





Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-1R-CC

cm	Piece number	Graphic Representation	Orientation	Shipboard studies	Lithologic unit	Structure	Measurement ID
0	1						
	2						
	3						
	4						
50							
100							
150							

- 1. granite and basalt
- 2. rhyolite
- 3. granite, volcaniclastic, and basalt
- 4. diamict, green silty clay matrix

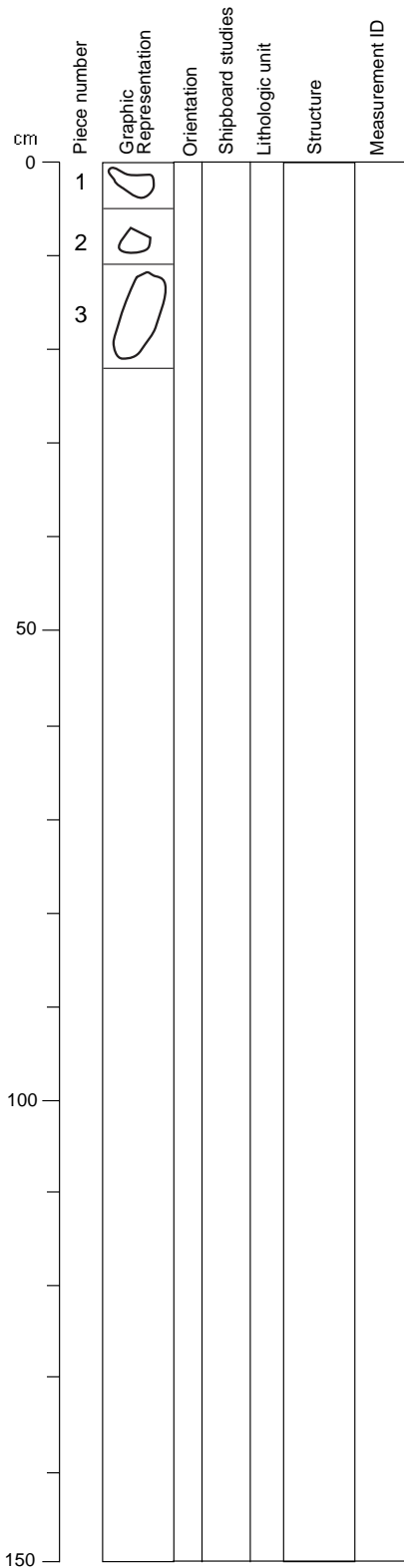
Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-2R-CC



- 1. volcanoclastic breccia
- 2. tuff
- 3. granite

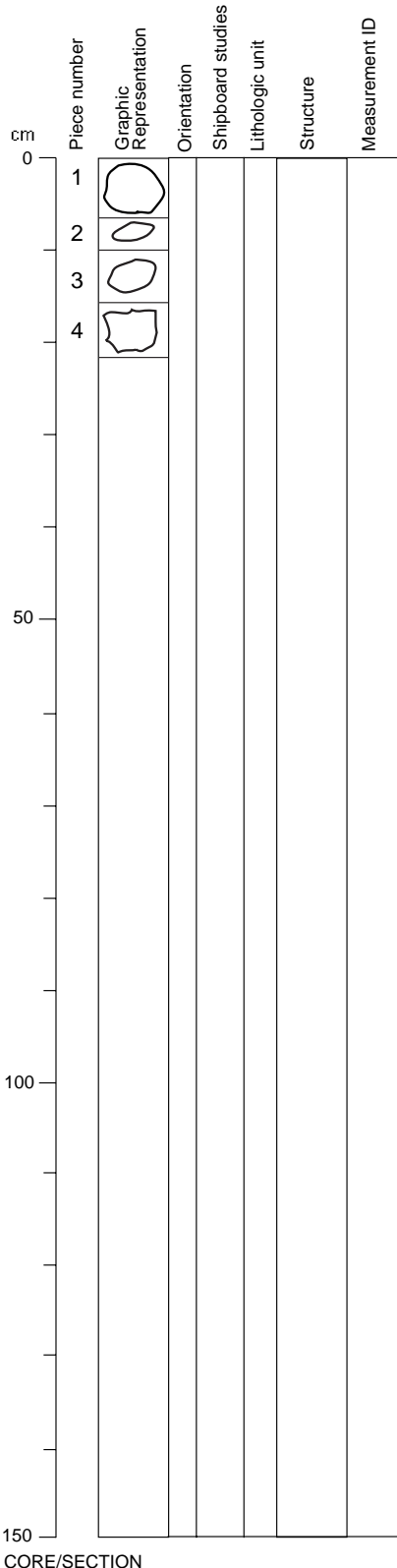
Note: Piece numbers are not curated piece numbers.
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CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-3R-CC



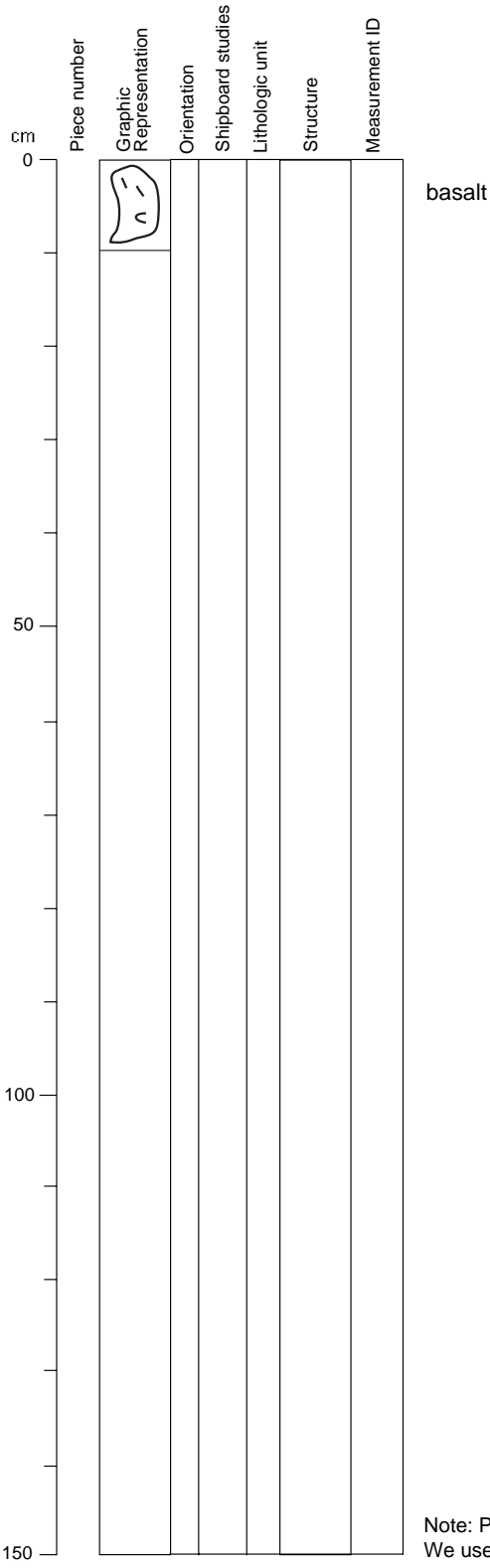
- 1. metamorphic
- 2. basalt
- 3. granite
- 4. laminated volcanoclastic

Note: Piece numbers are not curated piece numbers.
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Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

178-1103A-4R-CC



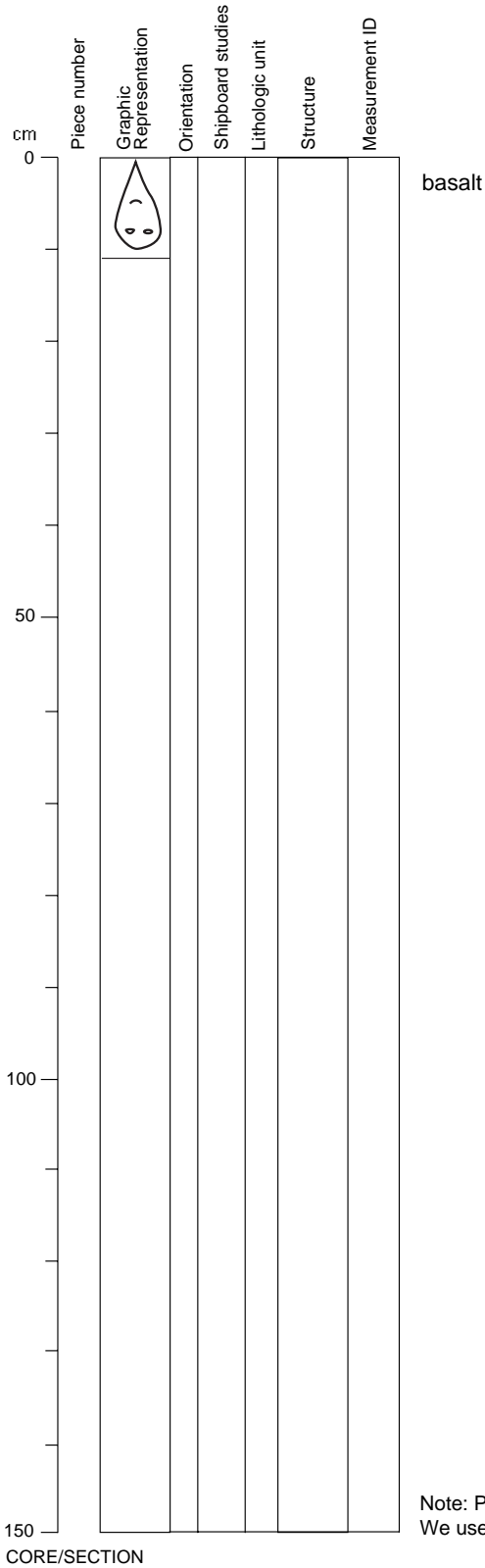
Note: Piece numbers are not curated piece numbers.
We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

178-1103A-5R-CC




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Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-6R-CC

Piece number	Graphic Representation	Orientation	Shipboard studies	Lithologic unit	Structure	Measurement ID
0						
50						
100						
150						

granite and diamict

Note: Piece numbers are not curated piece numbers.
 We used them solely for description purposes.

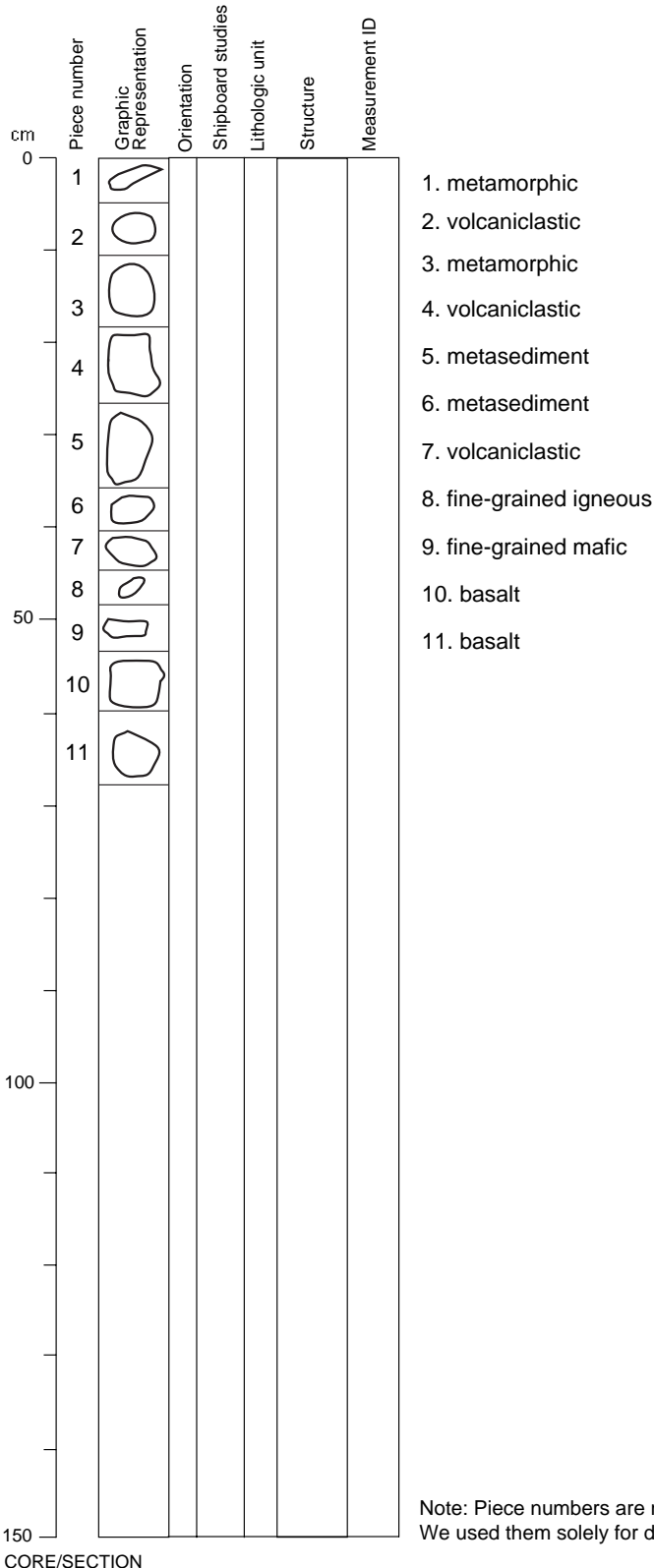
CORE/SECTION

1103A-7R NO RECOVERY

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-8R-1



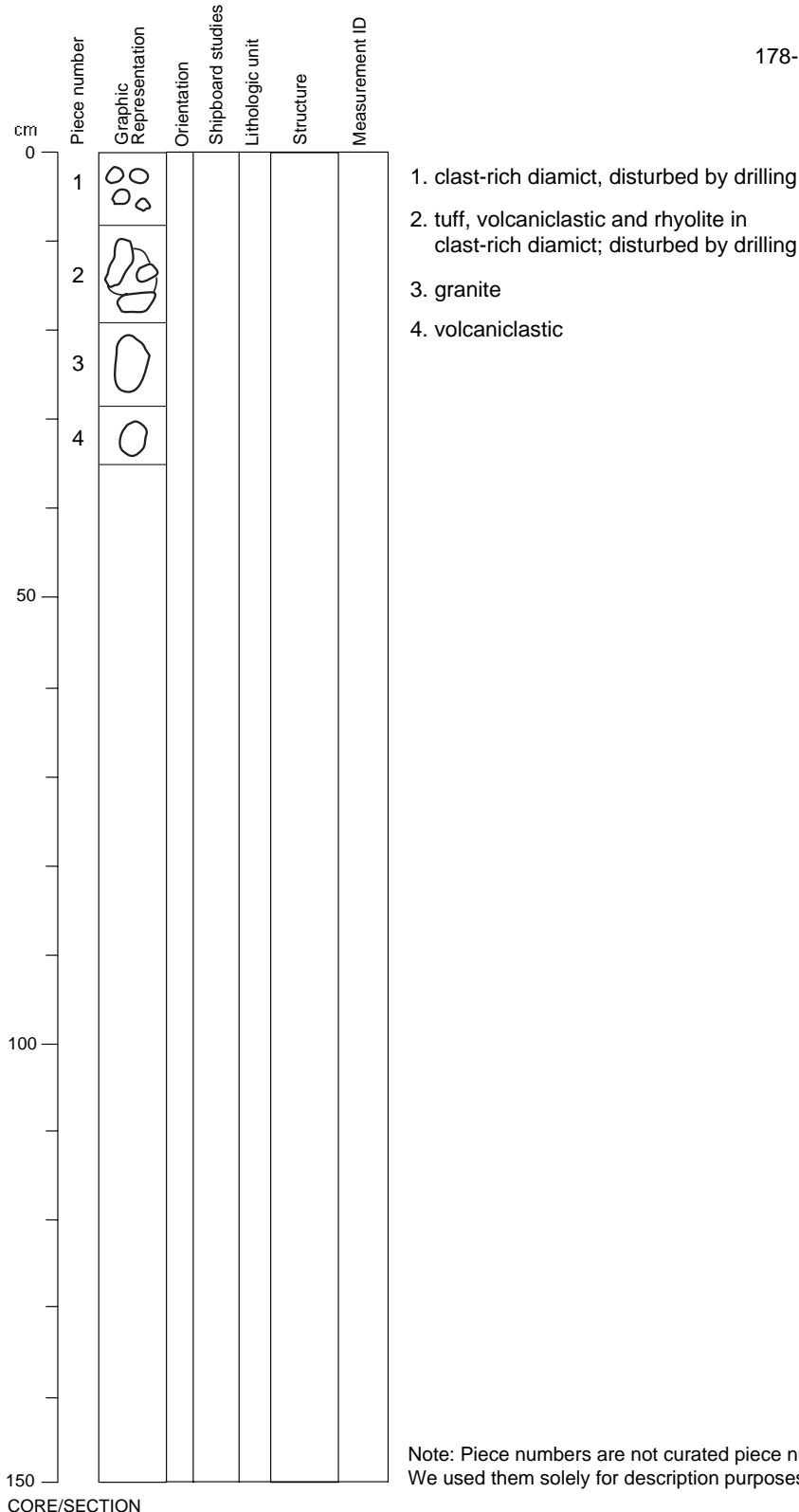
Note: Piece numbers are not curated piece numbers.
 We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-9R-CC

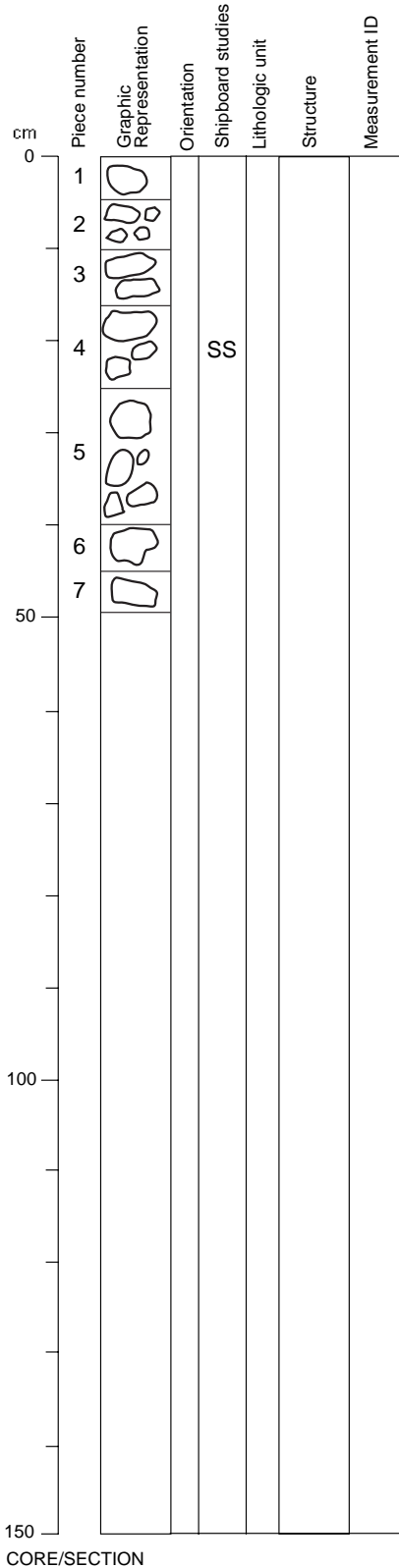


CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-10R-1



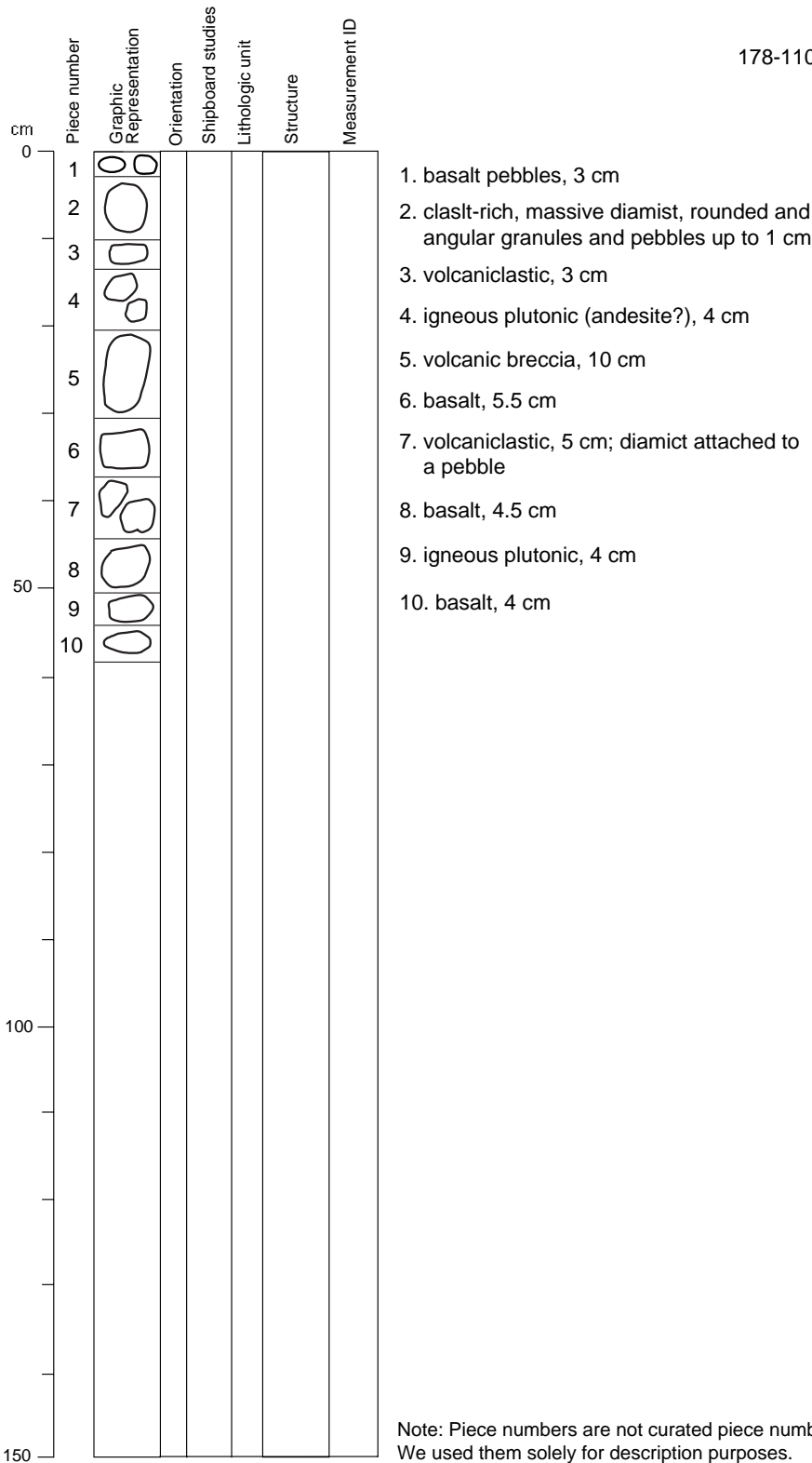
- 1. andesite, 3.5 cm
- 2. pieces of diamict
- 3, 4, 5. clast-rich diamict (indurated)
- 6. Plutonic igneous, 5 cm
- 7. basalt, 4 cm

Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-11R-CC



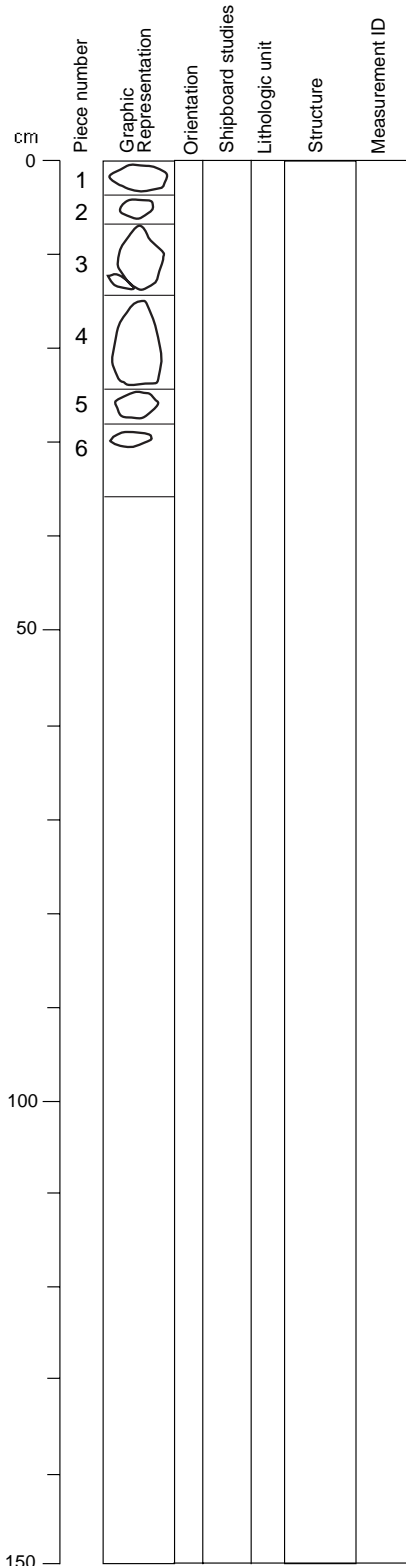
Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-12R-1



- 1. subrounded diorite, 4 cm
- 2. subrounded volcaniclastic, 3.5 cm
- 3. subrounded basalt, 7.5 cm, and angular basalt, 2.5 cm
- 4. subrounded granodiorite, 10 cm
- 5, 6. angular volcaniclastic, 4 cm

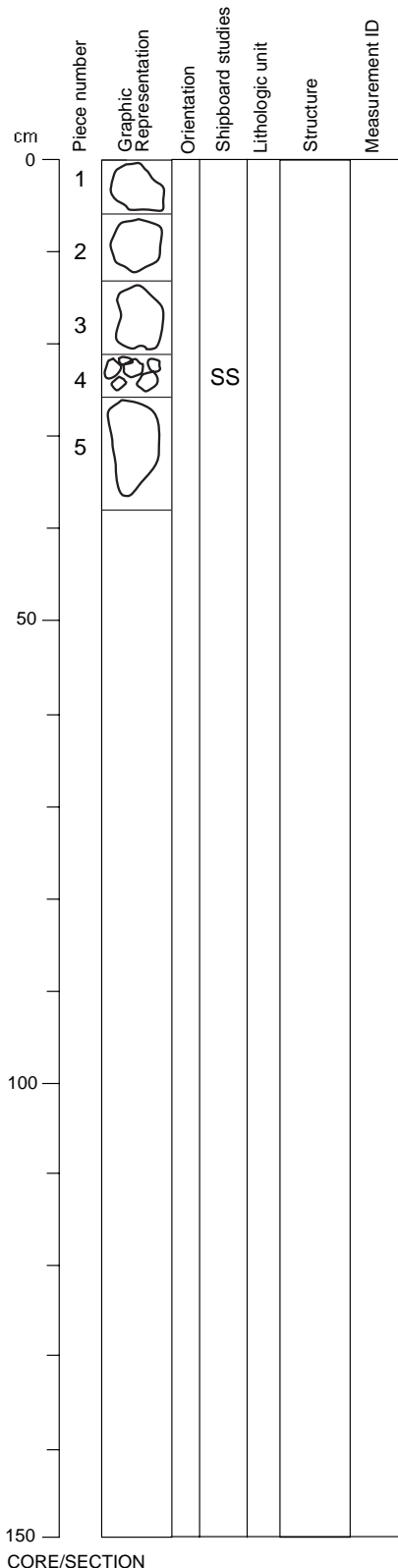
Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-13R-1



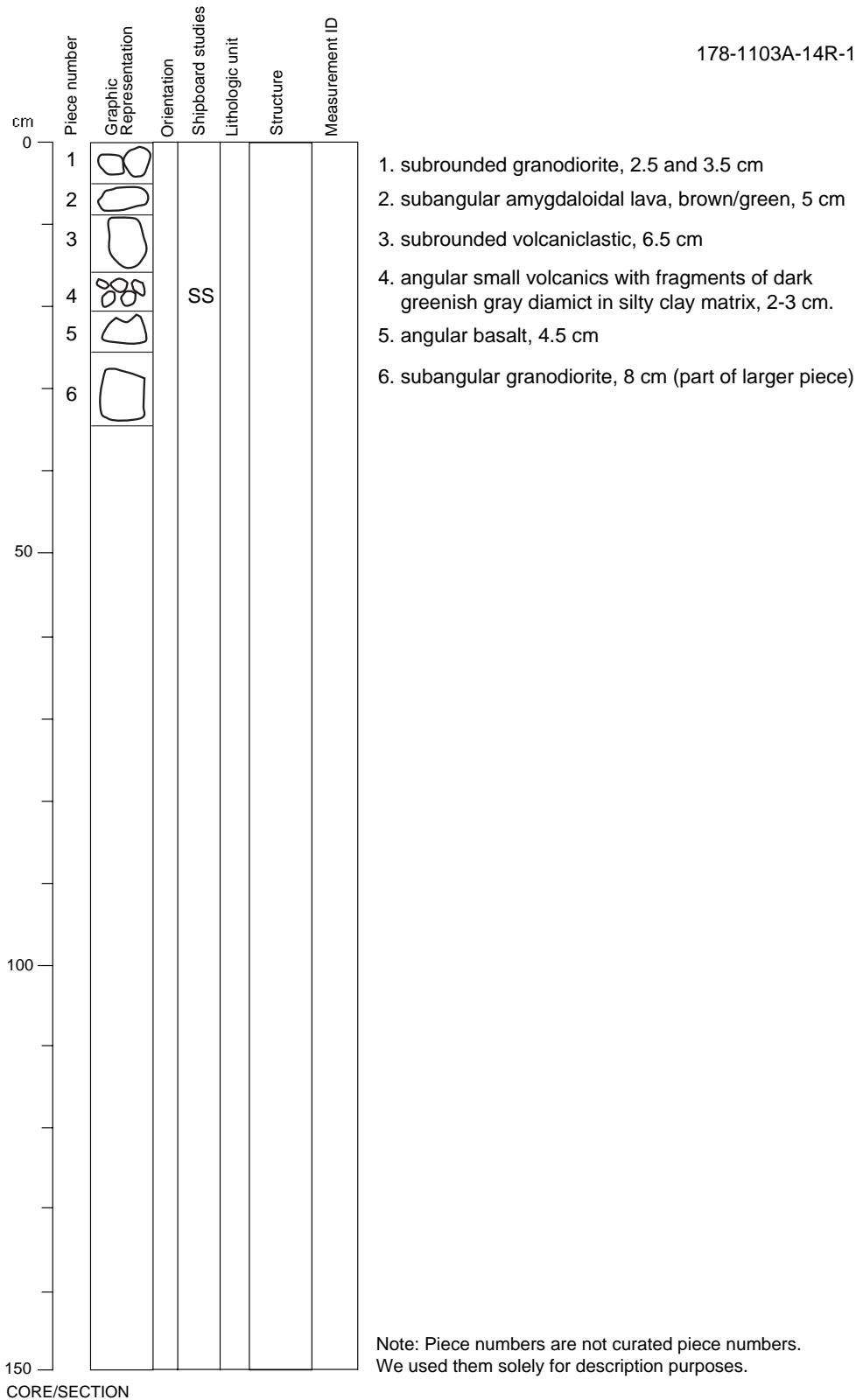
1. subangular, fractured basalt, 6 cm
2. subrounded, coarse diorite, 6.5 cm
3. angular green volcaniclastic, planer (bedding) fabric, 7.5 cm
4. small (1-2 cm) volcanic pebbles in clayey mud matrix, 5% diatoms
5. subangular diorite, 10 cm

Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

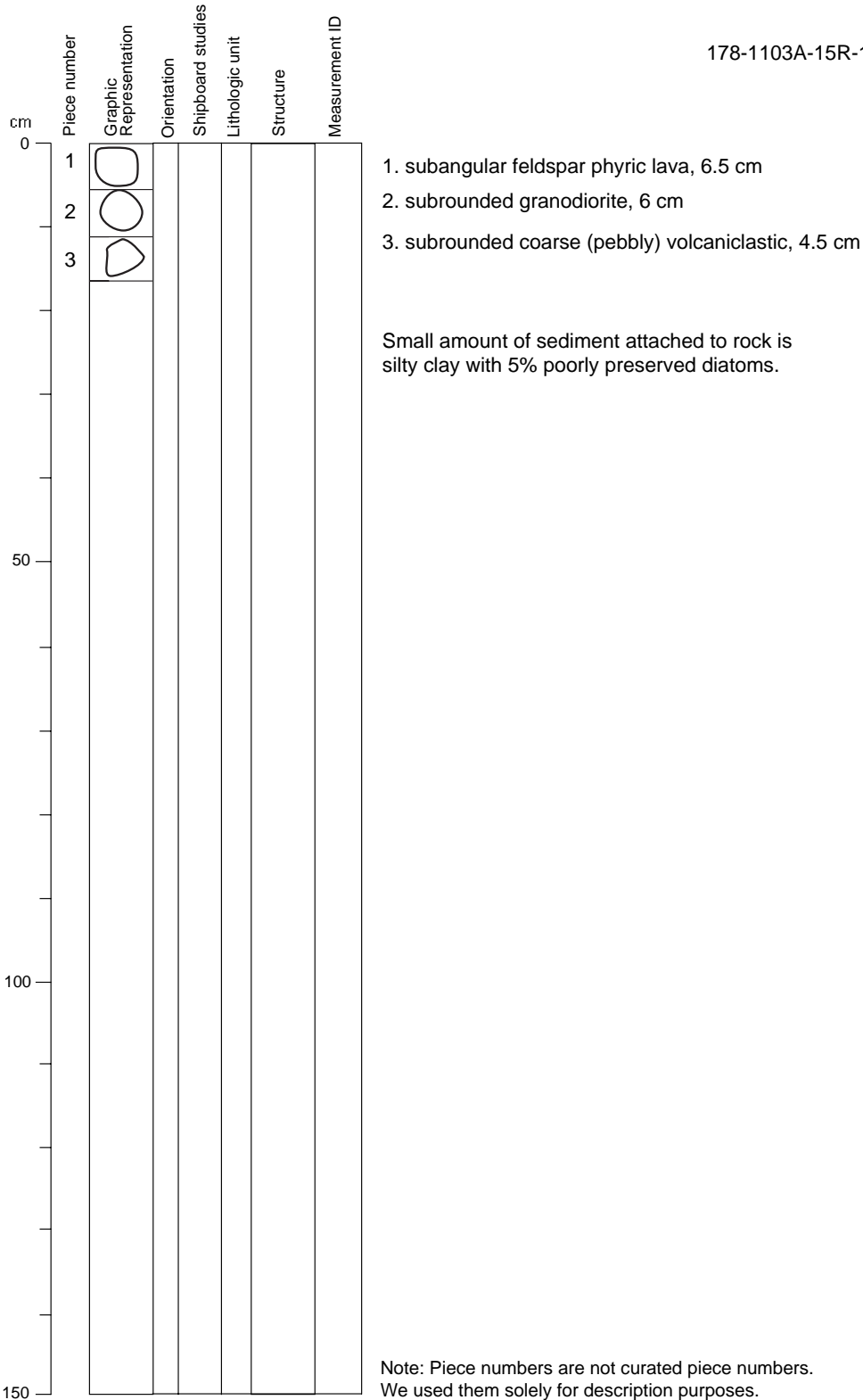
178-1103A-14R-1



Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-15R-1



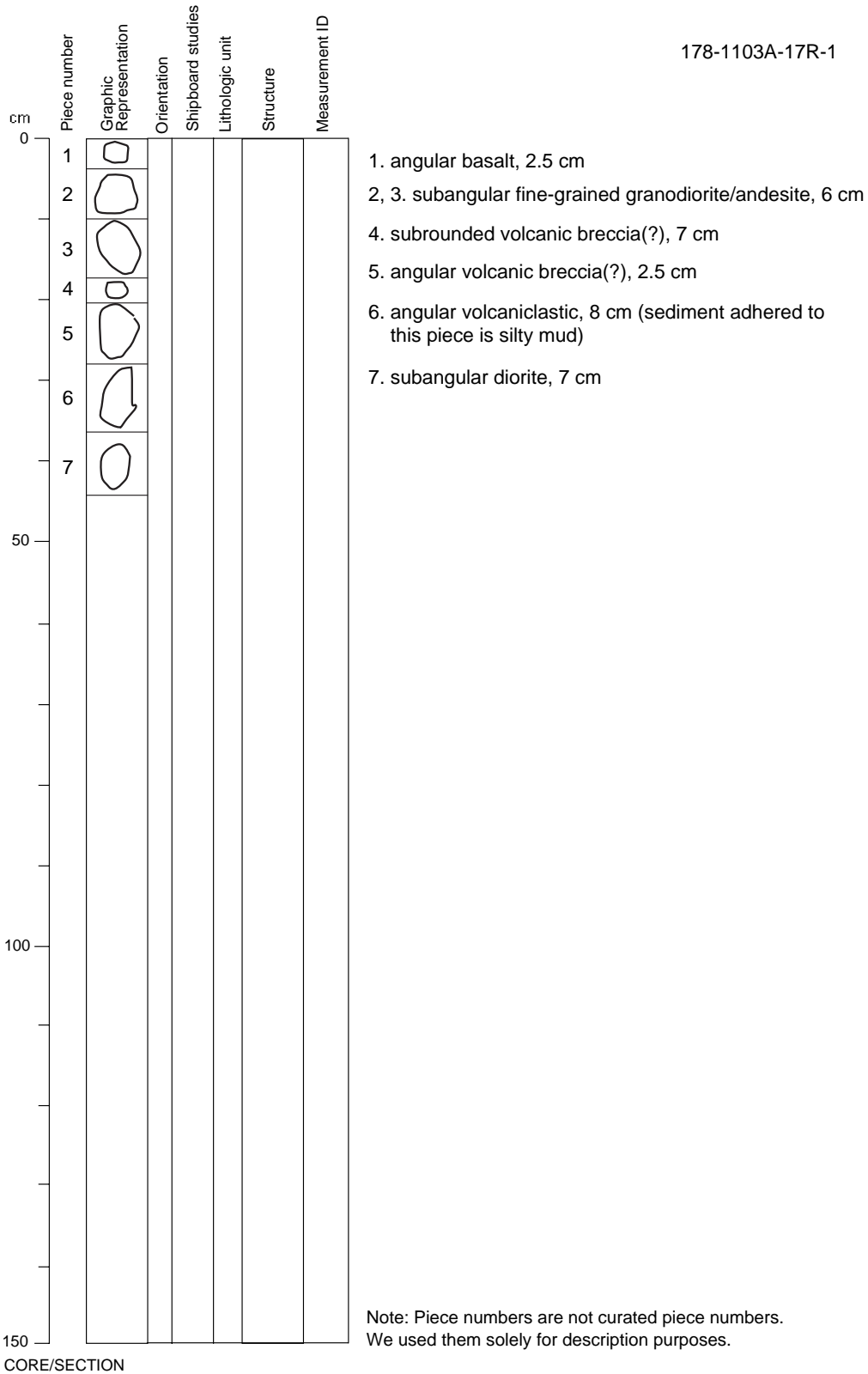
CORE/SECTION

1103A-16R-CC ENTIRE CORE GIVEN TO PALEONTOLOGISTS.

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

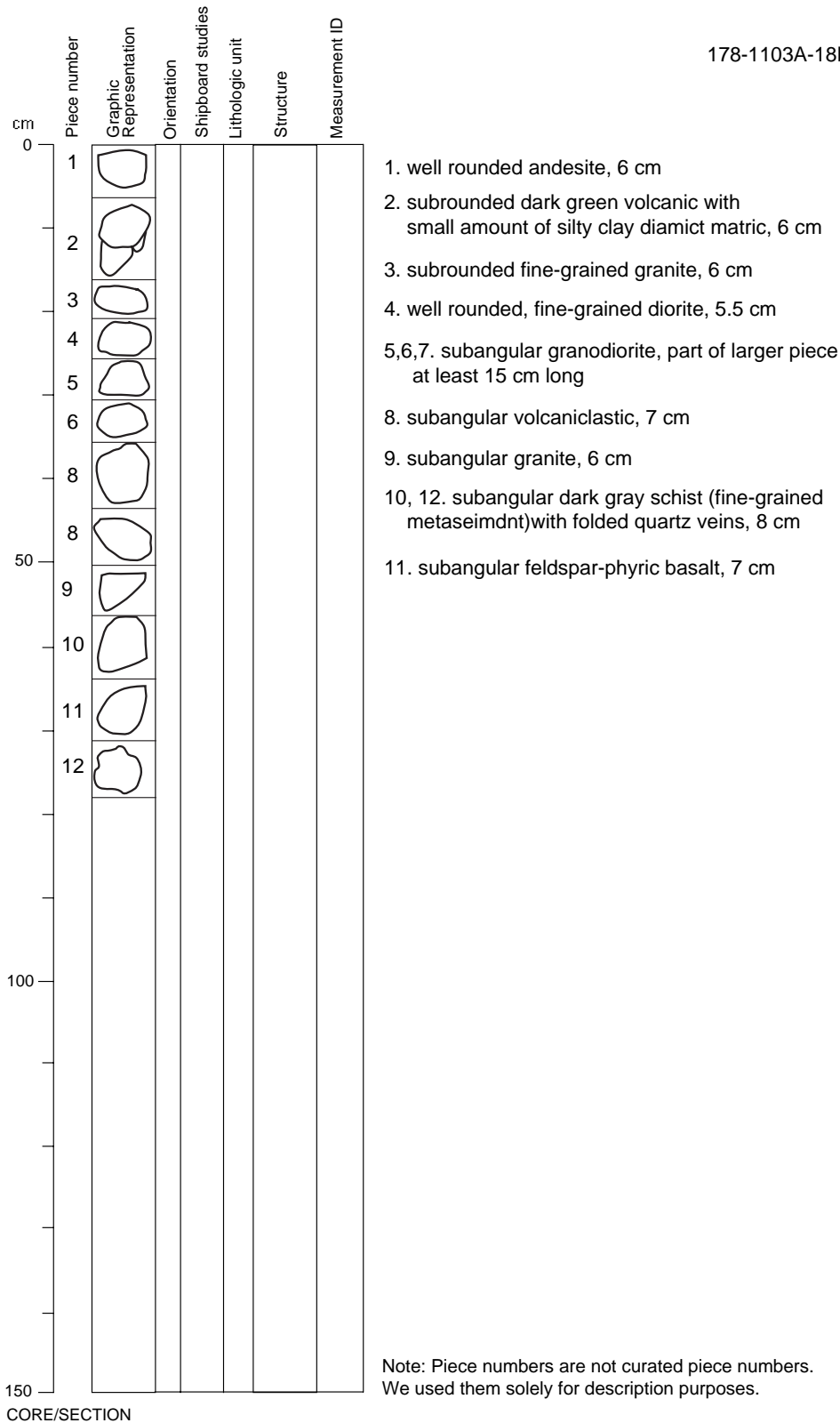
178-1103A-17R-1



Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-18R-1

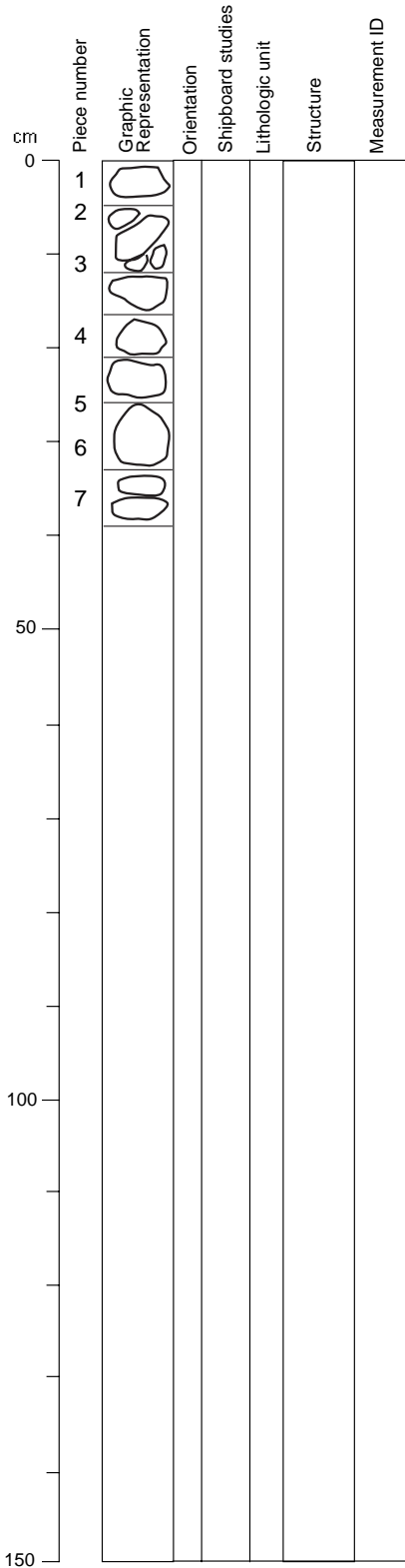


Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-19R-1



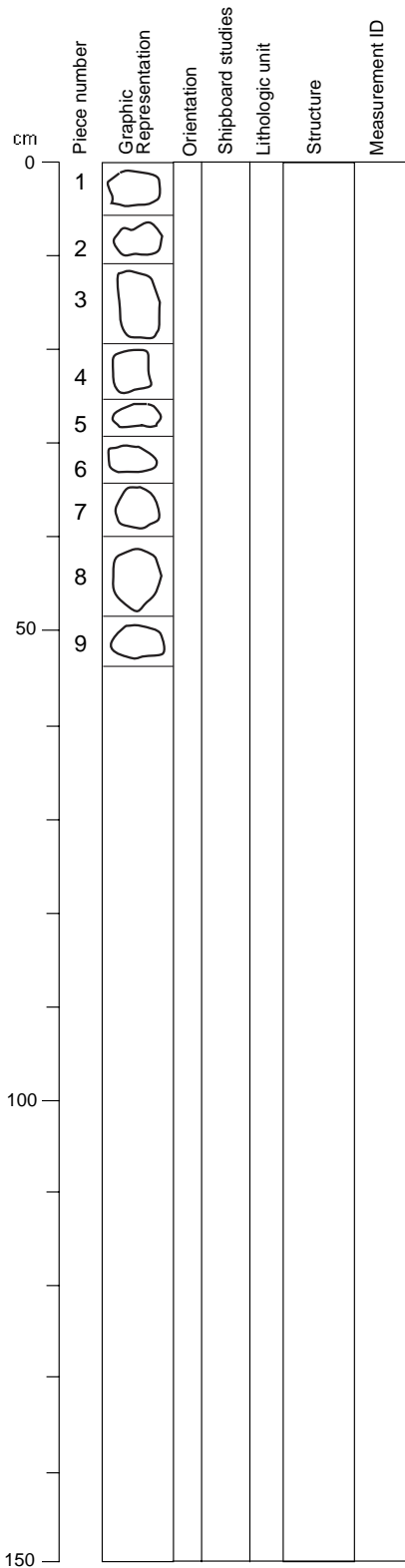
1. well rounded granite with small amount of adhering silty mud matrix, 6.5 cm
2. subrounded and subangular volcanics and volcaniclastics, 1-6 cm
3. subrounded dark gray volcanic, 5 cm
4. subangular dark green volcanic, 4.5 cm
5. well rounded diorite with granitic vein, 6.5 cm
- 6,7. angular to subrounded, dark green bedded tuff(?), part of large piece at least 10 cm long

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-20R-1






Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-21R-1

cm	Piece number	Graphic Representation	Orientation	Shipboard studies	Lithologic unit	Structure	Measurement ID
0	1						
	2						
	3						
50							
100							
150							

- 1. basalt, 4 cm
- 2. porphyritic andesite, 3 cm
- 3. volcaniclastic, 4 cm

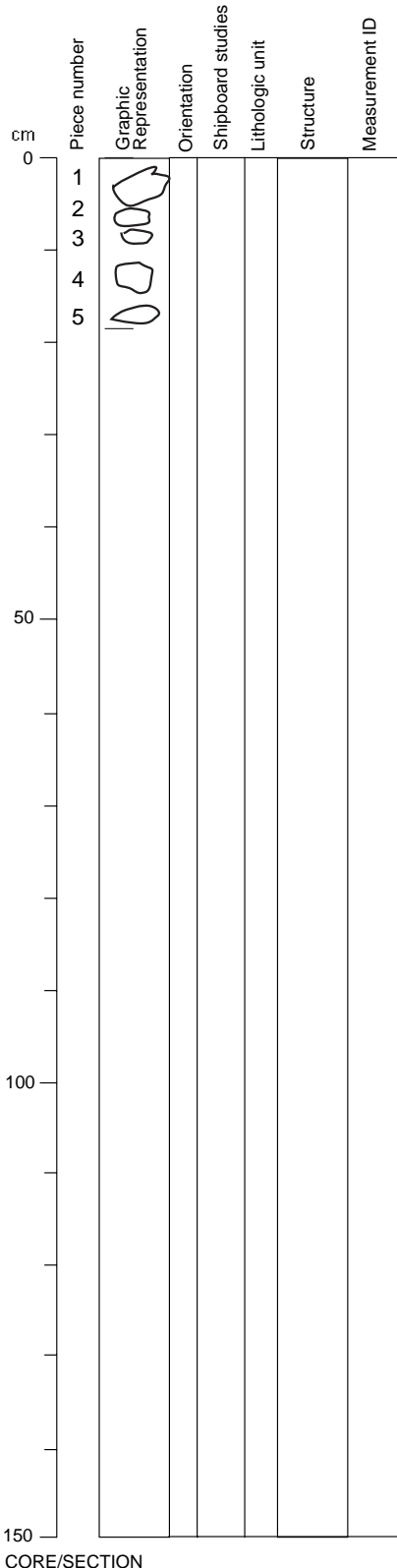
Note: Piece numbers are not curated piece numbers.
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CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-22R-CC



- 1. coarse-grained volcaniclastic
- 2. granite
- 3. rhyolite
- 4. fine-grained volcaniclastic
- 5. granodiorite





Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-23R-CC

cm	Piece number	Graphic Representation	Orientation	Shipboard studies	Lithologic unit	Structure	Measurement ID
0							
	1						
	2						
	3						
	4						
50							
100							
150							

- 1. diamict
- 2. granite
- 3. diamict
- 4. pebbles, various rock types

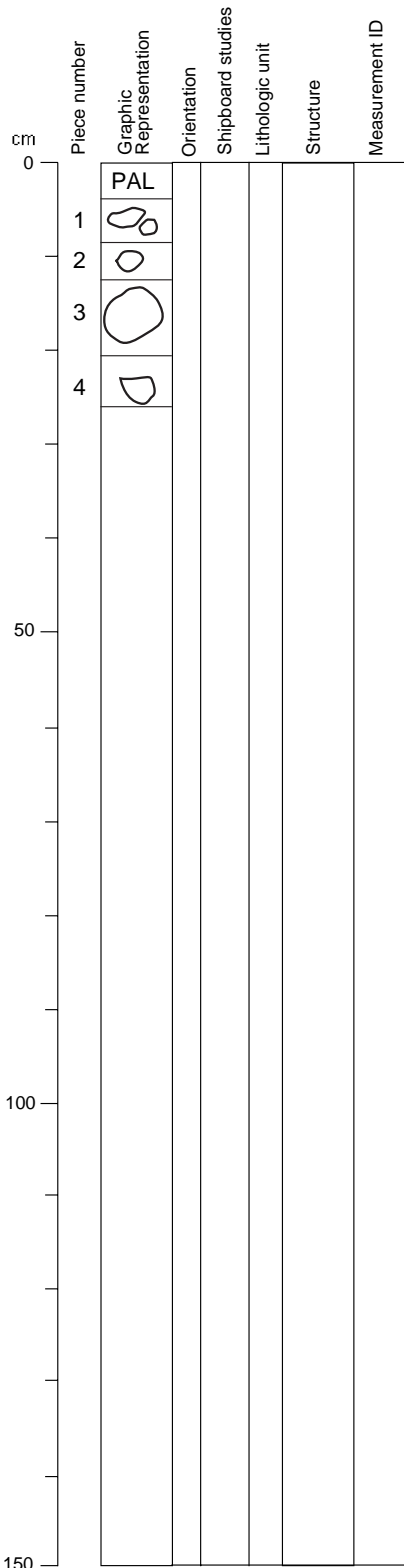
Note: Piece numbers are not curated piece numbers.
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CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-24R-CC



- 1-4 cm paleontology sample
1. diamict
 2. tuff
 3. granodiorite
 4. tuff

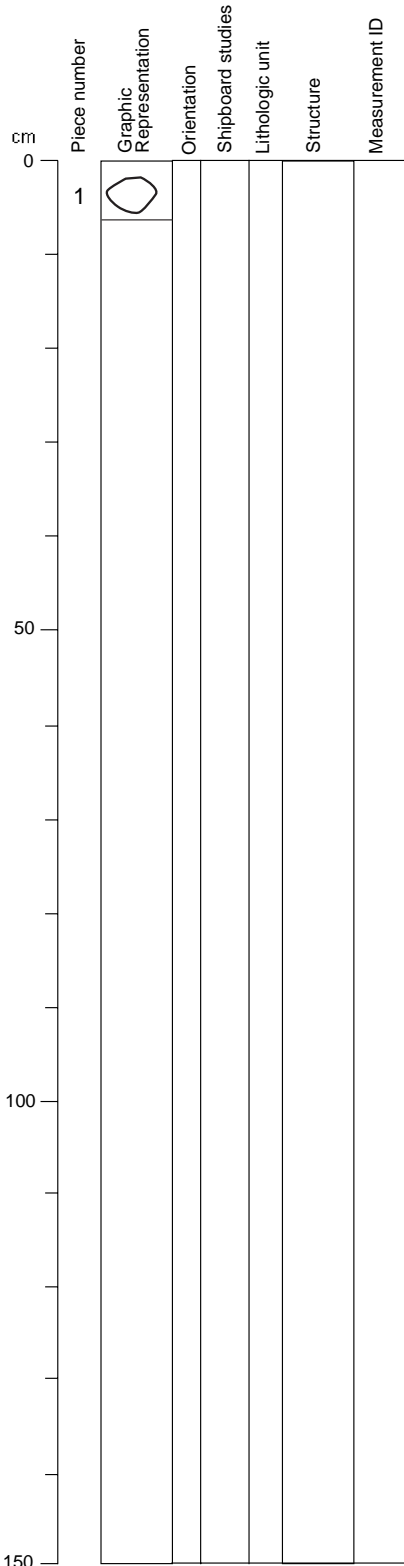
Note: Piece numbers are not curated piece numbers. We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
 IGNEOUS/METAMORPHIC ROCKS

178-1103A-25R-CC



1. tuff

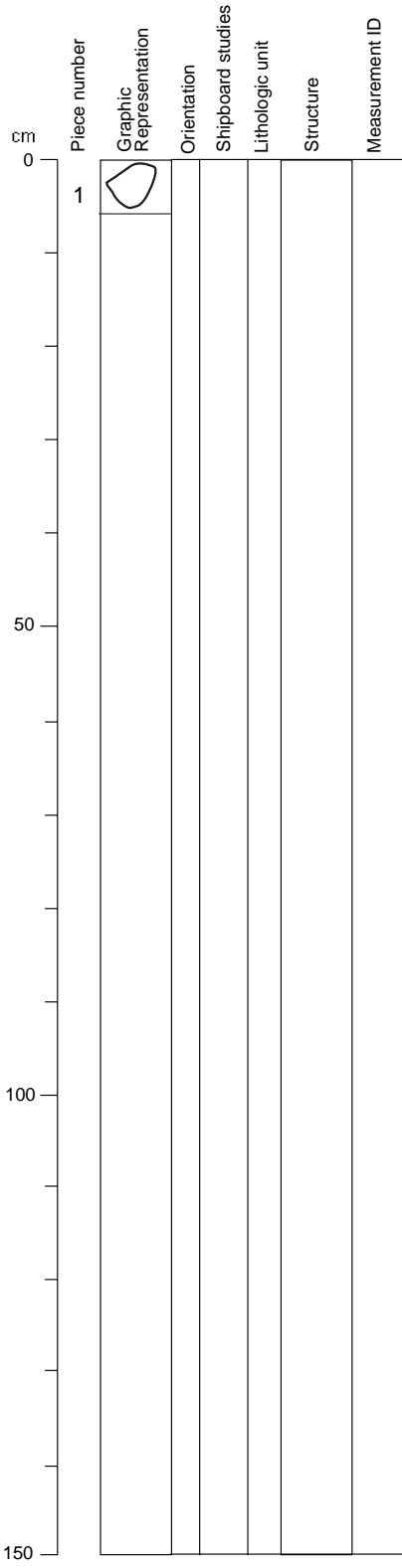
Note: Piece numbers are not curated piece numbers.
 We used them solely for description purposes.

CORE/SECTION

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS



178-1103A-26R-CC



1. tuff

Note: Piece numbers are not curated piece numbers.
We used them solely for description purposes.

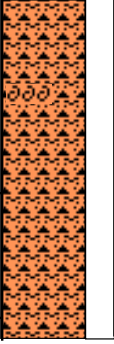
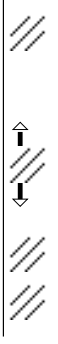
Core Image

Site 1103 Hole A Core 27R							Cored 247.3-256.9 mbsf	
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION	
1	1						<p>DIAMICTITE</p> <p>Section 1, 0-6 cm: Rounded sandstone clast.</p> <p>Section 1 through Core catcher: Diamictite, massive and clast-poor with approximately 12 % clasts, clast rich intervals occur in Section 1, 60-66 cm, 80-89 cm, 117-122 cm, 135-140 cm. Matrix is sandy mud. Clast types are volcanic and plutonic.</p>	
2	2						<p>Section 2: Clast clusters occur from 10-16 cm, 23-25 cm, and 36-40 cm, Subrounded granodiorite 6.5 cm in diameter, from 10-16.5 cm. Section 2, 70-75 cm, weakly stratified with irregular sharp upper contact. Clast rich diamictite from 87-101 cm.</p>	
3	3					<p>— SS</p> <p>— SS</p>	<p>Section 3, 0-40 cm: Clast-poor diamictite; 40-68 cm weakly stratified clast poor diamictite, thin laminae inclined at an average of 10 degrees. Laminae are composed of silty mud with large subrounded grains.</p>	


Core Image

Site 1103 Hole A Core 28R				Cored 256.9-266.6 mbsf			
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1	1					SS	<p>— DIAMICTITE</p> <p>Clast-rich diamictite, dark olive gray (5Y 3/1). Clasts are mainly volcanic and volcanoclastic rocks with rare plutonics. Some volcanics have weathered rinds. Most clasts less than 1 cm diameter, rarely up to 3.5 cm. Clasts randomly oriented through most of core. Matrix is sandy mud (Sections 1, 2) or silty mud (Sections 3 through CC) almost barren of marine microfossils. Fragments of mollusc shell up to 5 mm long occur sparsely throughout core, the largest (1.5 cm) in Section 5, 129 cm.</p> <p>Weak stratification in Section 1, 9-50 cm; contorted bedding in clast-poor interval 9-25 cm.</p> <p>Weak clast fabric showing 40 degree dip in Section 1, 80-102 cm.</p>
1	2					SS	
2	3					SS	
3	4					SS	
4	5					SS	
5	6					SS	

Core Image

Site 1103 Hole A Core 29R				Cored 266.6-276.2 mbsf			
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1 -1 2							<p>DIAMICTITE</p> <p>Clast-rich diamictite, dark olive gray (5Y 3/1). Clasts are volcanic, volcanoclastic rocks, plutonics with rare metamorphic rocks. Most clasts are less than 1 cm diameter, a few clasts are 2.5-3.5 cm. Clasts randomly oriented through most of core. Matrix is sandy mud or silty mud with very low content (1-2%) of marine microfossils (diatom and spicule fragments). Fragment of mollusc shell (2 mm long) in Section 1, 77 cm. Massive, no sedimentary structures observed.</p>



Core Image

Site 1103 Hole A Core 30R							Cored 276.2-285.8 mbsf
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1							DIAMICTITE Core catcher, 0-6 cm and 15-23 cm: Massive clast-poor diamictite. Four pebbles are in this section: basalt, 5 cm in diameter; rhyolite, 4 cm in diameter; volcaniclastic, 7 cm in diameter; diorite, 5 cm in diameter.

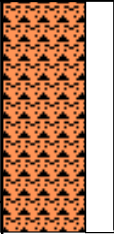


Core Image

Site 1103 Hole A Core 31R				Cored 285.8-295.2 mbsf			
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1						SS	<p>SANDY MUD and SILTY MUD with MINOR CLAYEY MUD</p> <p>Section 1, 0-6 cm: Volcanoclastic, subrounded, 6 cm in size. 6-15 cm: Sandy mud with granules (almost a diamict), massive. 15-94 cm: Silty mud with minor clayey mud. Very dark gray (5Y 3/1). Most original structure obliterated, but horizontal or gently dipping bed contacts at 9, 34, 39, 50, 65, 70, and 81 cm. Separate beds with more or less mud. Weakly laminated at 62-65 cm. 94-150 cm: Silty mud poorly sorted, thoroughly laminated with a few tiny vertical burrows. A few small pebbles and granules. Tiny mollusc fragments (best one at 104 cm).</p>
1						SS	
2						SS	
3						SS	<p>Sections 2-3 and Core Catcher: Silty mud, very dark gray 5Y 3/1. Weakly laminated. Scattered coarse sand grains and granules. Section 2, 13 cm: Tiny articulated bivalve shell. Section 3, 60-64 cm: Parallel laminated silt with a few granules.</p>


Core Image

Site 1103 Hole A Core 32R				Cored 295.2-304.8 mbsf			
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1						SS	SANDSTONE Section 1, 0-35 cm: Parallel-laminated sandstone, fining upwards.

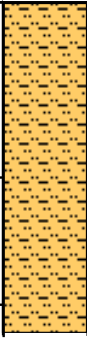


Core Image

Site 1103 Hole A Core 33R				Cored 304.8-314.5 mbsf			
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1 -1							<p>DIAMICTITE</p> <p>Section 1, 0-147 cm: Diamicton with a sandy/mud matrix. Small intervals of interbedded mudstone with diamicton-diffuse contacts with evidence of intermixing. Largest clasts are 4 cm in size. 60-80 cm: Inclined bedding.</p>
						<p>— SS</p> <p>— SS</p>	

Core Image

Site 1103 Hole A Core 34R				Cored 314.5-324.1 mbsf			
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1							DIAMICTITE Sections 1-4 and Core Catcher: Massive, matrix-supported, clast rich diamictite with numerous silt rip-up clasts. Maximum clast size is 3 cm.
2						— SS	
3						— SS	
4							
5					XX		





Core Image

Site 1103 Hole A Core 35R							Cored 324.1-333.7 mbsf	
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION	
1 -1 2 -2	1 2					SS 	<p>CLAYEY SILTSTONE</p> <p>Sections 1-2 and Core catcher: Black (N4) clayey siltstone with faint deformed laminations. Section 1, 0-10 cm: Ice rafted granules. 99 cm: Ice rafted granule.</p> <p>Section 2, 30-55 cm: Slump fold.</p>	








Core Image

Site 1103 Hole A Core 36R				Cored 333.7-343.4 mbsf				
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION	
1							CLAYEY SILTSTONE Sections 1-4 and Core Catcher: Massive and finely laminated clayey siltstone showing deformational structures typical of downslope slumping. Dark gray (N4). Section 1, 0-145 cm: Scattered ice rafted sand grains and granules.	
1						SS		
2								SS
3								SS
4								
5								

Core Image

Site 1103 Hole A Core 37R				Cored 343.4-353.0 mbsf			
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1	1					SS	<p>— MUDDY SANDSTONE, SANDSTONE and DIAMICTITE</p> <p>Section 1, 0-100 cm: Massive muddy fine sandstone with dispersed granules and sand grains. Dark gray (N4), light gray on drying.</p> <p>— Section 2, 0-135 cm: Weakly laminated muddy fine sandstone, with diamictite rip-up at 130 cm.</p> <p>— Section 3, 0-60 cm: Massive muddy sandstone. 60-64 cm: Laminated deformed mudstone. 64-66 cm: Medium massive sandstone. 66-80 cm: Pillow structures (soft sediment 'loading') 80-142 cm: Massive diamictite with dispersed clasts. Thin clast rich beds at 121-122, 140-142 cm. 90-95 cm: Injection structure.</p> <p>— Section 4, 0-76 cm: Diamictite, small (<1 cm) floating clasts in a muddy sand matrix. 55 cm: Clast concentration. 76-86 cm: Brecciated due to coring disturbance. 87-89 cm: Concentration of clasts. Section 4, 89-133 cm and Core Catcher: Muddy fine sand with dispersed clasts to 0.75 cm in size.</p>
1							
2	2						
2							
3	3			SI			
3							
4	4				XX		
4							
5							

Core Image

Site 1103 Hole A Core 38R						Cored 353.0-362.7 mbsf	
METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
1							<p>SANDY SILTSTONE, DIAMICTITE AND PEBBLES</p> <p>Sections 1, 0 cm to Section 2, 4 cm: Black (N4) sandy siltstone to very fine-grained silty sandstone with faint ripple and wavy parallel laminations in two beds near the base. Traces of diatoms and spicules.</p> <p>Section 2, 4-24 cm: 5 large pebbles of volcanoclastic and plutonic rocks (drilled).</p> <p>Section 2, 24 cm to bottom Core Catcher: Massive, matrix-supported, clast rich diamictite with numerous clasts. Maximum clast size is 3 cm. Larger (3.5 cm) volcanoclastic pebble in Core Catcher. Traces of diatoms and spicules.</p>
-1						SS	
-2						SS	

CORE DESCRIPTIONS
THIN SECTIONS, SITE 1103

Leg	Site	Hole	Core	Type	Sect	Top	Bot	Sediment/rock name	Observer	Type of slide	Dominant lithology	Minor lithology	Sand	Silt	Clay	Comments	Quartz	Feldspar	Mica	Glauconite	Clay	Rock (sedimentary)	IG frag	Opaques	Fe Oxide	Carbonate	Other	Mineral subtotal	Forams	Diatoms	Rads	Nannos (general)	Bioclast	Shell deb	Spicules	Organic deb	Other	Bio-subtotal		
178	1103	A	34	R	1	122	124	Diamict	Evans	TS	Diamict/clayey mud	Clays with few sands	25	20	55	10% massive clay	20	7	2	1	50	7	5	5	1	2	99		70					30			1			
178	1103	A	34	R	1	107	109	Diamict	Evans	TS	Diamict/silty clay	N/A	10	25	65	Zero bio but slide too thick for proper assessment	10	8	1	0	64	6	6	5			100													
178	1103	A	28	R	1	85	89	Diamict	Evans	TS	Diamict/sandy mud	N/A	40	30	30	Zero bio but slide too thick for proper assessment	45	5	5		35		5	5																
178	1103	A	27	R	2	27	31	Diamict	Daniels	TS	Diamict/silty mud	N/A	15	45	30		20	15	2		38	15		5	5															
178	1103	A	27	R	2	27	31	Diamict	Daniels	TS	Diamict/sand-silt	N/A	35	35	30		23	20	5		30	15		5	2															