multiple twins	Single/untwinned	Mica	Biotite	Carbonate	Accessory minerals	Clinopyroxene	Amphibole	Opauques	Rock fragments (%)	Plutonic	Volcanic	Rhyolitic/dacitic	Vitric	Andesitic/basaltic	Dolerite	Sedimentary	Micritic limestone	Metamorphic	Polycrystalline quartz	Matrix/cement (%)	Bioclasts (%)			Foraminifers	Benthic
239	180-1118A-15R-5, 141-142	345.85	TS/AR	M	C C C	15	R A c c R a	R r c R	15	A r a														69	1	A r a								Fine-grained sandstone	Poorly sorted, angular detrital minerals, subrounded plagioclase phyric basalts (glassy groundmass) fragments, silty clay matrix, flow-banded basalt fragments, pyrite-filled burrows
240	20R-5, 15-18	393.20	TS/AR	M	C C A	25	R A c c R a	R R r a C	3	A a														71	1	A a							Sandy siltstone	Poorly sorted, angular detrital minerals, subrounded plagioclase phyric basalts, silty calcareous matrix, burrowing, common pyrite, palagonite	
241	24R-5, 105-107	432.23	TS/AR	M	C C C	45	R A a c C a R R R r a C		35	A c c c		R a	19	1	A a R																		Fine-grained sandstone	Common basalt grains, poorly sorted, fresh angular glass shards, zoned plagioclase, palagonite, a laminae of calcareous silty claystone present, rare burrows	
242	34R-3, 61-63	525.12	TS/AR	M	C C R	40	R A c c C a	R R r a R	40	A c c c		R a	18	2	A a																		Fine-grained sandstone	Poorly sorted, fresh angular glass shards, zoned plagioclase, palagonite, common subrounded plagioclase phyric basalts (glassy groundmass), devitrified glass and fresh glass, laminae defined by foraminifer-rich layers	
243	35R-1, 140-143	532.80	TS/AR	M	A C R	35	R A a c R a	R R r a R	40	A r c a			24	1	A a																		Fine-grained sandstone	Poorly sorted, fresh angular glass shards, zoned plagioclase, palagonite, common subrounded fresh and altered red plagioclase phyric basalts (glassy groundmass), devitrified glass and fresh glass	
244	36R-3, 8-10	543.72	TS/AR	M	A C R	35	R A a c R a R R R r a R		40	A r c c			24	1	A a																		Fine-grained sandstone	Crystalline matrix, poorly sorted, fresh angular glass shards, zoned plagioclase, palagonite, common altered and fresh subrounded plagioclase phyric basalts (glassy groundmass), devitrified glass and fresh glass, pyrite-filled foraminifers	
245	38R-3, 128-130	564.40	TS/AR	M	C C C	20	R A c c R a	R R a R	30	A r a			50																				Crystal vitric ash	Well-sorted fresh angular crystals and glass shards in a glassy matrix, palagonite, burrowing, bubble-wall glass, traces of devitrification indicated by chlorite, rare basalts	
246	43R-7, 63-64	616.90	TS/AR	M	C C C	34	R C c c R a	R R r a C	15	A a r R a			50	1	A a R																		Coarse-grained sandstone	Angular mineral grains, devitrified glass shards, rare red altered plagioclase phyric basalt, silty clay matrix, micritic limestone clasts	
247	44R-4, 129-130	623.45	TS/AR	M	C C C	40	A c c C a	R C r a C	20	A a r			35	5	A a R																		Thinly laminated fine-grained sandstone	Poorly sorted, fresh angular glass shards, zoned plagioclase, palagonite, difference in concentrations of foraminifer seem to define thin laminations, plagioclase phyric basalt fragments in matrix	

Thin-section number	Core, section interval (cm)	Depth (mbsf)	Described by	Lithology (dominant/minor)	Granule	Size	Minerals	Rock fragments	Matrix/cement (%)	Bioclasts		Sedimentary rock name	Comments															
						Sand	Silt	Clay		Minerals (%)	Rock fragments (%)			Bioclasts (%)	Foraminifers	Benthic												
						Quartz	Feldspar	Multiple twins		Single/untwinned	Mica			Biotite	Carbonate	Accessory minerals	Clinopyroxene	Amphibole	Opauques	Plutonic	Volcanic	Rhyolitic/dacitic	Vitric	Andesitic/basaltic	Dolerite	Sedimentary	Micritic limestone	Metamorphic
250	45R-4, 105-107	632.49	TS/AR	M	C C C	30	R A c c C a	R R a C	25	A r a r	44	1 A a	Fine-grained sandstone	Well-sorted, fresh angular glass shards zoned plagioclase, palagonite, burrows														
251	46R-4, 99-101	642.54	TS/AR	M	R C C	25	C A c c R a C	C r a R	10	A a r R a	55	10 A r a	Laminated silty claystone	Thin laminations defined by varying sand and silt concentrations, rare fresh sand-sized angular grains of plagioclase, hornblende, and biotite, micritic matrix, micritic limestone clasts														
252	47R-6, 128-130	654.94	TS/AR	M	C C C	35	R C c c C a	R R a C	35	A r a r	29	1 A a	Laminated fine-grained sandstone	Poorly sorted, fresh plagioclase, fresh angular glass shards, zoned plagioclase, palagonite, rare micritic calcite, laminations defined by the variations in the calcite, foraminifer have sparry calcite overgrowths, flow-banded basalts														
254	56R-1, 44-47	734.24	TS/AR	M	C C C	20	R C a c C a	R R a C	30	A r a r	50		Fine-grained sandstone	Well-sorted fresh angular crystals and glass shards in a glassy matrix, very thin laminae defined by concentrations of crystals, rare palagonite, vesicular glass co-magmatic with hornblende and biotite														
255	57R-4, 20-21	747.84	TS/AR	M	C C C	40	R A a c C a	R R a R	25	A r a r	34	1 A a R	Medium-grained sandstone	Poorly sorted, fresh plagioclase, hornblende and biotite plagioclase phryic glassy basalt (pumice) and glass shards, zoned plagioclase, palagonite, calcite spar around foraminifers														
256	58R-3, 38-40	756.05	TS/AR	M	C C C	40	R C c c C a	R R a R	15	A r a	45		Fine-grained sandstone	Well-sorted fresh angular crystals and glass shards in a glassy matrix, very thin laminae defined by concentrations of crystals, burrows containing rare foraminifer tests, abundant glass														
257	59R-2, 133-135	765.32	TS/AR	M	C C C	40	C c c C a	R R a R	15	A r a	45		Crystal vitric ash	Well-sorted fresh angular crystals and glass shards in a glassy matrix														
258	60R-1, 93-95	773.24	TS/AR	M	C C C	15	C c c C a	R a R	15	A r a	50	20 A a	Fine-grained sandstone	Well-sorted fresh angular crystals and glass shards in a glassy matrix, common planktonic foraminifers														
263	63R-1, 115-117	802.15	TS/AR	M	C C C	20	A c c C a	R a R	30	A a	49	1 A a	Fine-grained sandstone	Well-sorted fresh angular crystals and glass shards in a glassy matrix, very thin laminae defined by concentrations of crystals, burrows containing rare foraminifer tests														
264	64R-1, 49-51	811.19	TS/AR	M	R C C	20	A c c R a	R a R	15	A c c	65		Laminated fine-grained sandstone and siltstone	Angular feldspar, rare hornblende and biotite phryic basalt (glassy groundmass), zoned plagioclase, sparry, and micrite cement, silty clay matrix, palagonite, clear bubble-wall glass shards, graded laminae														

CORE DESCRIPTIONS  
SEDIMENTARY THIN SECTIONS, SITE 1118

Thin-section number	Core, section interval (cm)	Depth (mbsf)	Described by	Lithology (dominant/minor)	Size			Minerals					Rock fragments					Bioclasts					Sedimentary rock name	Comments									
					Sand	Silt	Clay	Minerals (%)	Accessory minerals	Opacques	Rock fragments (%)	Plutonic	Volcanic	Rhyolitic/dacitic	Vitric	Andesitic/basaltic	Dolerite	Sedimentary	Micritic limestone	Metamorphic	Polycrystalline quartz	Matrix/cement (%)			Bioclasts (%)	Foraminifers	Benthic	Planktonic	Shell debris	Algae	Echinoderms	Bryozoa/corals	Carbonaceous detritus
					Quartz	Feldspar	Multiple twins																										
265	64R-1, 127-128	811.97	TS/AR	M	C	C	C	25	A	a	r	R	a	R	a	R	20	A	c	a	50	5	A	r	a	R	R	Coarse-grained sandstone	Poorly sorted, subangular plagioclase, hornblende and biotite phyrlic basalt (glassy groundmass), fresh angular detrital minerals, zoned plagioclase, silty clay matrix, palagonite, fresh clear glass shards, pyrite-filled foraminifers, micritic clasts				
266	66R-3, 31-34	833.05	TS/AR	D	C	C	C	35	A	a	r	R	a	R	a	R	3	A	r	a	47	15	A	a			Silty coarse-grained sandstone	Poorly sorted, hornblende and biotite phyrlic basalt (glassy groundmass), fresh angular detrital minerals, abundant subrounded zoned plagioclase, micritic silty clay matrix, laminae of fine-grained sandstone of the same composition, palagonite, microcline (?)					
267	67R-4, 73-74	844.62	TS/AR	D	C	C	C	35	A	a	r	C	a	R	a	R	20	A	r	a	30	15	A	a			Medium-grained sandstone	Poorly sorted, subrounded plagioclase, hornblende and biotite phyrlic basalt (glassy groundmass), fresh subangular to angular detrital minerals, zoned plagioclase, silty clay micritic matrix, microcline (?)					
275	68R-2, 117-120	851-92	TS/AR	D	C	C	C	35	A	a	r	C	a	R	a	R	25	A	a	r	25	15	A	r	a	R	R	R	Coarse-grained sandstone	Poorly sorted, subrounded plagioclase, hornblende and biotite phyrlic acidic volcanics, fresh subangular to angular detrital mineral, zoned plagioclase, silty clay matrix, palagonite, glassy basalt, mixed sandstone, plagioclase phyrlic basalts			
276	68R-3, 36-39	852.42	TS/AR	D	A	C	C	50	C	A	a	c	R	a	R	a	10	R	A	r	r	39	1	A	c	c	Coarse-grained sandstone	Moderately sorted, subangular to angular fresh detrital minerals, well-rounded fragments of plagioclase, hornblende, and biotite phyrlic basalts (glassy groundmass) and acidic volcanics, single grain of ophitic dolerite, sparry calcite cement, zoned feldspars.					
277	68R-3, 102-105	853.08	TS/AR	D	A	C	C	40	R	A	c	c	R	a	R	C	a	30	A	c	c	29	1	A	a		Medium-grained sandstone	Moderately sorted, fresh subangular detrital minerals, zoned plagioclase, rounded to subrounded volcanic grains, common plagioclase, hornblende and biotite phyrlic acidic volcanic grains, glassy basalts, fresh clear glass, palagonite, chloritized basalts					

Thin-section number	Core, section interval (cm)	Depth (mbsf)	Described by	Lithology (dominant/minor)	Size			Minerals										Rock fragments										Bioclasts										Sedimentary rock name	Comments	
					Granule	Sand	Silt	Clay	Minerals (%)										Rock fragments (%)										Matrix/cement (%)											
									Quartz	Feldspar	Multiple twins	Single/untwinned	Mica	Biotite	Carbonate	Chlorite	Accessory minerals	Clinopyroxene	Amphibole	Opacques	Plutonic	Volcanic	Rhyolitic/dacitic	Vitric	Andesitic/basaltic	Dolerite	Sedimentary	Micritic limestone	Metamorphic	Polycrystalline quartz	Bioclasts (%)	Foraminifers	Benthic	Planktonic	Shell debris	Algae	Echinoderms			Bryozoa/corals
278	68R-3, 115-118	853.21	TS/AR	D	C	C	C	25	A	a	r	R	a	A	C	a	15	A	a	c	30	30	A	a	c	R	R	R	R	Bioclastic coarse-grained sandstone	Sharp contact between (1) a mixed coarse-grained sandstone and (2) wackestone. Both have calcareous mud matrix, subrounded to well-rounded hornblende, biotite and feldspar phyrlic acidic volcanic grains, subangular to angular detrital minerals									
279	68R-3, 147-149	853.53	TS/AR	M	A	C	C	1	R	A	c	c	A								40	59	A	a	c	R	R	R	R	Foraminifer packstone	Foraminifer packstone, micritic matrix, large broken fragments of algae suggests a quiet marine lagoonal setting									
280	68R-4, 76-79	854.32	TS/AR	M	A	C	C	1	A	c	c	A									40	59	A	a	c	R	R	R	Foraminifer packstone	Foraminifer packstone, micritic matrix, large broken fragments of algae suggests a quiet marine lagoonal setting										
281	69R-1, 35-37	859.35	TS/AR	D	R	A	C	2	A	c	c	A	R	c	c	R	40	A	a	15	43	C	a	R	C	R	C	Mixed granule conglomerate	Well-rounded plagioclase phyrlic basalt, single large pebble of plagioclase (laths) and clinopyroxene phyrlic basalt, sparry and micritic cement, rare chloritized basalt fragments, spar overgrowths on echinoids, high-energy marine setting											
282	69R-3, 49-52	862.46	TS/AR	D	C	C	C	R	5	A	c	c	A	R	a		35	A	a	20	40	C	a	r	R	C	R	Mixed granule conglomerate	Well-rounded, plagioclase phyrlic basalt, plagioclase laths and clinopyroxene phyrlic basalt, sparry (secondary) and micritic calcite cement, rare chloritized basalt fragments, bryozoa encrusted with algae, primary wackestone											
283	69R-3, 58-61	862.55	TS/AR	M	A	C	C	1	A	c	c	A	R	r	a	C	5	A	r	a	34	60	A	a	r	C	C	R	Packstone	Moderately sorted, well-rounded plagioclase phyrlic basalt, micritic cement, rounded algae grains, spar formed after solution of micrite, suggesting low-energy environment										
249	70R-1, 0-1	868.70	TS/AR	M	R	C	C	C	2	A	c	c	A	R	R	a	R	5	A	r	a	30	63	C	a	c	R	C	R	R	Grainstone	Well-rounded plagioclase phyrlic, variolitic and aphyric basalt fragments, rare feldspar phyrlic acidic volcanic grains, angular detrital minerals, sparry cement, basalt fragments are rarely chloritized								
284	70R-1, 25-27	868.95	TS/AR	M	C	C	C	2	A	c	c	A	R	a	R		2	A	a	38	58	C	a	r	R	C	C	Packstone	Poorly sorted angular fragments, in situ (?) encrusting algae, well-rounded plagioclase phyrlic basalt fragments, angular detrital minerals, micritic cement, disrupted algae mat											
285	70R-1, 75-77	869.45	TS/AR	M	R	C	R	10				A				R												Sparite	Composed entirely of secondary sparry calcite											
286	70R-2, 81-84	870.92	TS/AR	M	R	C	R	15	A	c	a		R	C	c	r	R	5	A	a	80								Granule paraconglomerate	Poorly sorted, rounded plagioclase and clinopyroxene phyrlic basalt and dolerite fragments, large altered feldspar grains, chloritic silty clay matrix, common magnetite grains (?)										



180-1118A-72R-1 (Piece 23, 120-122 cm)

Thin section: # 261

ROCK NAME: Dolerite

GRAIN SIZE: Fine- to medium-grained

TEXTURE: Granular

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
Plagioclase	60	65			Subhedral to anhedral	Cloudy.
Clinopyroxene	25	30		Augite	Anhedral	
Magnetite	5	5			Skeletal	
SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS		
Chlorite	10	Interstitial/clinopyroxene.				
Sausserite	5	Plagioclase.				

COMMENTS: This is a moderately altered dolerite.

**180-1118A-73R-1 (Piece 7A, 25-27 cm)**  
**Thin section: # 262**  
**ROCK NAME:** Dolerite  
**GRAIN SIZE:** Medium- to coarse-grained  
**TEXTURE:** Granular

<b>PRIMARY MINERALOGY</b>	<b>PERCENT PRESENT</b>	<b>PERCENT ORIGINAL</b>	<b>SIZE (mm)</b>	<b>COMPOSITION</b>	<b>MORPHOLOGY</b>	<b>COMMENTS</b>
Plagioclase	65	65	0.5-1		Anhedral to subhedral	Cloudy.
Clinopyroxene	15	30	<0.5	Augite	Anhedral to subhedral	
Magnetite	5	5	0.5-1		Skeletal	
<b>SECONDARY MINERALOGY</b>	<b>PERCENT</b>	<b>REPLACING/ FILLING</b>		<b>COMMENTS</b>		
Chlorite	30	Interstitial/clinopyroxene.				
Sauserite	65	Plagioclase.				

**COMMENTS:** This is a moderately altered dolerite, slightly coarser-grained than Thin Section # 261.

180-1118A-74R-1 (Piece 16,124-126 cm)

Thin section: # 268

ROCK NAME: Basalt

GRAIN SIZE: Fine-grained

TEXTURE: Microporphyritic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
Olivine	0	5			Microphenocrysts	Pseudomorphed.
Plagioclase	70	70	0.2-1		Laths	
Clinopyroxene	20	20	0.2-1	Augite		
Opaque	5	5				
Groundmass	5	5				
SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS		
"Iddingsite"	5	Olivine				

COMMENTS: This a basalt with a chilled texture. It is much finer-grained than other rocks within the dolerite.

180-1118A-74R-2 (Piece 2, 21-23 cm)

Thin section: # 269

ROCK NAME: Dolerite

GRAIN SIZE: Fine-grained

TEXTURE: Granular

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
Olivine	-	5				Pseudomorphed.
Plagioclase	40	45	0.5-1		Subhedral	
Clinopyroxene	35	35	0.5-1	Augite	Anhedral	
Fe-oxide	5	5			Granular	
SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS		
"Iddingsite"	5	Olivine				
Chlorite	5	Clinopyroxene		Platy.		
Sericite	5	Plagioclase		Platy.		

COMMENTS: This is a granular dolerite that is only slightly-altered.

180-1118A-74R-2 (Piece 5C, 140-142 cm)

Thin section: # 270

ROCK NAME: Gabbro

GRAIN SIZE: Coarse-grained

TEXTURE: Granular

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
Plagioclase	50	55	Up to 4		Euhedral	Cloudy.
Clinopyroxene	25	40	Up to 4	Augite	Subhedral to euhedral	
Magnetite	5	5	Up to 3		Dendritic	
Sulfide	5	Up to 2				
SECONDARY MINERALOGY	PERCENT	REPLACING/FILLING		COMMENTS		
Chlorite	15	Clinopyroxene				
Sauserite	5	Plagioclase				

COMMENTS: This is a moderately-altered gabbro from a pegmatite zone.

180-1118A-76R-1 (Piece 12, 85-89 cm)

Thin section: # 272

ROCK NAME: Gabbro

GRAIN SIZE: Coarse-grained

TEXTURE: Ophitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
Plagioclase	30	60	Up to 4		Euhedral	Cloudy.
Clinopyroxene	25	40	Up to 4	Augite	Euhedral	Largely fresh.
Magnetite	5	5			Dendritic	
Fe-oxide	2	2				
SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS		
Chlorite	5	Largely interstitial material.				
Sausserite	30	Plagioclase				
Zeolite	2	Vein				

COMMENTS: This is an ophitic, moderately-altered gabbro from a pegmatite zone.

180-1118A-76R-1 (Piece 12, 90-93 cm)

Thin section: # 273

ROCK NAME: Dolerite

GRAIN SIZE: Medium-grained

TEXTURE: Ophitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
Plagioclase	40	50	0.5-1		Subhedral to euhedral	Cloudy.
Clinopyroxene	35	45	< 0.5	Augite	Subhedral to euhedral	
Magnetite	5	5				
SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS		
Chlorite	5	Clinopyroxene				
Zeolite	2	Vein				
Fe-oxide	5	Vein		Related to vein, on outside.		
Sauserite	3	Plagioclase				
Serpentine	5	Vein				

**COMMENTS:** This is a medium-grained dolerite with veins indicating two stages of fracturing. A calcite vein occurred first, but was deformed, fractured, and subsequently replaced with zeolite.

180-1118A-76R-1 (Piece 13, 106-108 cm)

Thin section: # 274

ROCK NAME: Dolerite

GRAIN SIZE: Fine- to medium-grained

TEXTURE: Ophitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
Plagioclase	30	55	0.5		Subhedral	Cloudy.
Clinopyroxene	20	40	< 0.5	Augite	Anhedral	
Opaque	5	5	< 0.5		Blocky	
SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING		COMMENTS		
Chlorite	20	Clinopyroxene/ interstitial material				
Sauserite	25	Plagioclase				
Zeolite	< 1	Vein				
Fe-oxide	< 1	Vein		Related to vein, on outside.		
Calcite	< 1	Border of sample (vein?)				
Serpentine	5	Vein				

**COMMENTS:** This is a fine- to medium-grained dolerite with a few veins containing calcite and zeolite. Iron oxides occur just outside of these veins.