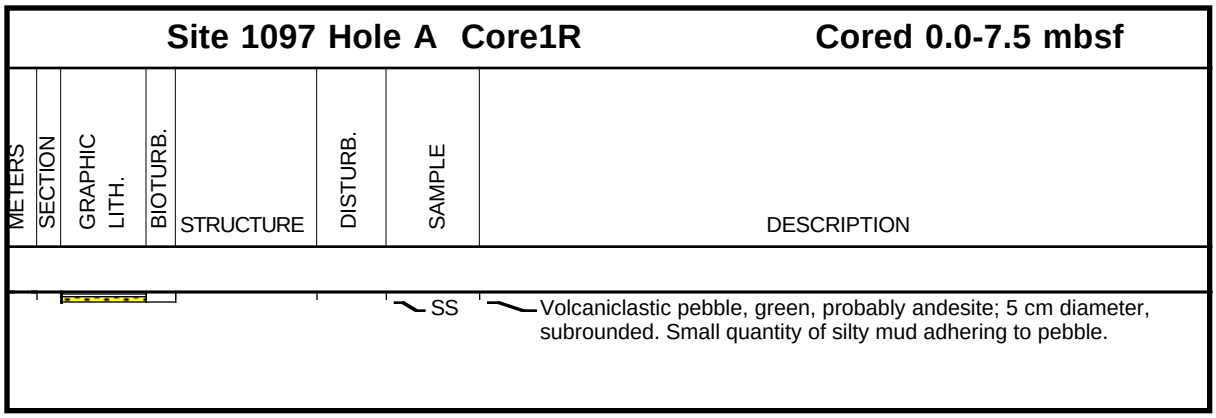
Core Image



1097A-2R ENTIRE CORE GIVEN TO PALEONTOLOGISTS

Core Image

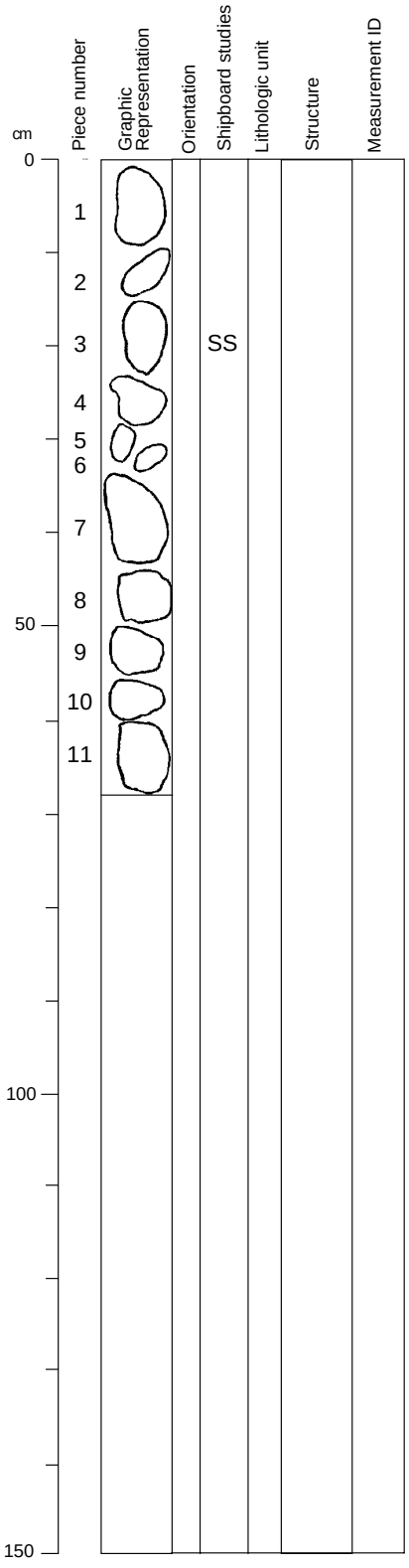
Site 1097 Hole A Core 3R **Cored 15.4-25.0 mbsf**

METERS	SECTION	GRAPHIC LITH.	BIOTURB.	STRUCTURE	DISTURB.	SAMPLE	DESCRIPTION
							Four pebbles: 1. slate/mudstone, black, fine-grained, laminated; 4 cm, subangular 2. volcaniclastic, green, 5 cm, subangular 3. volcaniclastic, green, 6 cm, subrounded 4. granite, light gray, fine-grained with dark gray xenoliths up to 1 cm across, 7 cm, subrounded

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

178-1097A-4R-1



Clean pebbles to cobbles, no matrix.

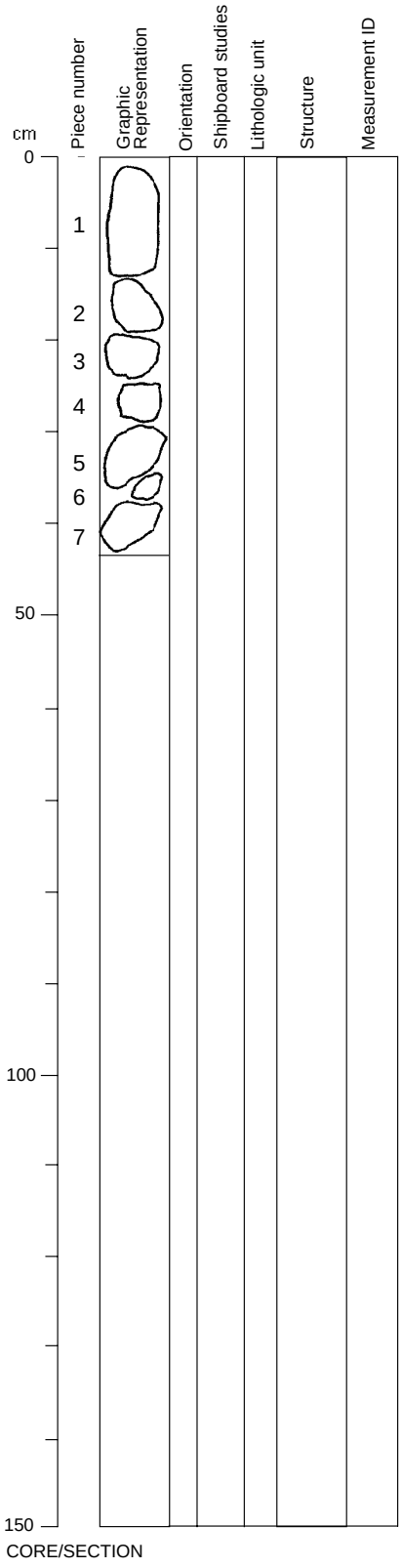
1. basalt, subrounded
2. porphyritic andesite, subangular
3. diorite, subrounded
4. granite, subrounded
5. siltstone, subrounded
6. granite, subrounded
7. granite, subangular
8. volcaniclastic (breccia), subangular
9. volcaniclastic, subangular
10. volcaniclastic (breccia), subangular
11. volcaniclastic (drilled rock)

Smear slides were made from mud sticking to rocks No. 3 where the core liner was cut.
Smear slide: clayey silt, trace of reworked(?) diatoms.

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

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS



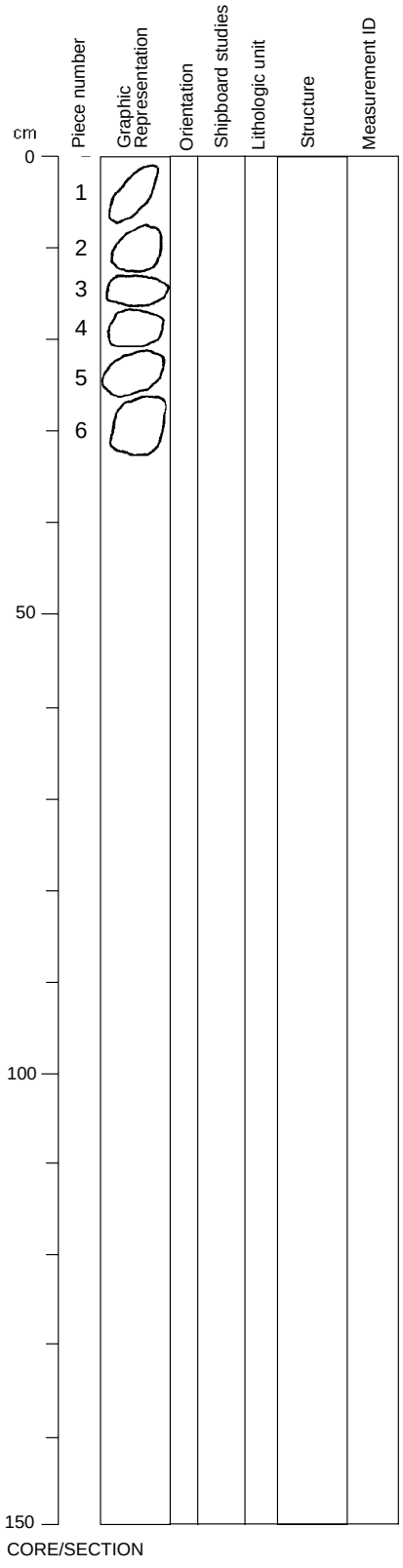
178-1097A-5R-1

1. 12 cm basalt.
2. 6 cm subrounded andesite
3. 6.5 cm subrounded andesite
4. 4 cm subrounded diorite
5. 8 cm subrounded andesite
6. 4 cm subangular basalt
7. 8 cm subangular metamorphic rock.

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

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS



178-1097A-6R-1

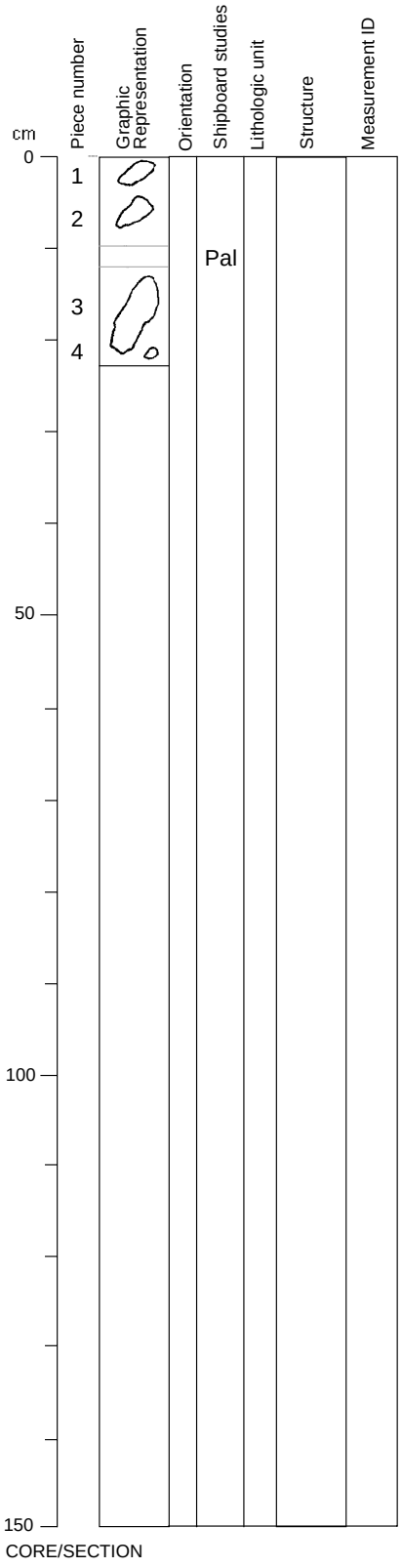
1. 8 cm subangular basalt.
2. 6 cm subrounded diorite.
3. 5 cm subangular fine-grained metamorphic rock; grain foliated.
4. 7 cm subangular metamorphic rock
5. 6 cm subangular metabasalt.
6. 6 cm, subrounded basalt.

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

1097A-7R NO RECOVERY

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS



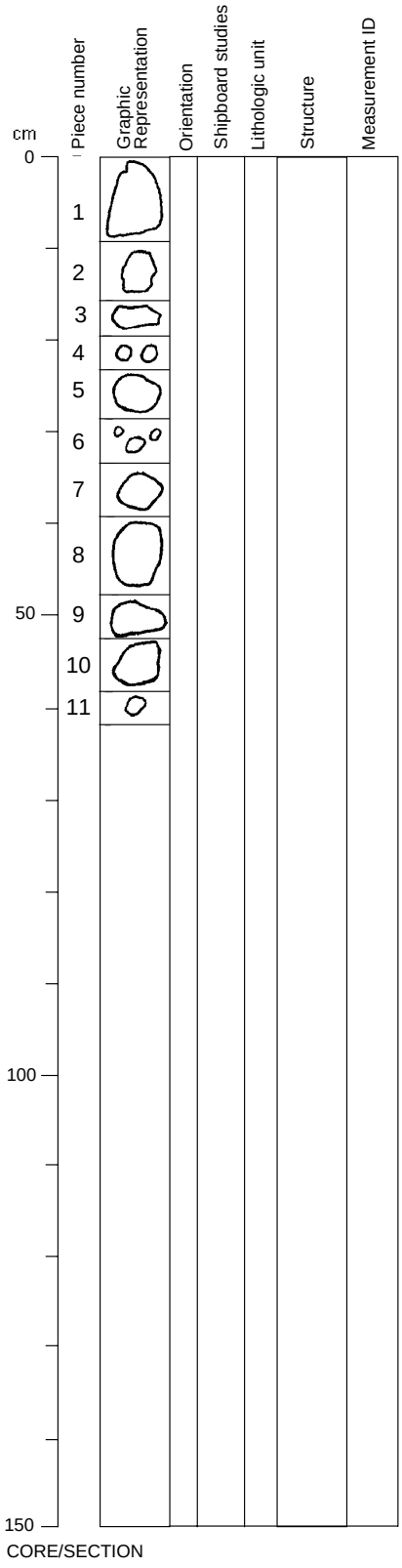
178-1097A-8R-CC

1. 6 cm long and 4 cm wide subangular to subrounded metamorphic rock.
2. 6 cm long and 3.5 cm wide subangular, fine-grained siltstone, quartz cemented. Appears to be dense, some of original laminae can be seen. Possibly low grade(?) metamorphic.
3. 10 cm long, 5 cm wide. Same as 2.
4. Subangular, 1.5 diameter. Rock type unknown.

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

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS



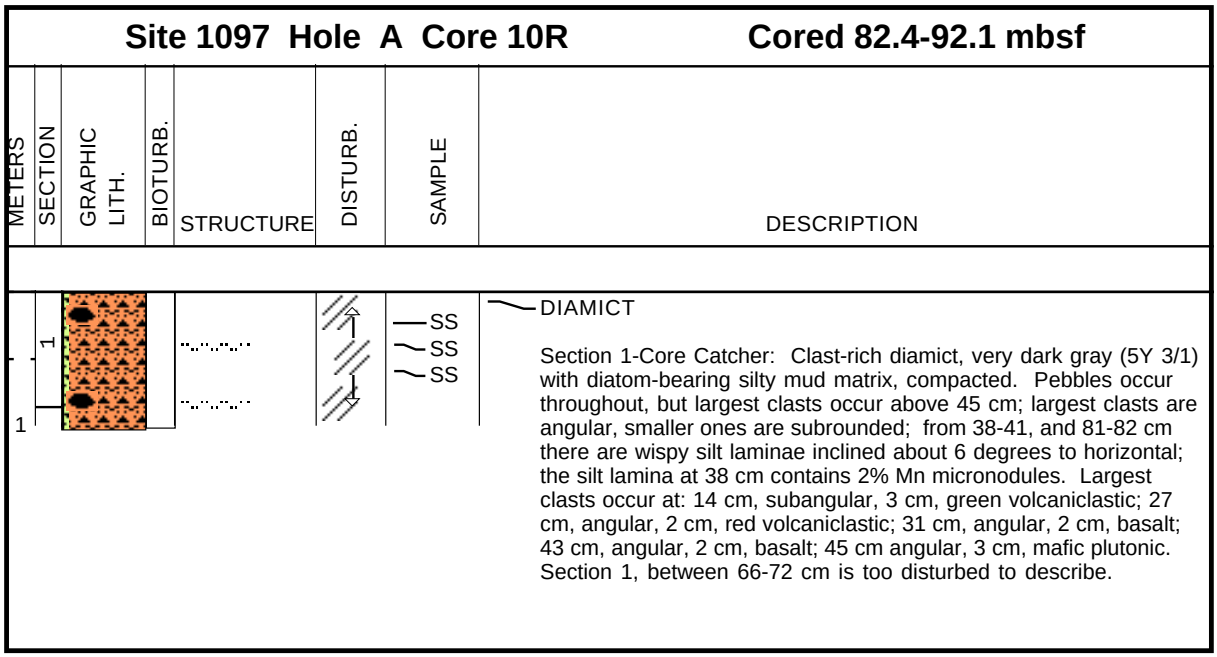
178-1097A-9R-1

1. Diamict. Gray (5G 4/1) sand-silt-clay with subangular gravel-sized clasts, not graded or stratified, massive.
2. Tuff (graded)
3. Volcaniclastic
4. Volcaniclastic; granodiorite
5. Volcaniclastic
6. Volcaniclastic; diamict; basalt
7. Volcaniclastic
8. Granodiorite
9. Volcaniclastic
10. Tuff (graded)
11. Rhyolite

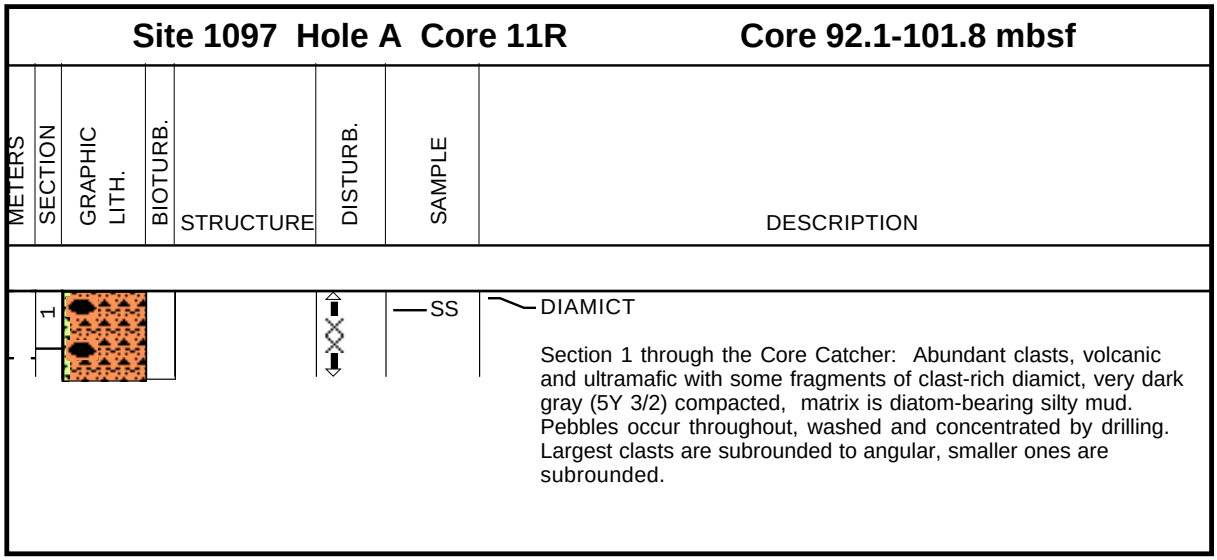
All pieces are subrounded to rounded and show fractures due to drilling disturbance.

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

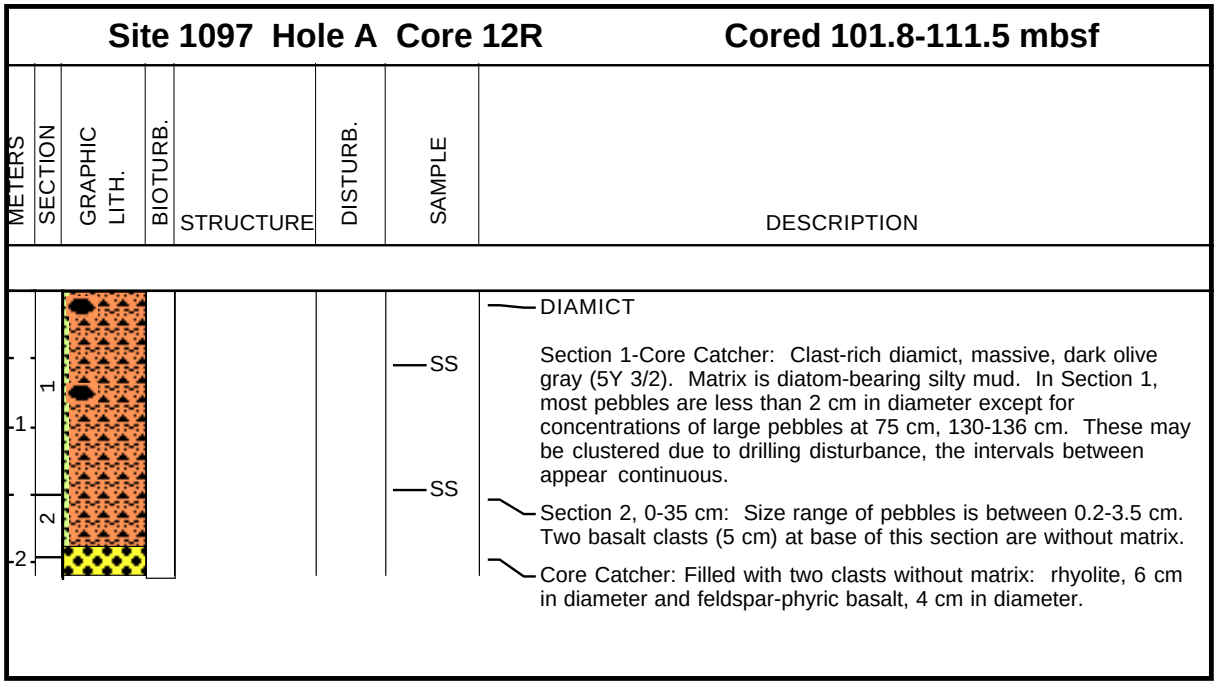
Core Image


Site 1097 Hole A Core 10R Cored 82.4-92.1 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SS
SS
SS
DIAMICT
Section 1-Core Catcher: Clast-rich diamict, very dark gray (5Y 3/1) with diatom-bearing silty mud matrix, compacted. Pebbles occur throughout, but largest clasts occur above 45 cm; largest clasts are angular, smaller ones are subrounded; from 38-41, and 81-82 cm there are wispy silt laminae inclined about 6 degrees to horizontal; the silt lamina at 38 cm contains 2% Mn micronodules. Largest clasts occur at: 14 cm, subangular, 3 cm, green volcaniclastic; 27 cm, angular, 2 cm, red volcaniclastic; 31 cm, angular, 2 cm, basalt; 43 cm, angular, 2 cm, basalt; 45 cm angular, 3 cm, mafic plutonic. Section 1, between 66-72 cm is too disturbed to describe.

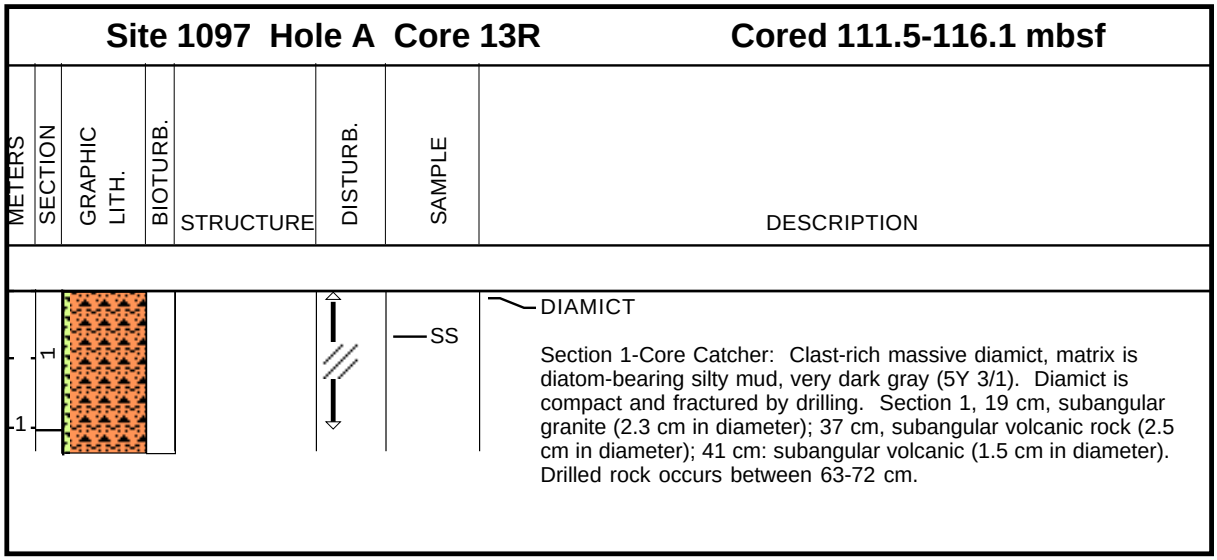
Core Image


Site 1097 Hole A Core 11R
Core 92.1-101.8 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SS
DIAMICT
Section 1 through the Core Catcher: Abundant clasts, volcanic and ultramafic with some fragments of clast-rich diamict, very dark gray (5Y 3/2) compacted, matrix is diatom-bearing silty mud. Pebbles occur throughout, washed and concentrated by drilling. Largest clasts are subrounded to angular, smaller ones are subrounded.

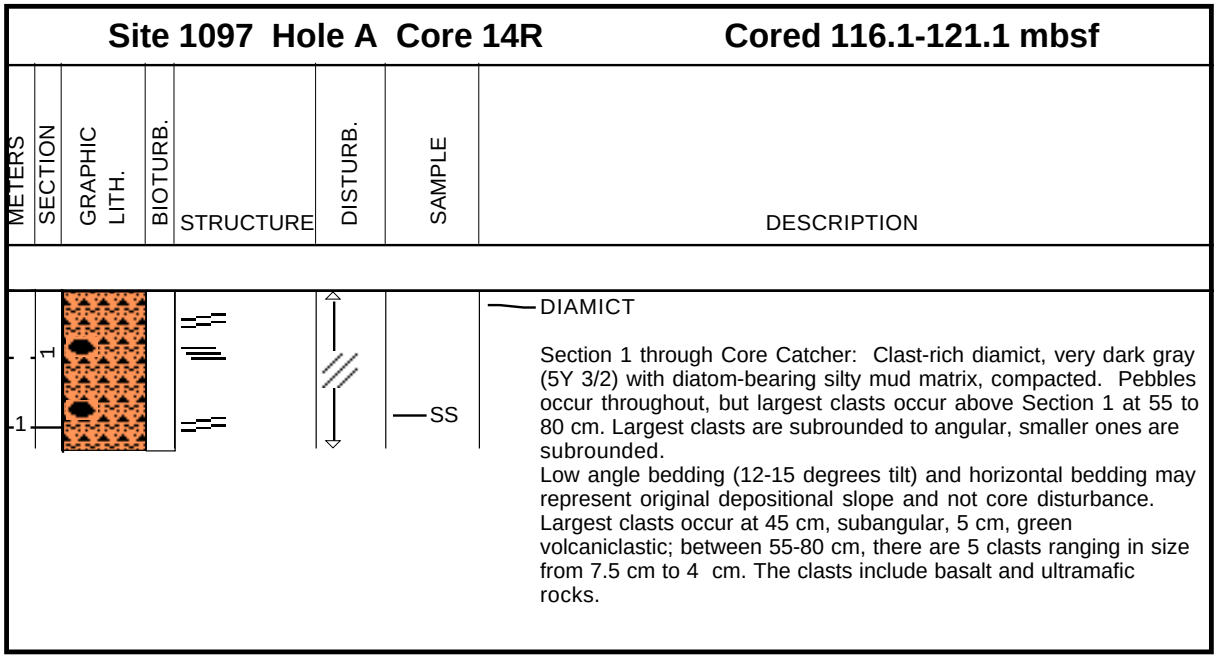
Core Image


Site 1097 Hole A Core 12R
Cored 101.8-111.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
SS
SS
DIAMICT
Section 1-Core Catcher: Clast-rich diamict, massive, dark olive gray (5Y 3/2). Matrix is diatom-bearing silty mud. In Section 1, most pebbles are less than 2 cm in diameter except for concentrations of large pebbles at 75 cm, 130-136 cm. These may be clustered due to drilling disturbance, the intervals between appear continuous.
Section 2, 0-35 cm: Size range of pebbles is between 0.2-3.5 cm. Two basalt clasts (5 cm) at base of this section are without matrix.
Core Catcher: Filled with two clasts without matrix: rhyolite, 6 cm in diameter and feldspar-phyric basalt, 4 cm in diameter.

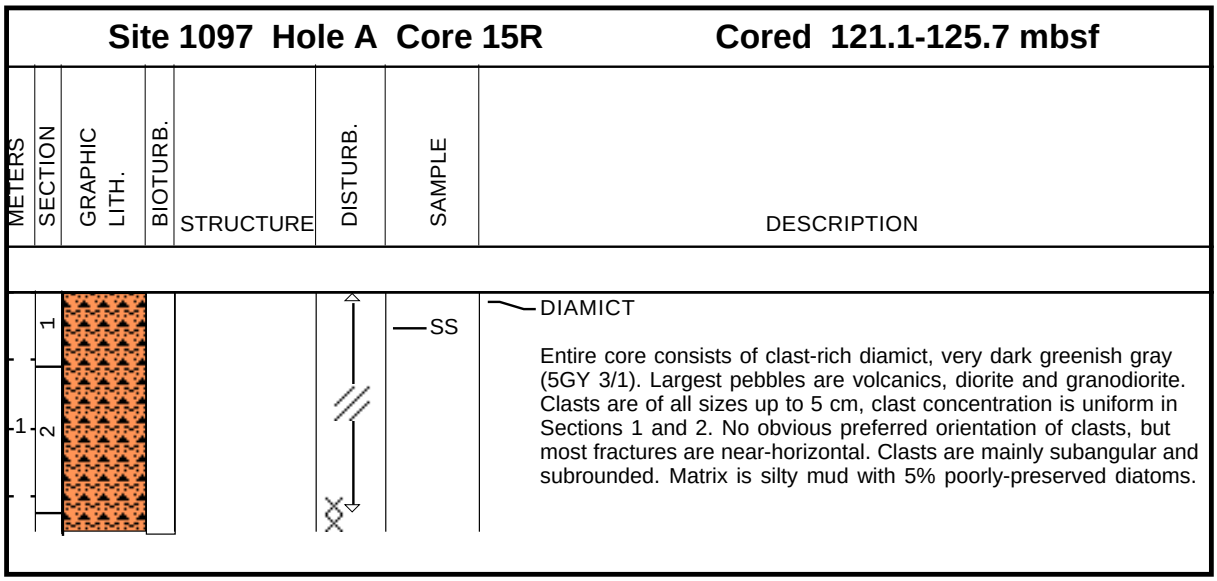
Core Image


Site 1097 Hole A Core 13R
Cored 111.5-116.1 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SS
DIAMICT
Section 1-Core Catcher: Clast-rich massive diamict, matrix is diatom-bearing silty mud, very dark gray (5Y 3/1). Diamict is compact and fractured by drilling. Section 1, 19 cm, subangular granite (2.3 cm in diameter); 37 cm, subangular volcanic rock (2.5 cm in diameter); 41 cm: subangular volcanic (1.5 cm in diameter). Drilled rock occurs between 63-72 cm.

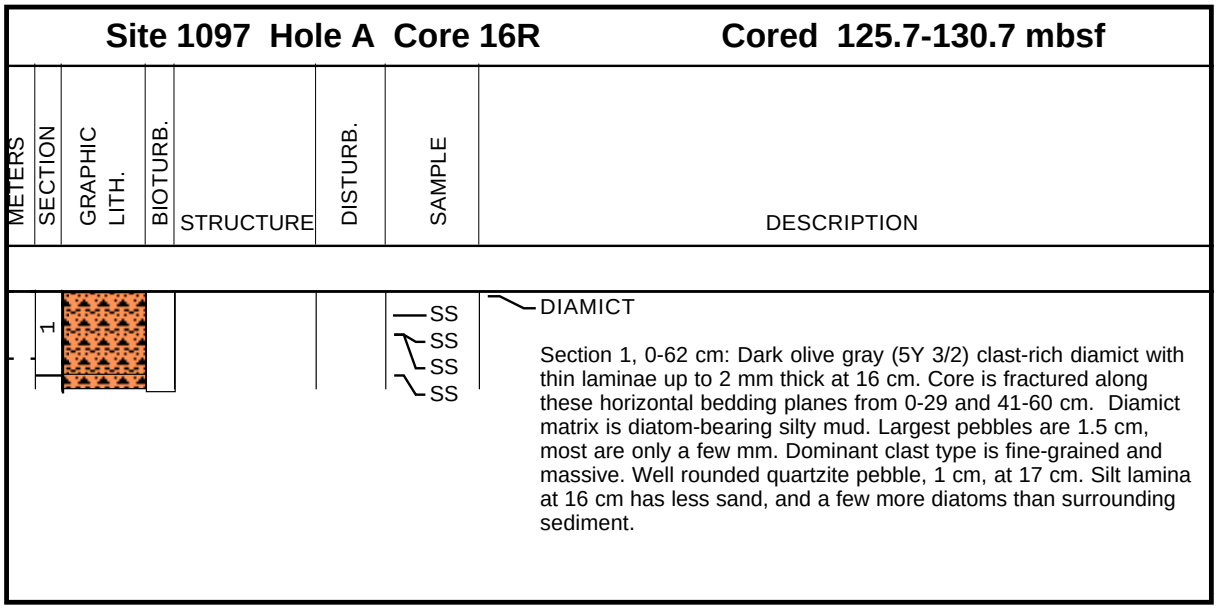
Core Image


Site 1097 Hole A Core 14R
Cored 116.1-121.1 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SS
DIAMICT
Section 1 through Core Catcher: Clast-rich diamict, very dark gray (5Y 3/2) with diatom-bearing silty mud matrix, compacted. Pebbles occur throughout, but largest clasts occur above Section 1 at 55 to 80 cm. Largest clasts are subrounded to angular, smaller ones are subrounded.
Low angle bedding (12-15 degrees tilt) and horizontal bedding may represent original depositional slope and not core disturbance. Largest clasts occur at 45 cm, subangular, 5 cm, green volcaniclastic; between 55-80 cm, there are 5 clasts ranging in size from 7.5 cm to 4 cm. The clasts include basalt and ultramafic rocks.

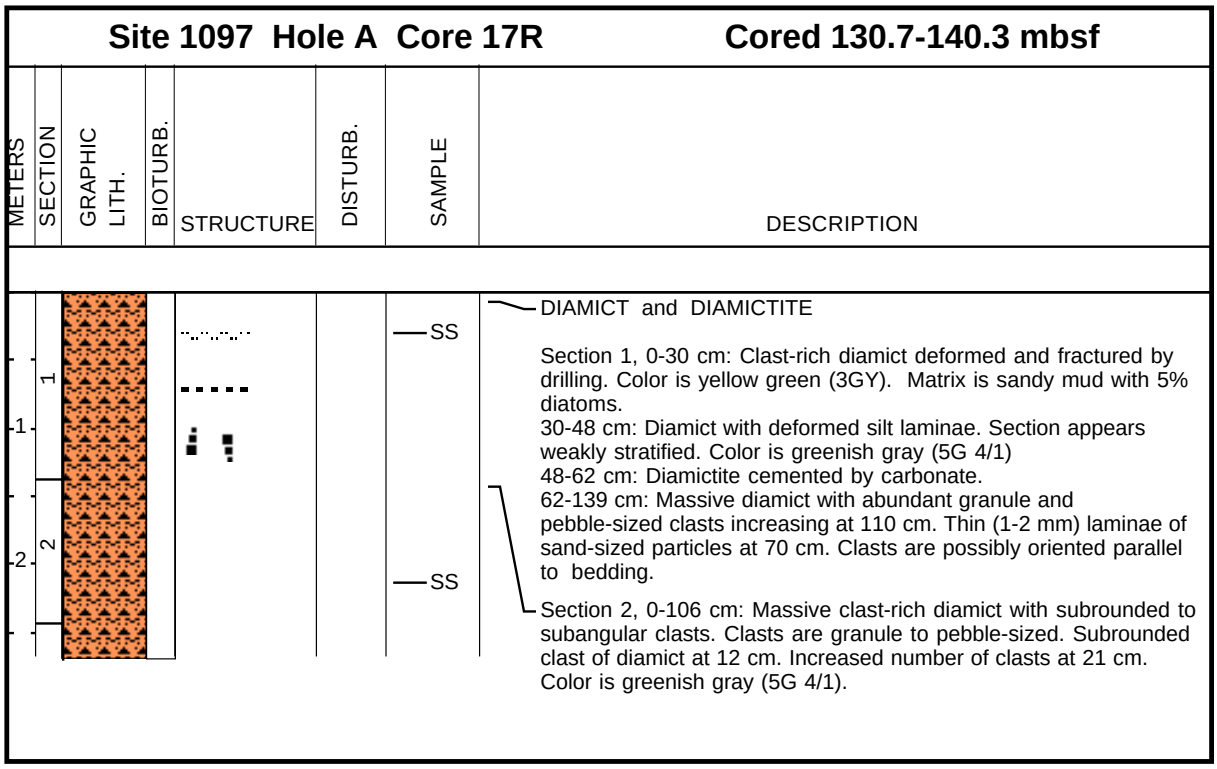
Core Image


Site 1097 Hole A Core 15R
Cored 121.1-125.7 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
2
SS
DIAMICT
Entire core consists of clast-rich diamict, very dark greenish gray (5GY 3/1). Largest pebbles are volcanics, diorite and granodiorite. Clasts are of all sizes up to 5 cm, clast concentration is uniform in Sections 1 and 2. No obvious preferred orientation of clasts, but most fractures are near-horizontal. Clasts are mainly subangular and subrounded. Matrix is silty mud with 5% poorly-preserved diatoms.

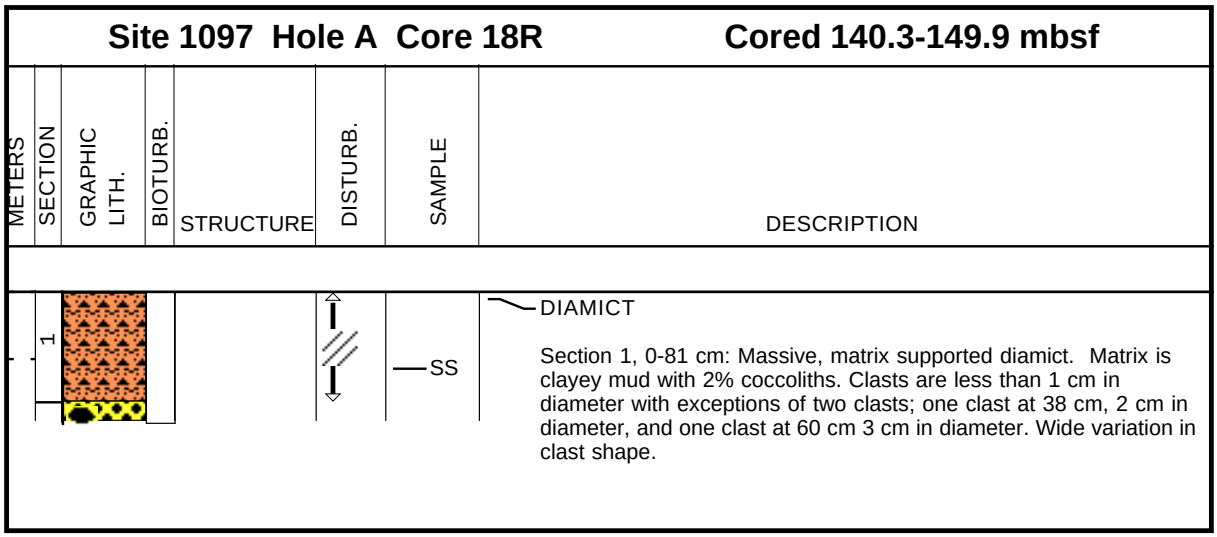
Core Image


Site 1097 Hole A Core 16R
Cored 125.7-130.7 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SS
SS
SS
SS
DIAMICT
Section 1, 0-62 cm: Dark olive gray (5Y 3/2) clast-rich diamict with thin laminae up to 2 mm thick at 16 cm. Core is fractured along these horizontal bedding planes from 0-29 and 41-60 cm. Diamict matrix is diatom-bearing silty mud. Largest pebbles are 1.5 cm, most are only a few mm. Dominant clast type is fine-grained and massive. Well rounded quartzite pebble, 1 cm, at 17 cm. Silt lamina at 16 cm has less sand, and a few more diatoms than surrounding sediment.

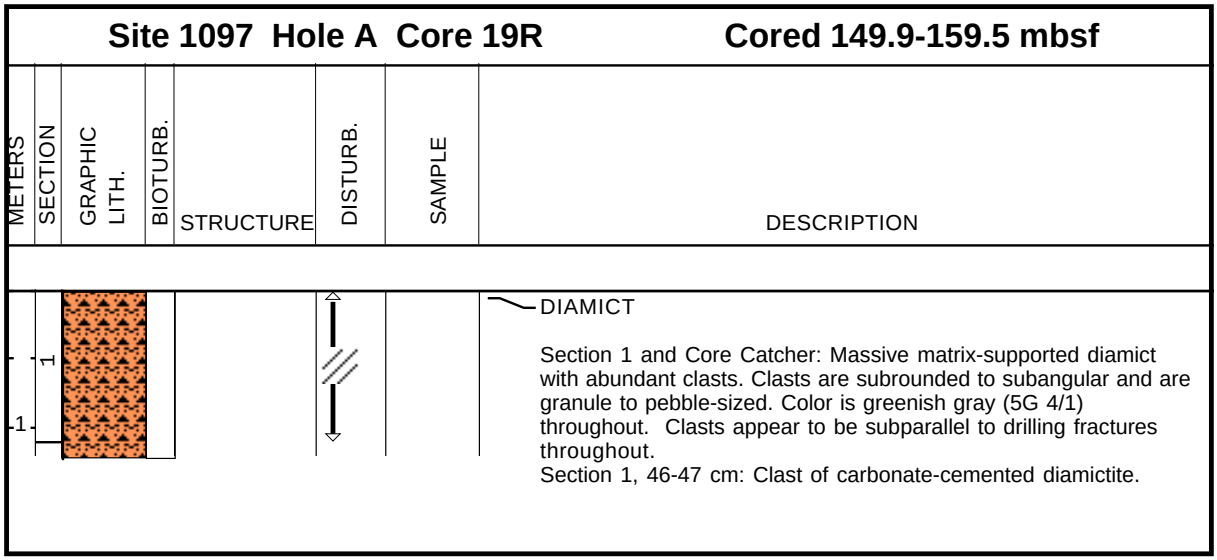
Core Image


Site 1097 Hole A Core 17R
Cored 130.7-140.3 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
1
2
SS
SS
DIAMICT and DIAMICTITE
Section 1, 0-30 cm: Clast-rich diamict deformed and fractured by drilling. Color is yellow green (3GY). Matrix is sandy mud with 5% diatoms.
30-48 cm: Diamict with deformed silt laminae. Section appears weakly stratified. Color is greenish gray (5G 4/1)
48-62 cm: Diamictite cemented by carbonate.
62-139 cm: Massive diamict with abundant granule and pebble-sized clasts increasing at 110 cm. Thin (1-2 mm) laminae of sand-sized particles at 70 cm. Clasts are possibly oriented parallel to bedding.
Section 2, 0-106 cm: Massive clast-rich diamict with subrounded to subangular clasts. Clasts are granule to pebble-sized. Subrounded clast of diamict at 12 cm. Increased number of clasts at 21 cm. Color is greenish gray (5G 4/1).

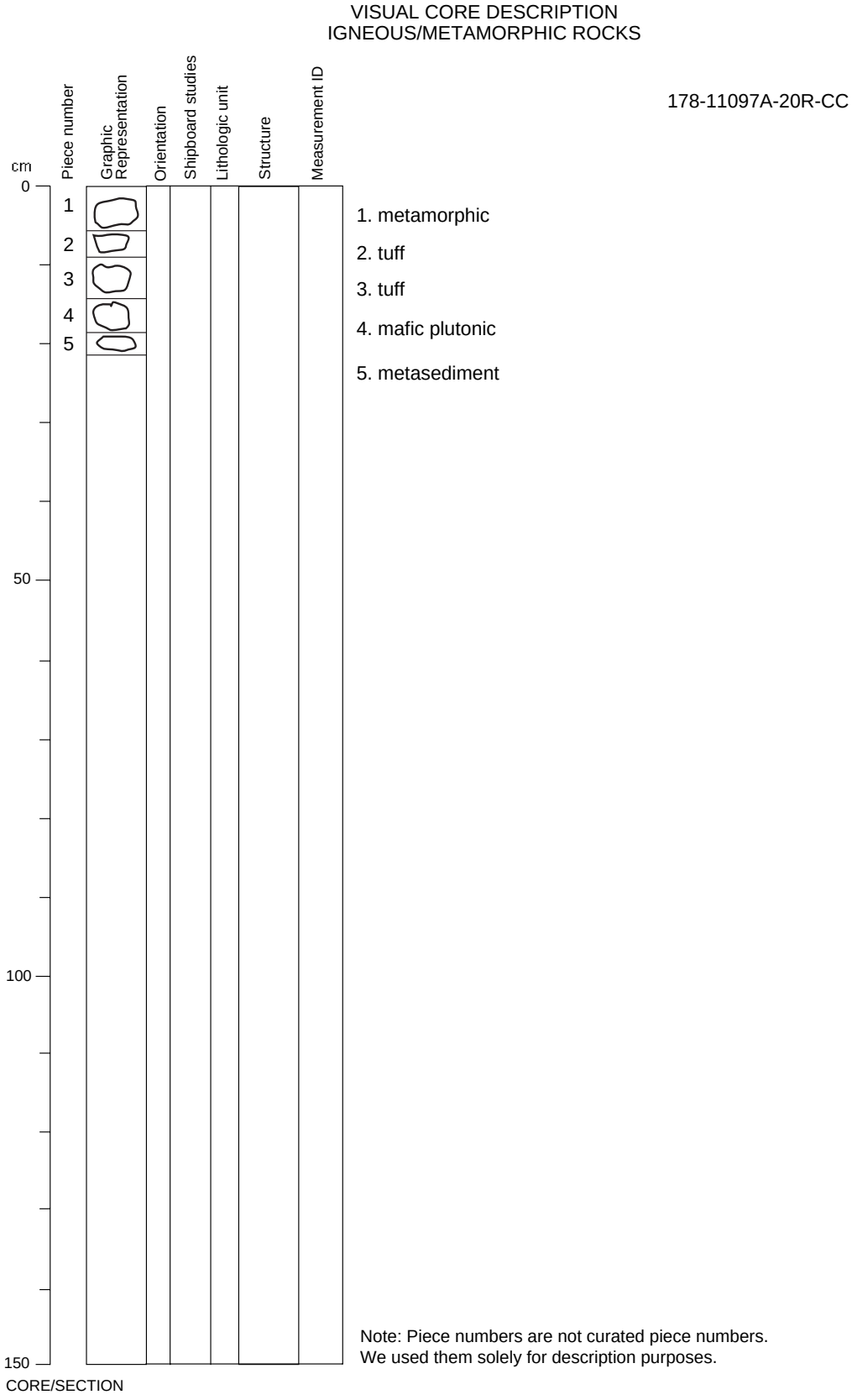
Core Image


Site 1097 Hole A Core 18R
Cored 140.3-149.9 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SS
DIAMICT
Section 1, 0-81 cm: Massive, matrix supported diamict. Matrix is clayey mud with 2% coccoliths. Clasts are less than 1 cm in diameter with exceptions of two clasts; one clast at 38 cm, 2 cm in diameter, and one clast at 60 cm 3 cm in diameter. Wide variation in clast shape.

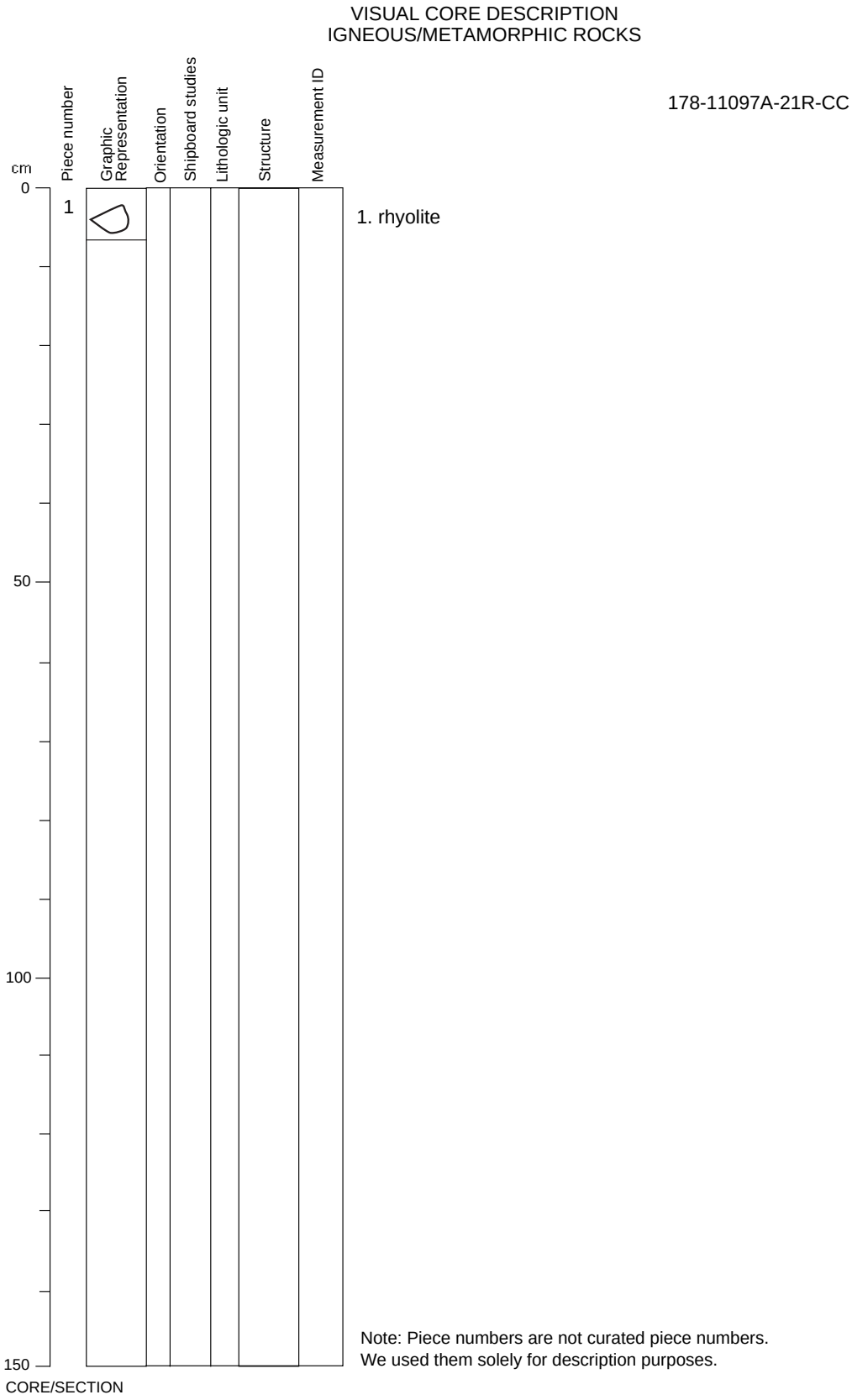
Core Image


Site 1097 Hole A Core 19R
Cored 149.9-159.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
DIAMICT
Section 1 and Core Catcher: Massive matrix-supported diamict with abundant clasts. Clasts are subrounded to subangular and are granule to pebble-sized. Color is greenish gray (5G 4/1) throughout. Clasts appear to be subparallel to drilling fractures throughout.
Section 1, 46-47 cm: Clast of carbonate-cemented diamictite.

Core Image


VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS
178-11097A-20R-CC
Piece number
Graphic Representation
Orientation
Shipboard studies
Lithologic unit
Structure
Measurement ID
cm
0
50
100
150
1
2
3
4
5
1. metamorphic
2. tuff
3. tuff
4. mafic plutonic
5. metasediment
Note: Piece numbers are not curated piece numbers.
We used them solely for description purposes.
CORE/SECTION

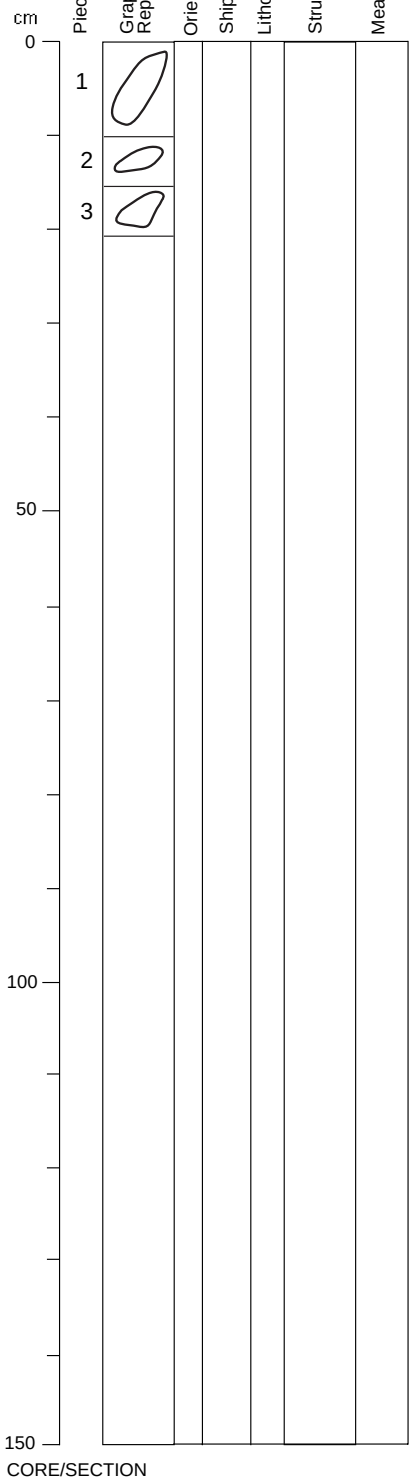
Core Image


VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS
178-11097A-21R-CC
Piece number
Graphic Representation
Orientation
Shipboard studies
Lithologic unit
Structure
Measurement ID
cm
0
50
100
150
1
1. rhyolite
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

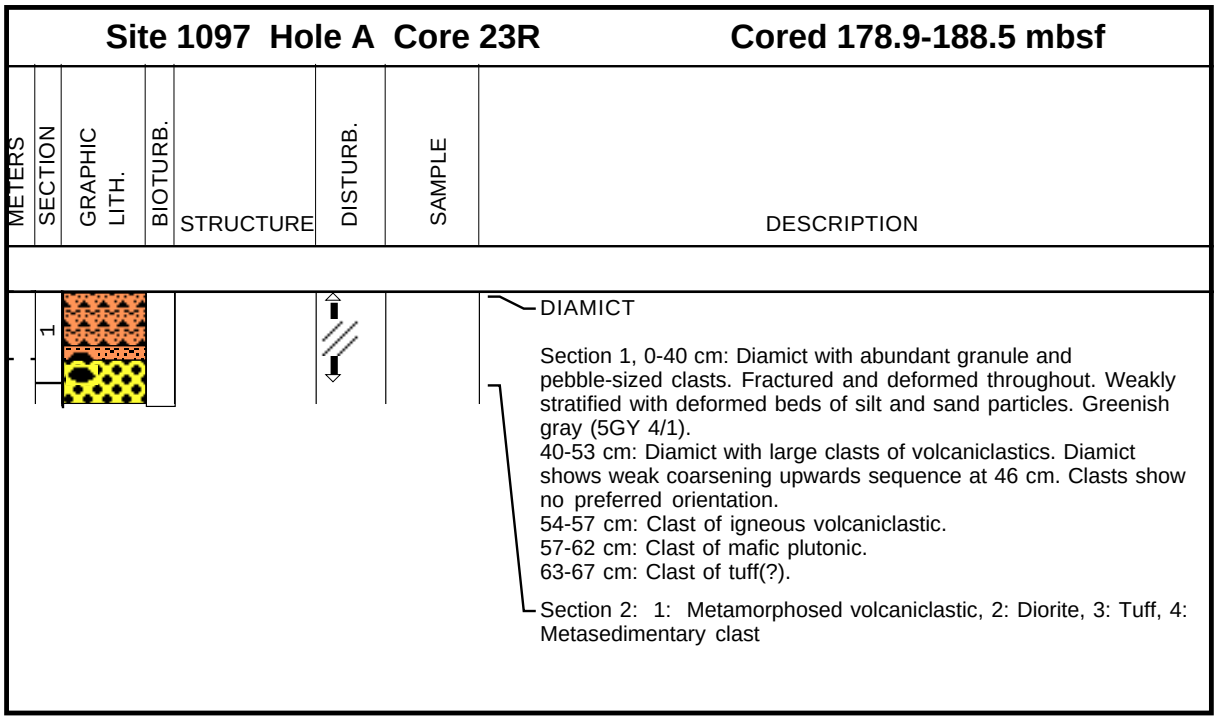
178-11097A-22R-CC



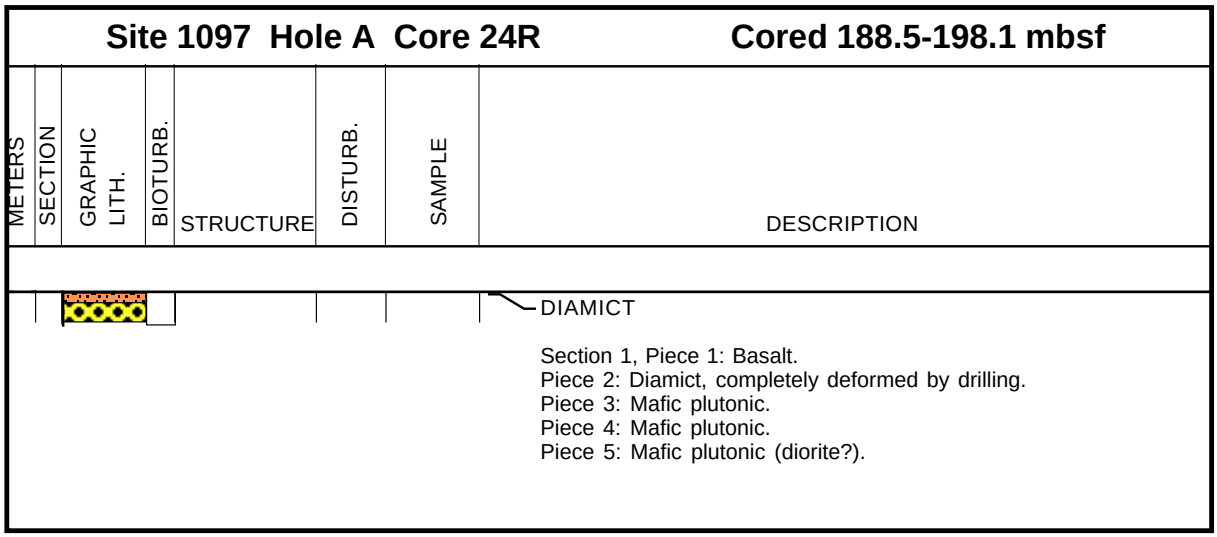
1. metasediment
2. tuff
3. tuff

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

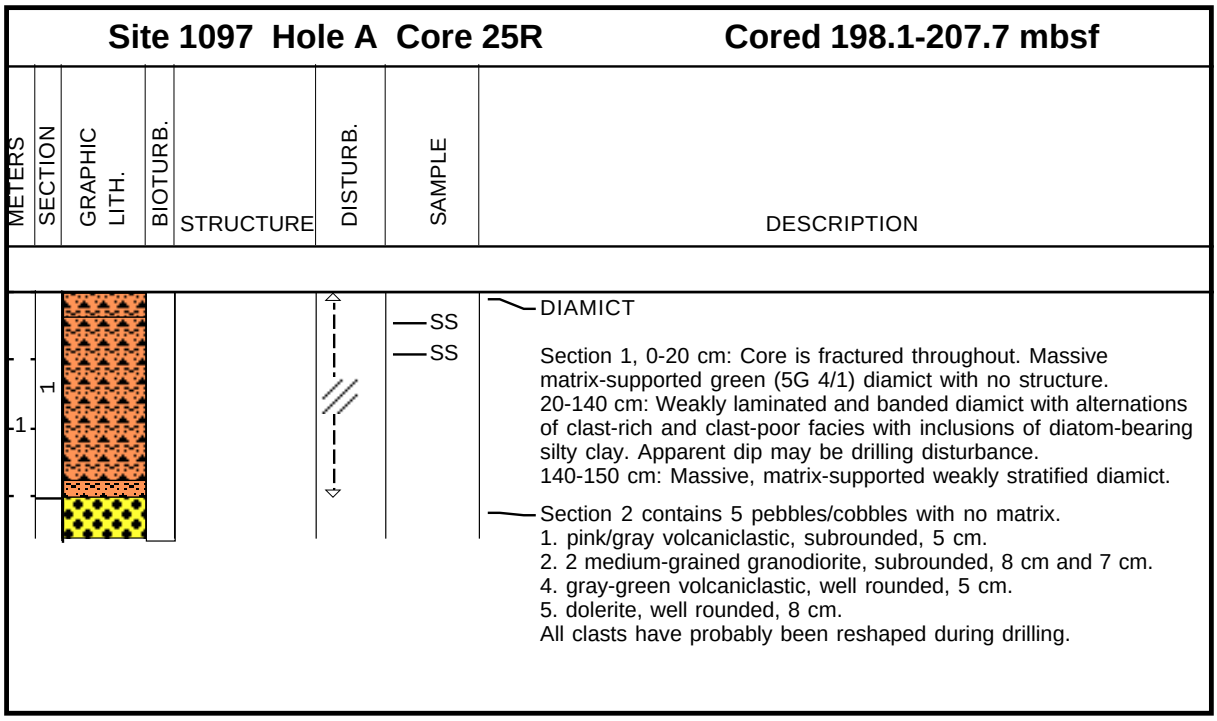
Core Image


Site 1097 Hole A Core 23R
Cored 178.9-188.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
DIAMICT
Section 1, 0-40 cm: Diamict with abundant granule and pebble-sized clasts. Fractured and deformed throughout. Weakly stratified with deformed beds of silt and sand particles. Greenish gray (5GY 4/1).
40-53 cm: Diamict with large clasts of volcaniclastics. Diamict shows weak coarsening upwards sequence at 46 cm. Clasts show no preferred orientation.
54-57 cm: Clast of igneous volcaniclastic.
57-62 cm: Clast of mafic plutonic.
63-67 cm: Clast of tuff(?).
Section 2: 1: Metamorphosed volcaniclastic, 2: Diorite, 3: Tuff, 4: Metasedimentary clast

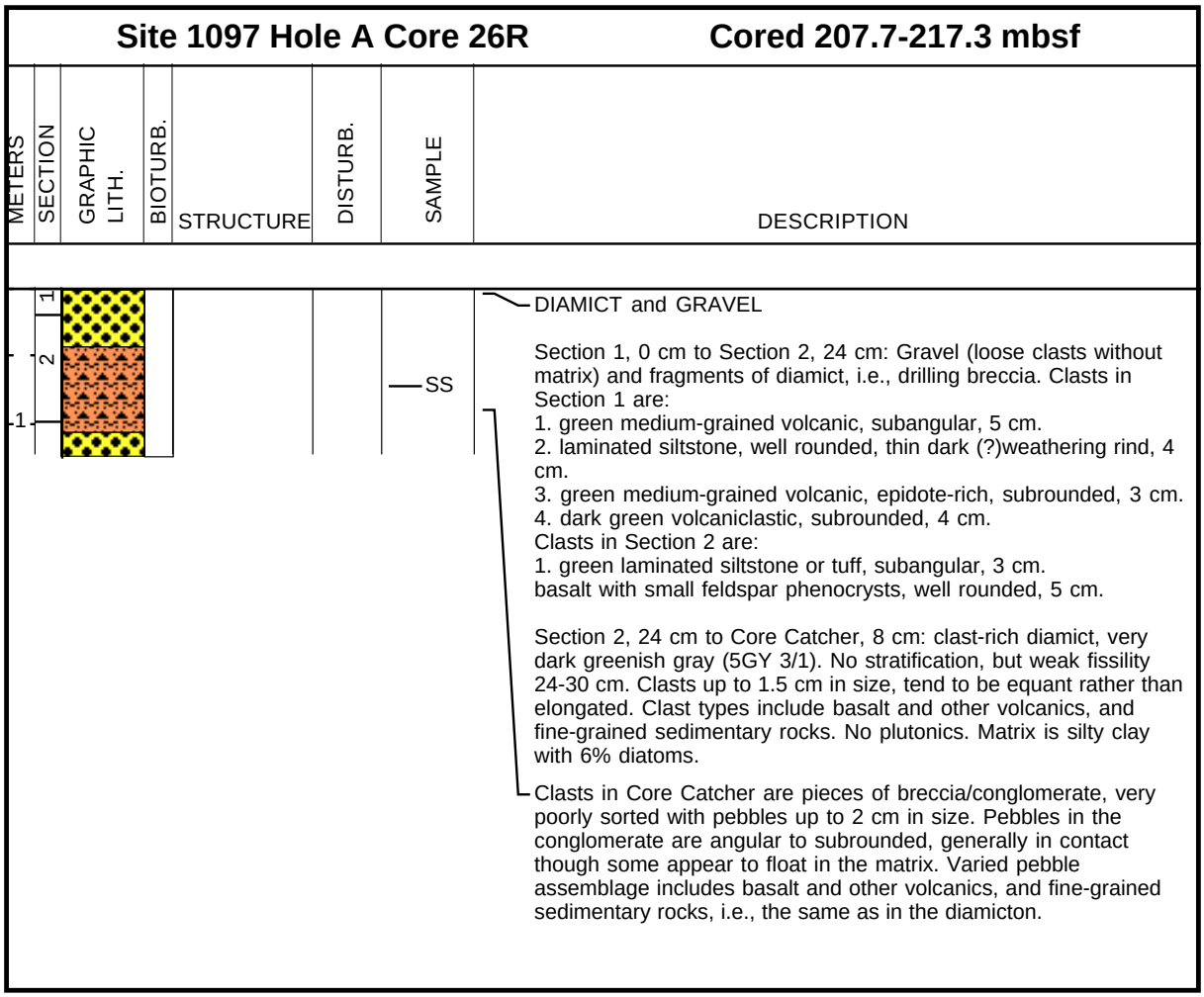
Core Image


Site 1097 Hole A Core 24R
Cored 188.5-198.1 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
DIAMICT
Section 1, Piece 1: Basalt.
Piece 2: Diamict, completely deformed by drilling.
Piece 3: Mafic plutonic.
Piece 4: Mafic plutonic.
Piece 5: Mafic plutonic (diorite?).

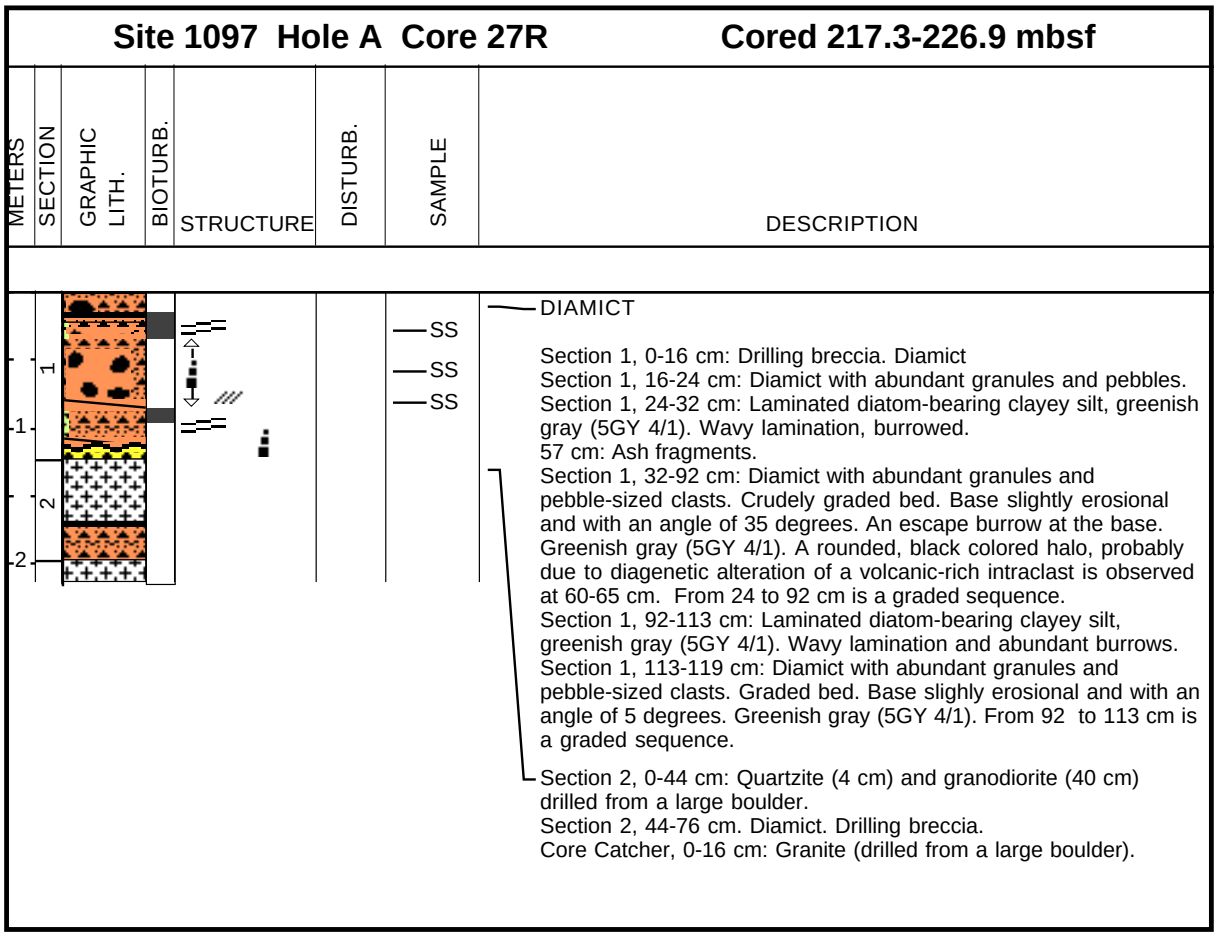
Core Image


Site 1097 Hole A Core 25R
Cored 198.1-207.7 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SS
SS
DIAMICT
Section 1, 0-20 cm: Core is fractured throughout. Massive matrix-supported green (5G 4/1) diamict with no structure.
20-140 cm: Weakly laminated and banded diamict with alternations of clast-rich and clast-poor facies with inclusions of diatom-bearing silty clay. Apparent dip may be drilling disturbance.
140-150 cm: Massive, matrix-supported weakly stratified diamict.
Section 2 contains 5 pebbles/cobbles with no matrix.
1. pink/gray volcaniclastic, subrounded, 5 cm.
2. 2 medium-grained granodiorite, subrounded, 8 cm and 7 cm.
4. gray-green volcaniclastic, well rounded, 5 cm.
5. dolerite, well rounded, 8 cm.
All clasts have probably been reshaped during drilling.

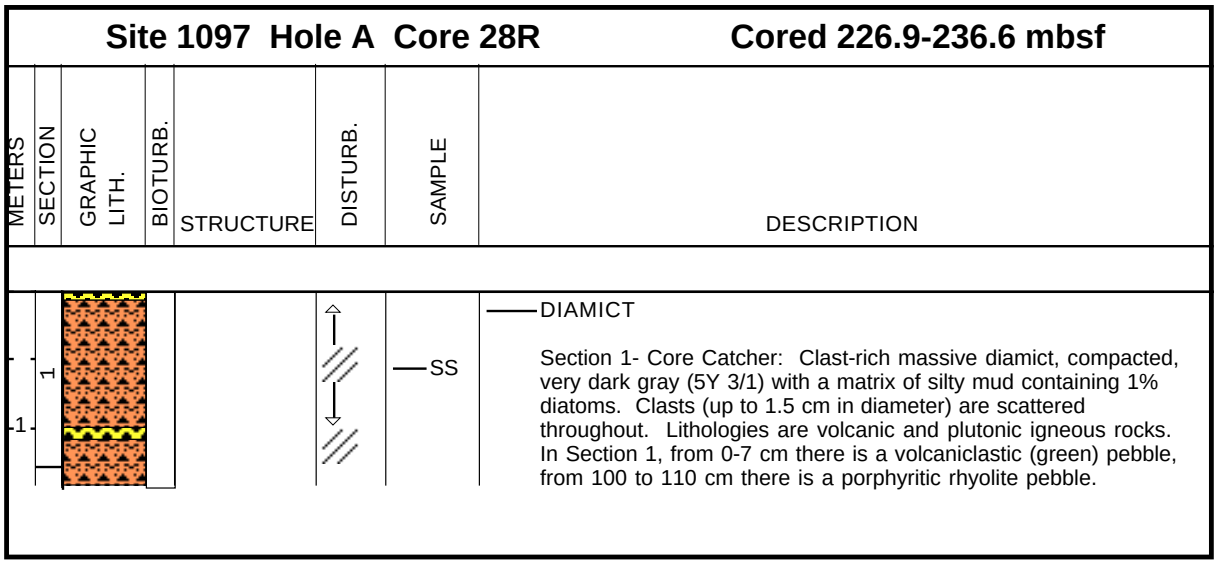
Core Image


Site 1097 Hole A Core 26R
Cored 207.7-217.3 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
1
SS
DIAMICT and GRAVEL
Section 1, 0 cm to Section 2, 24 cm: Gravel (loose clasts without matrix) and fragments of diamict, i.e., drilling breccia. Clasts in Section 1 are:
1. green medium-grained volcanic, subangular, 5 cm.
2. laminated siltstone, well rounded, thin dark (?)weathering rind, 4 cm.
3. green medium-grained volcanic, epidote-rich, subrounded, 3 cm.
4. dark green volcaniclastic, subrounded, 4 cm.
Clasts in Section 2 are:
1. green laminated siltstone or tuff, subangular, 3 cm.
basalt with small feldspar phenocrysts, well rounded, 5 cm.
Section 2, 24 cm to Core Catcher, 8 cm: clast-rich diamict, very dark greenish gray (5GY 3/1). No stratification, but weak fissility 24-30 cm. Clasts up to 1.5 cm in size, tend to be equant rather than elongated. Clast types include basalt and other volcanics, and fine-grained sedimentary rocks. No plutonics. Matrix is silty clay with 6% diatoms.
Clasts in Core Catcher are pieces of breccia/conglomerate, very poorly sorted with pebbles up to 2 cm in size. Pebbles in the conglomerate are angular to subrounded, generally in contact though some appear to float in the matrix. Varied pebble assemblage includes basalt and other volcanics, and fine-grained sedimentary rocks, i.e., the same as in the diamicton.

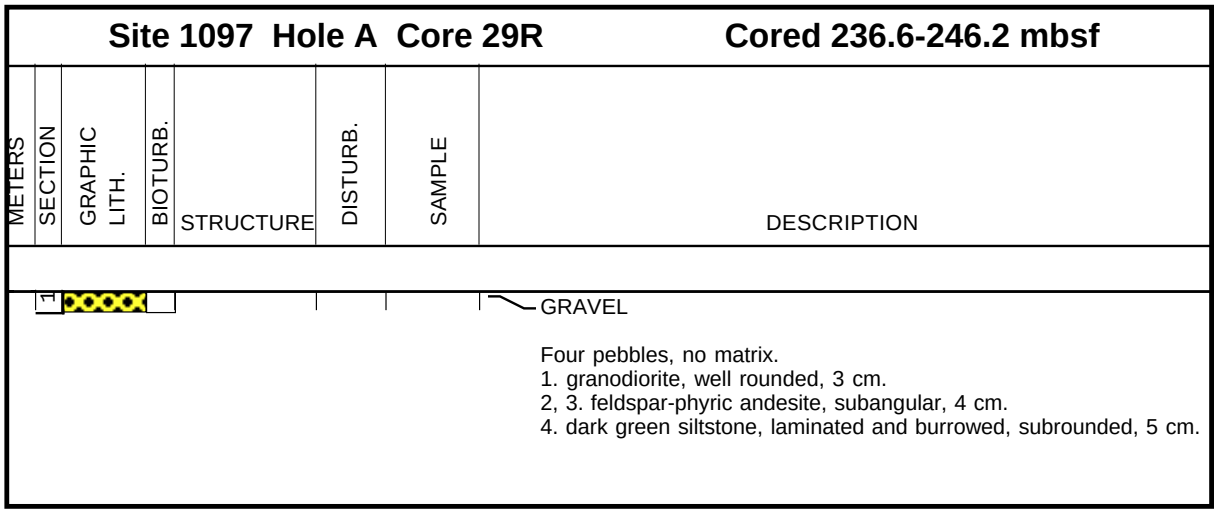
Core Image


Site 1097 Hole A Core 27R Cored 217.3-226.9 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
1
2
SS
SS
SS
DIAMICT
Section 1, 0-16 cm: Drilling breccia. Diamict
Section 1, 16-24 cm: Diamict with abundant granules and pebbles.
Section 1, 24-32 cm: Laminated diatom-bearing clayey silt, greenish gray (5GY 4/1). Wavy lamination, burrowed.
57 cm: Ash fragments.
Section 1, 32-92 cm: Diamict with abundant granules and pebble-sized clasts. Crudely graded bed. Base slightly erosional and with an angle of 35 degrees. An escape burrow at the base. Greenish gray (5GY 4/1). A rounded, black colored halo, probably due to diagenetic alteration of a volcanic-rich intraclast is observed at 60-65 cm. From 24 to 92 cm is a graded sequence.
Section 1, 92-113 cm: Laminated diatom-bearing clayey silt, greenish gray (5GY 4/1). Wavy lamination and abundant burrows.
Section 1, 113-119 cm: Diamict with abundant granules and pebble-sized clasts. Graded bed. Base slighly erosional and with an angle of 5 degrees. Greenish gray (5GY 4/1). From 92 to 113 cm is a graded sequence.
Section 2, 0-44 cm: Quartzite (4 cm) and granodiorite (40 cm) drilled from a large boulder.
Section 2, 44-76 cm. Diamict. Drilling breccia.
Core Catcher, 0-16 cm: Granite (drilled from a large boulder).

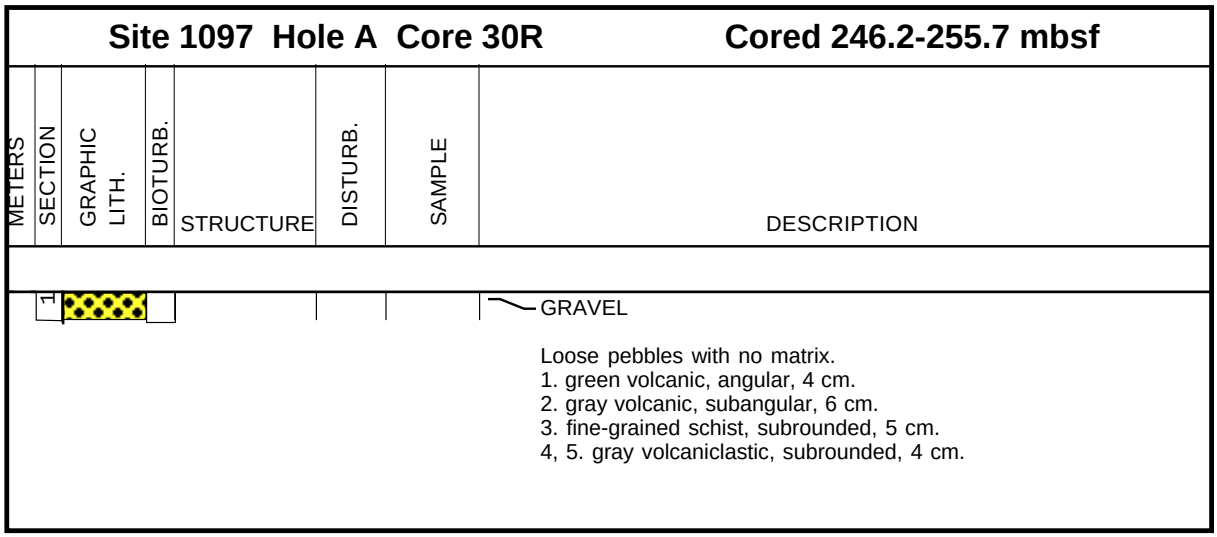
Core Image


Site 1097 Hole A Core 28R
Cored 226.9-236.6 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SS
DIAMICT
Section 1- Core Catcher: Clast-rich massive diamict, compacted, very dark gray (5Y 3/1) with a matrix of silty mud containing 1% diatoms. Clasts (up to 1.5 cm in diameter) are scattered throughout. Lithologies are volcanic and plutonic igneous rocks. In Section 1, from 0-7 cm there is a volcaniclastic (green) pebble, from 100 to 110 cm there is a porphyritic rhyolite pebble.

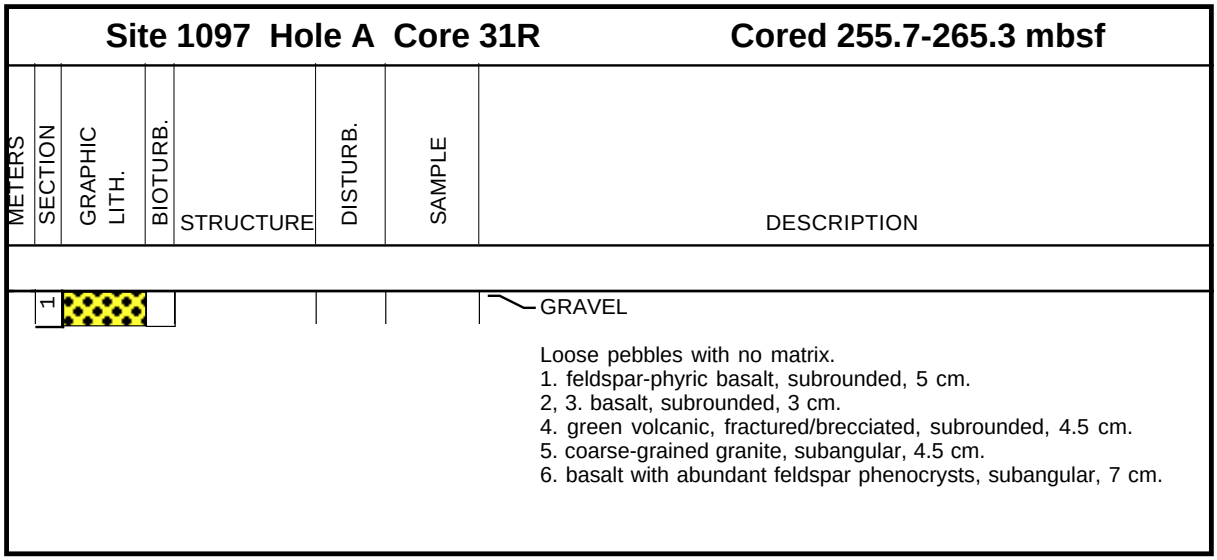
Core Image


Site 1097 Hole A Core 29R Cored 236.6-246.2 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
GRAVEL
Four pebbles, no matrix.
1. granodiorite, well rounded, 3 cm.
2, 3. feldspar-phyric andesite, subangular, 4 cm.
4. dark green siltstone, laminated and burrowed, subrounded, 5 cm.

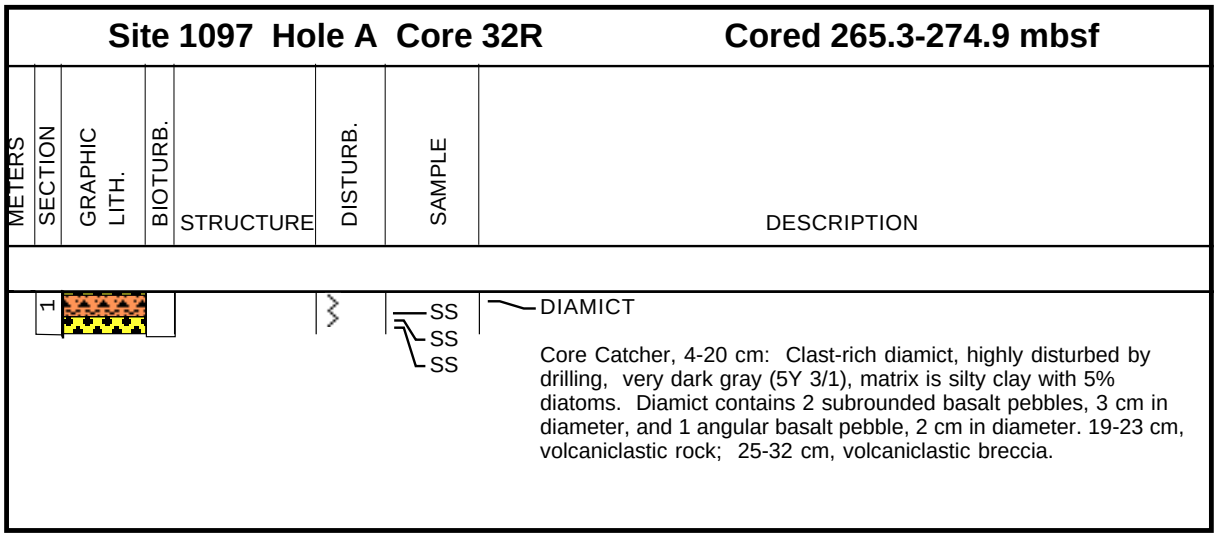
Core Image


Site 1097 Hole A Core 30R
Cored 246.2-255.7 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
GRAVEL
Loose pebbles with no matrix.
1. green volcanic, angular, 4 cm.
2. gray volcanic, subangular, 6 cm.
3. fine-grained schist, subrounded, 5 cm.
4, 5. gray volcaniclastic, subrounded, 4 cm.

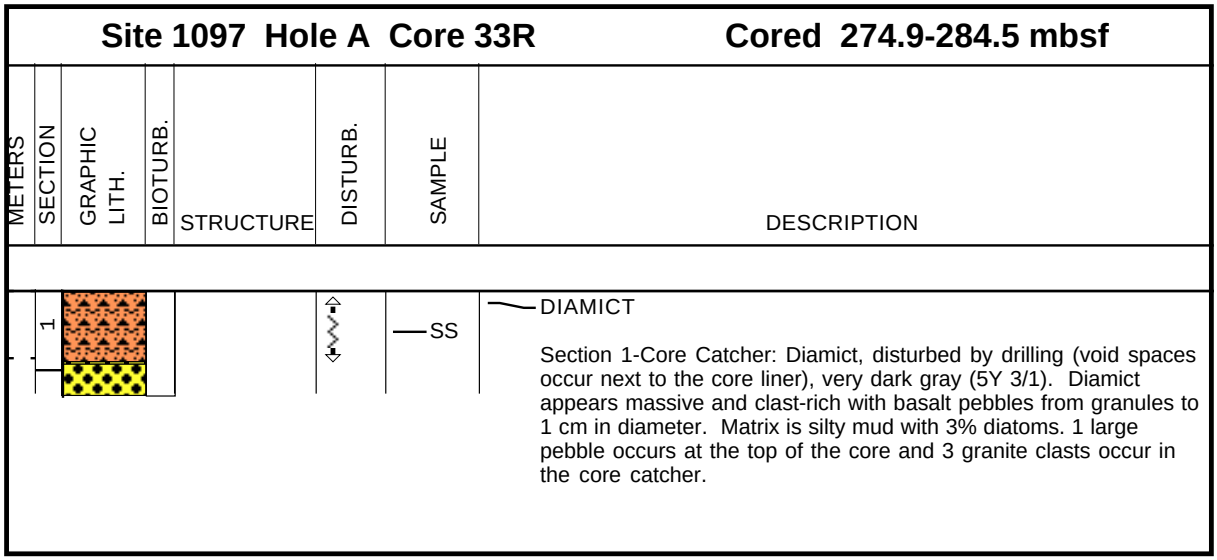
Core Image


Site 1097 Hole A Core 31R
Cored 255.7-265.3 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
GRAVEL
Loose pebbles with no matrix.
1. feldspar-phyric basalt, subrounded, 5 cm.
2, 3. basalt, subrounded, 3 cm.
4. green volcanic, fractured/brecciated, subrounded, 4.5 cm.
5. coarse-grained granite, subangular, 4.5 cm.
6. basalt with abundant feldspar phenocrysts, subangular, 7 cm.

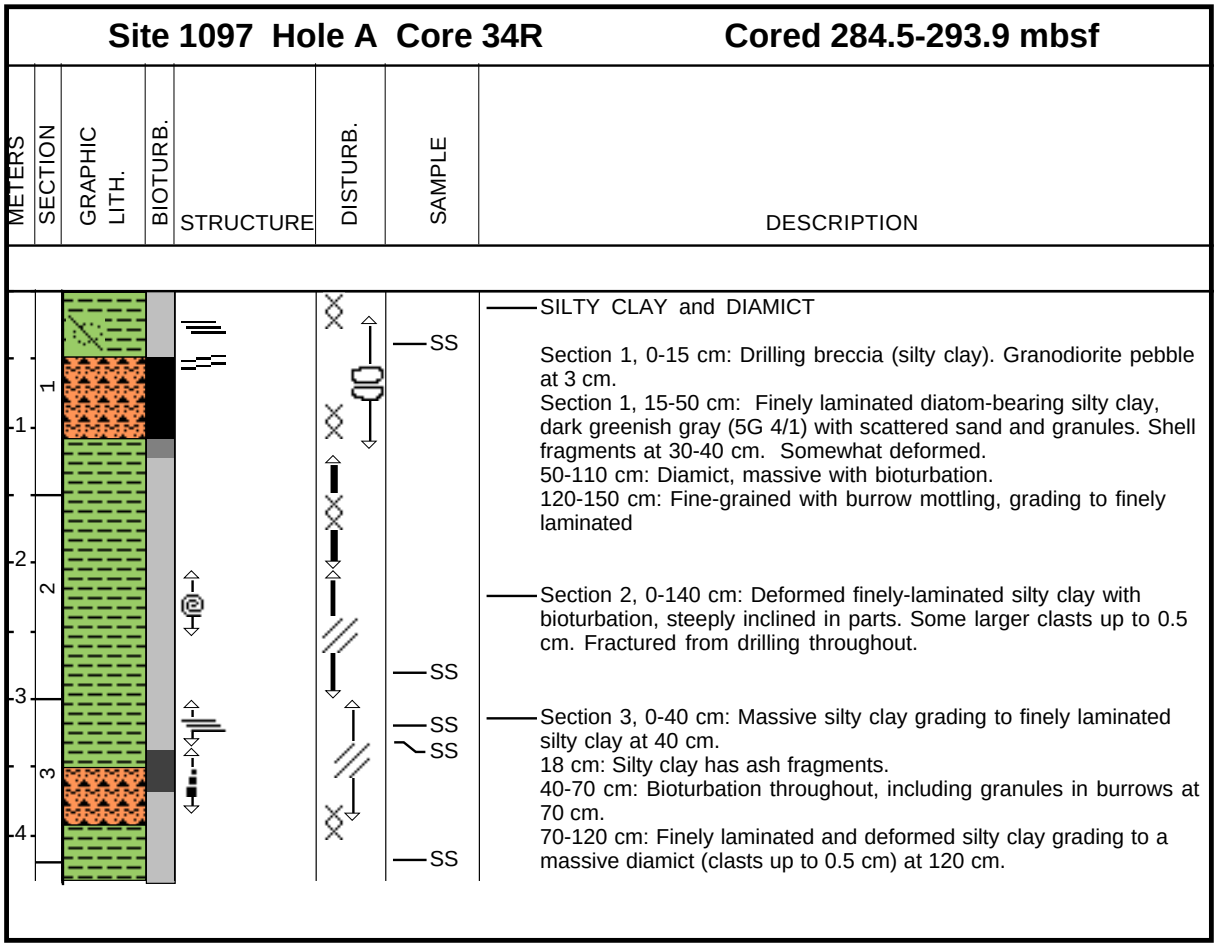
Core Image


Site 1097 Hole A Core 32R
Cored 265.3-274.9 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SS
SS
SS
DIAMICT
Core Catcher, 4-20 cm: Clast-rich diamict, highly disturbed by drilling, very dark gray (5Y 3/1), matrix is silty clay with 5% diatoms. Diamict contains 2 subrounded basalt pebbles, 3 cm in diameter, and 1 angular basalt pebble, 2 cm in diameter. 19-23 cm, volcaniclastic rock; 25-32 cm, volcaniclastic breccia.

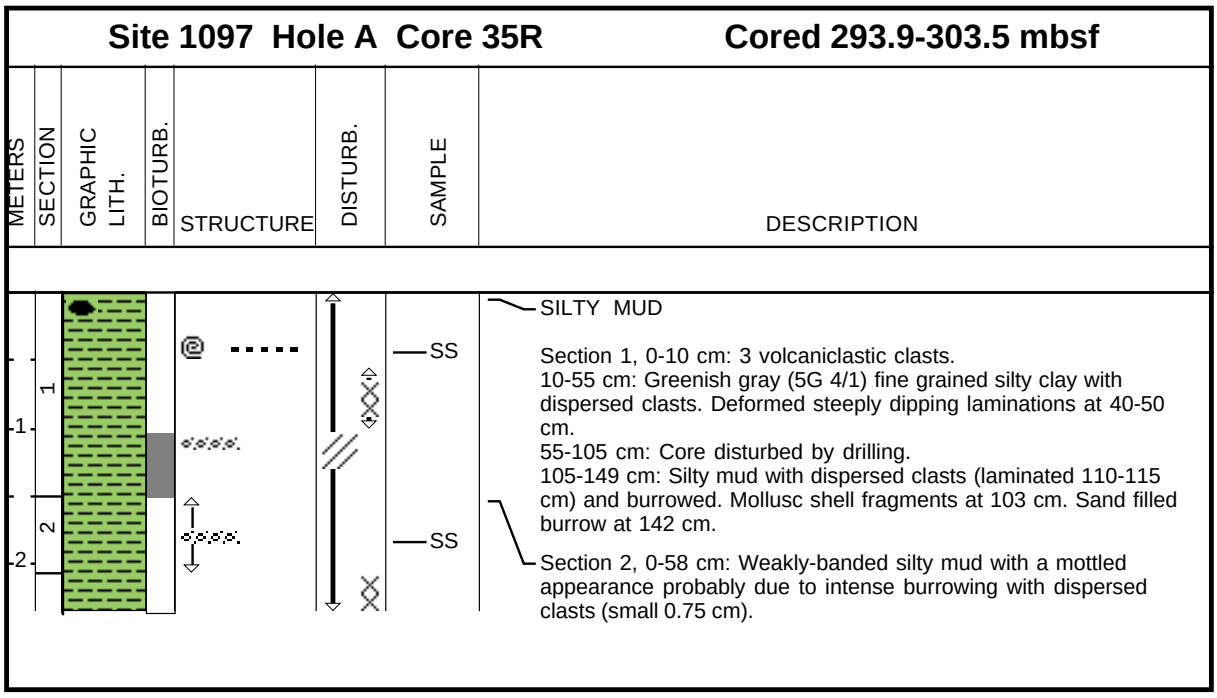
Core Image


Site 1097 Hole A Core 33R
Cored 274.9-284.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
SS
DIAMICT
Section 1-Core Catcher: Diamict, disturbed by drilling (void spaces occur next to the core liner), very dark gray (5Y 3/1). Diamict appears massive and clast-rich with basalt pebbles from granules to 1 cm in diameter. Matrix is silty mud with 3% diatoms. 1 large pebble occurs at the top of the core and 3 granite clasts occur in the core catcher.

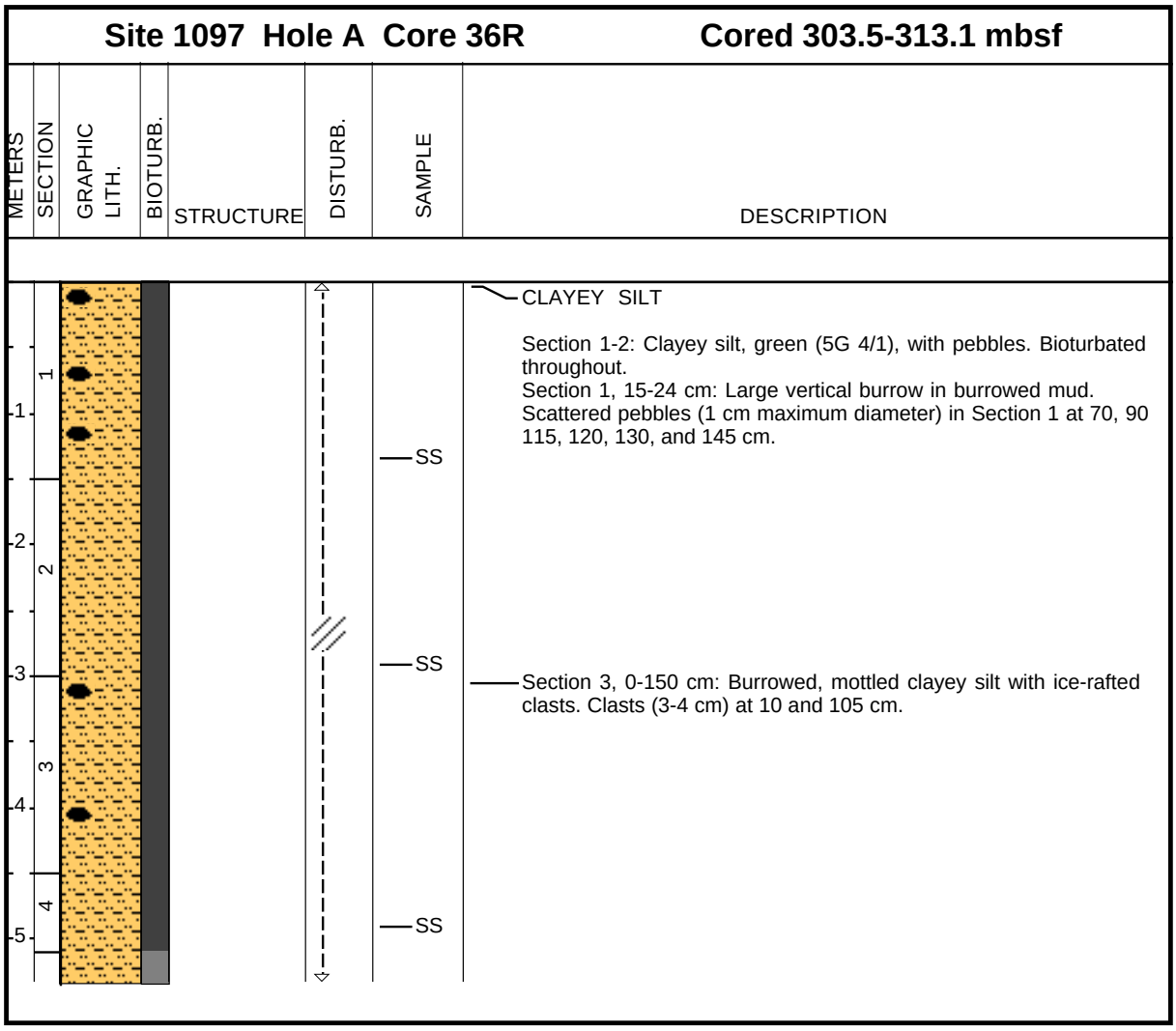
Core Image


Site 1097 Hole A Core 34R Cored 284.5-293.9 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
SILTY CLAY and DIAMICT
Section 1, 0-15 cm: Drilling breccia (silty clay). Granodiorite pebble at 3 cm.
Section 1, 15-50 cm: Finely laminated diatom-bearing silty clay, dark greenish gray (5G 4/1) with scattered sand and granules. Shell fragments at 30-40 cm. Somewhat deformed.
50-110 cm: Diamict, massive with bioturbation.
120-150 cm: Fine-grained with burrow mottling, grading to finely laminated
Section 2, 0-140 cm: Deformed finely-laminated silty clay with bioturbation, steeply inclined in parts. Some larger clasts up to 0.5 cm. Fractured from drilling throughout.
Section 3, 0-40 cm: Massive silty clay grading to finely laminated silty clay at 40 cm.
18 cm: Silty clay has ash fragments.
40-70 cm: Bioturbation throughout, including granules in burrows at 70 cm.
70-120 cm: Finely laminated and deformed silty clay grading to a massive diamict (clasts up to 0.5 cm) at 120 cm.
SS
SS
SS
SS
SS
1
2
3
1
2
3
4

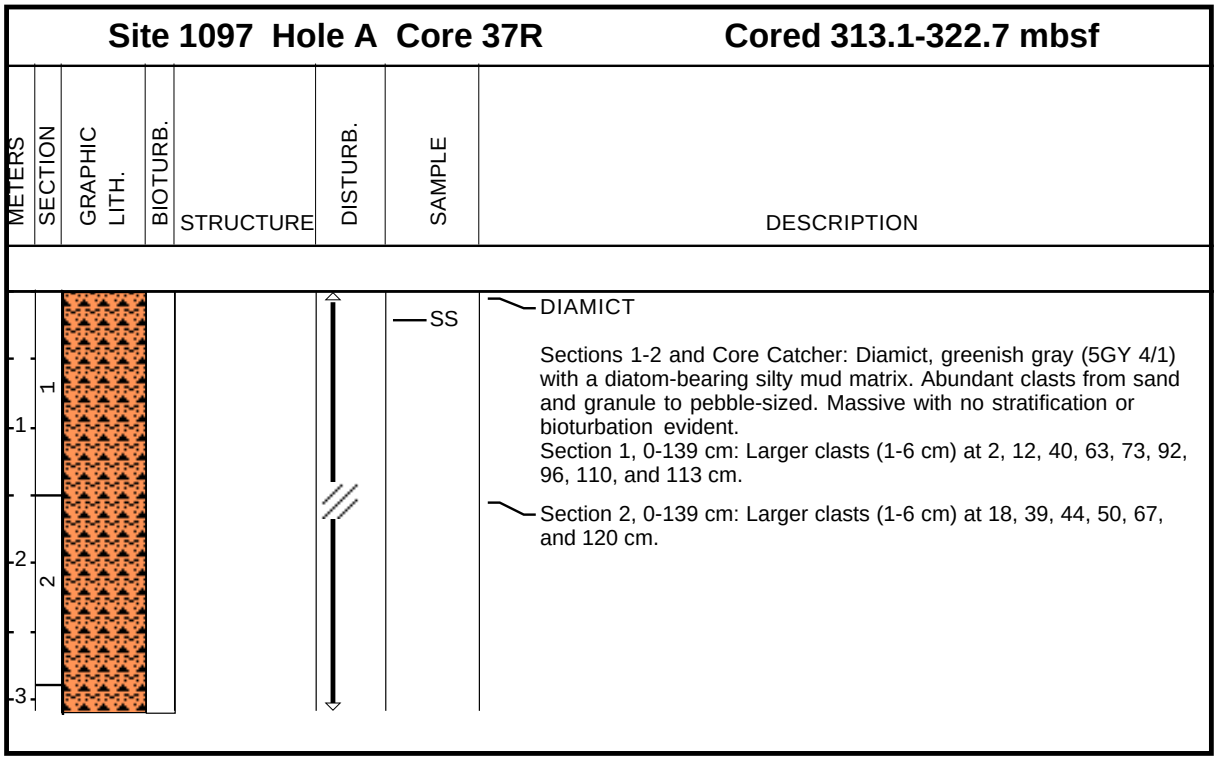
Core Image


Site 1097 Hole A Core 35R
Cored 293.9-303.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
SS
SS
SILTY MUD
Section 1, 0-10 cm: 3 volcaniclastic clasts.
10-55 cm: Greenish gray (5G 4/1) fine grained silty clay with dispersed clasts. Deformed steeply dipping laminations at 40-50 cm.
55-105 cm: Core disturbed by drilling.
105-149 cm: Silty mud with dispersed clasts (laminated 110-115 cm) and burrowed. Mollusc shell fragments at 103 cm. Sand filled burrow at 142 cm.
Section 2, 0-58 cm: Weakly-banded silty mud with a mottled appearance probably due to intense burrowing with dispersed clasts (small 0.75 cm).

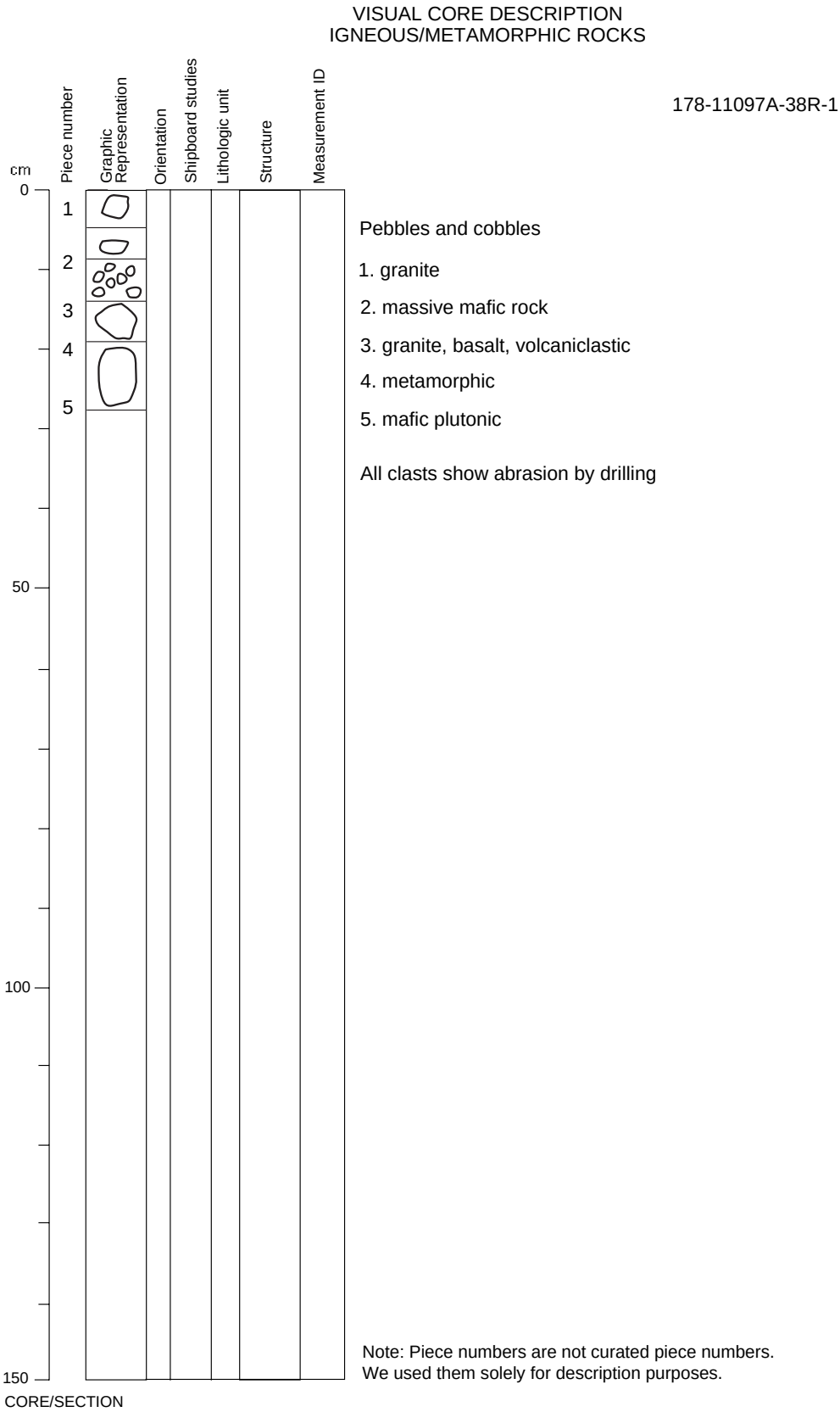
Core Image


Site 1097 Hole A Core 36R
Cored 303.5-313.1 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
4
5
SS
SS
SS
CLAYEY SILT
Section 1-2: Clayey silt, green (5G 4/1), with pebbles. Bioturbated throughout.
Section 1, 15-24 cm: Large vertical burrow in burrowed mud.
Scattered pebbles (1 cm maximum diameter) in Section 1 at 70, 90 115, 120, 130, and 145 cm.
Section 3, 0-150 cm: Burrowed, mottled clayey silt with ice-rafted clasts. Clasts (3-4 cm) at 10 and 105 cm.

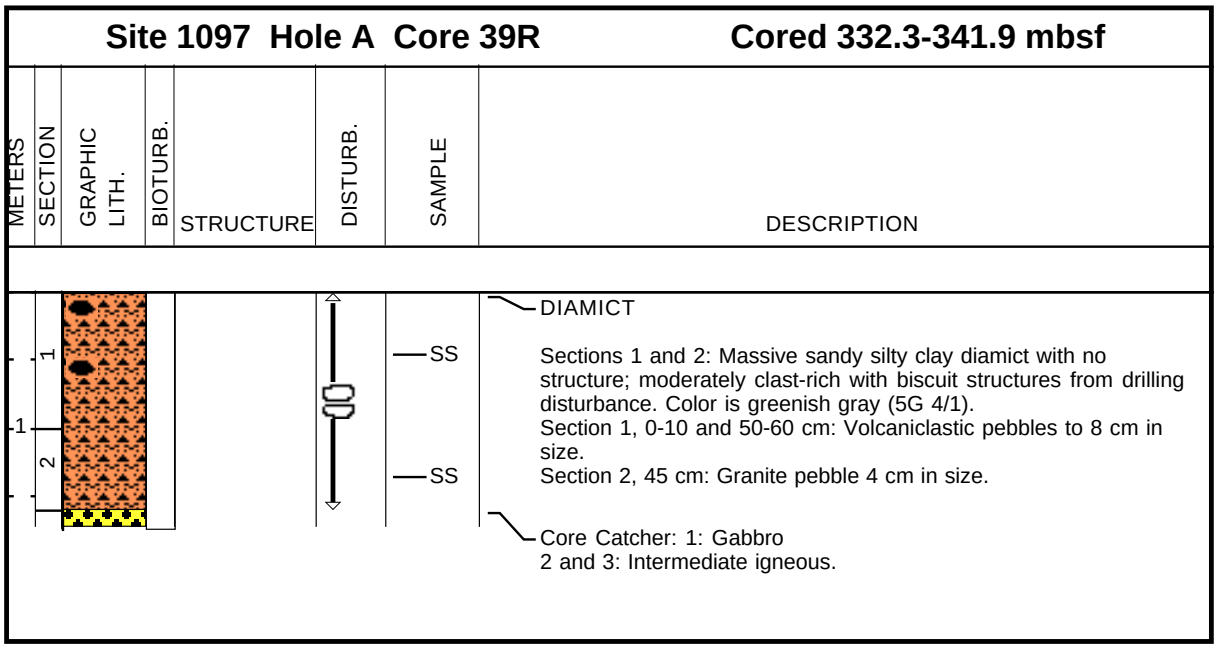
Core Image


Site 1097 Hole A Core 37R
Cored 313.1-322.7 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
0
1
2
3
SS
DIAMICT
Sections 1-2 and Core Catcher: Diamict, greenish gray (5GY 4/1) with a diatom-bearing silty mud matrix. Abundant clasts from sand and granule to pebble-sized. Massive with no stratification or bioturbation evident.
Section 1, 0-139 cm: Larger clasts (1-6 cm) at 2, 12, 40, 63, 73, 92, 96, 110, and 113 cm.
Section 2, 0-139 cm: Larger clasts (1-6 cm) at 18, 39, 44, 50, 67, and 120 cm.

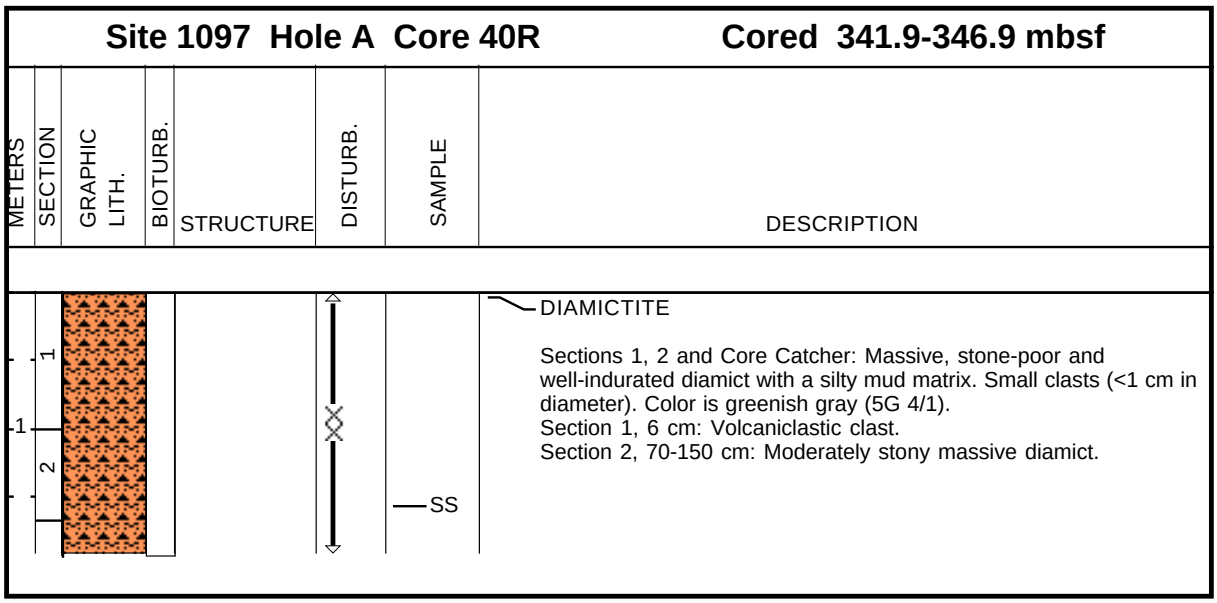
Core Image


VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS
178-11097A-38R-1
Piece number
Graphic Representation
Orientation
Shipboard studies
Lithologic unit
Structure
Measurement ID
cm
0
50
100
150
1
2
3
4
5
Pebbles and cobbles
1. granite
2. massive mafic rock
3. granite, basalt, volcaniclastic
4. metamorphic
5. mafic plutonic
All clasts show abrasion by drilling
Note: Piece numbers are not curated piece numbers.
We used them solely for description purposes.
CORE/SECTION

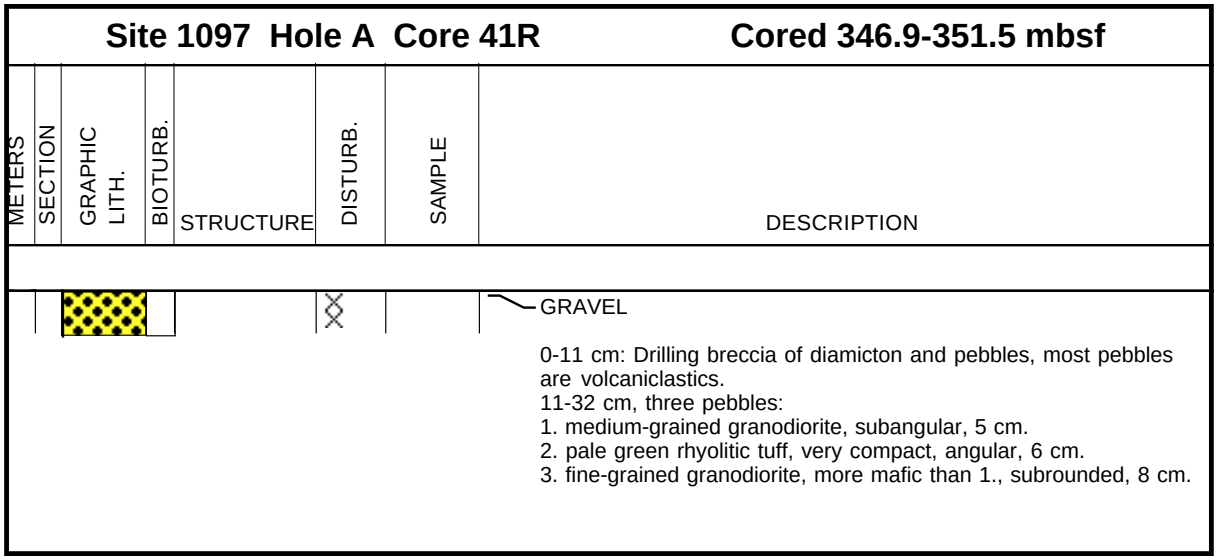
Core Image


Site 1097 Hole A Core 39R
Cored 332.3-341.9 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
2
SS
SS
DIAMICT
Sections 1 and 2: Massive sandy silty clay diamict with no structure; moderately clast-rich with biscuit structures from drilling disturbance. Color is greenish gray (5G 4/1).
Section 1, 0-10 and 50-60 cm: Volcaniclastic pebbles to 8 cm in size.
Section 2, 45 cm: Granite pebble 4 cm in size.
Core Catcher: 1: Gabbro
2 and 3: Intermediate igneous.

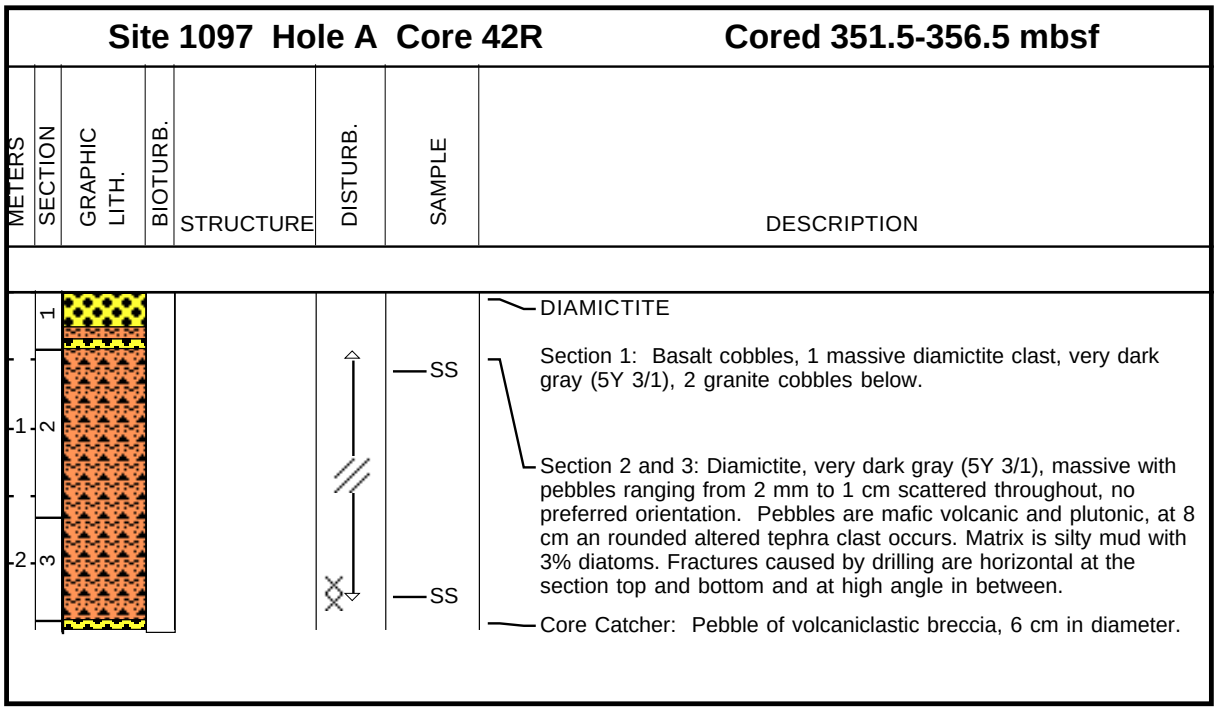
Core Image


Site 1097 Hole A Core 40R
Cored 341.9-346.9 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
2
SS
DIAMICTITE
Sections 1, 2 and Core Catcher: Massive, stone-poor and well-indurated diamict with a silty mud matrix. Small clasts (<1 cm in diameter). Color is greenish gray (5G 4/1).
Section 1, 6 cm: Volcaniclastic clast.
Section 2, 70-150 cm: Moderately stony massive diamict.

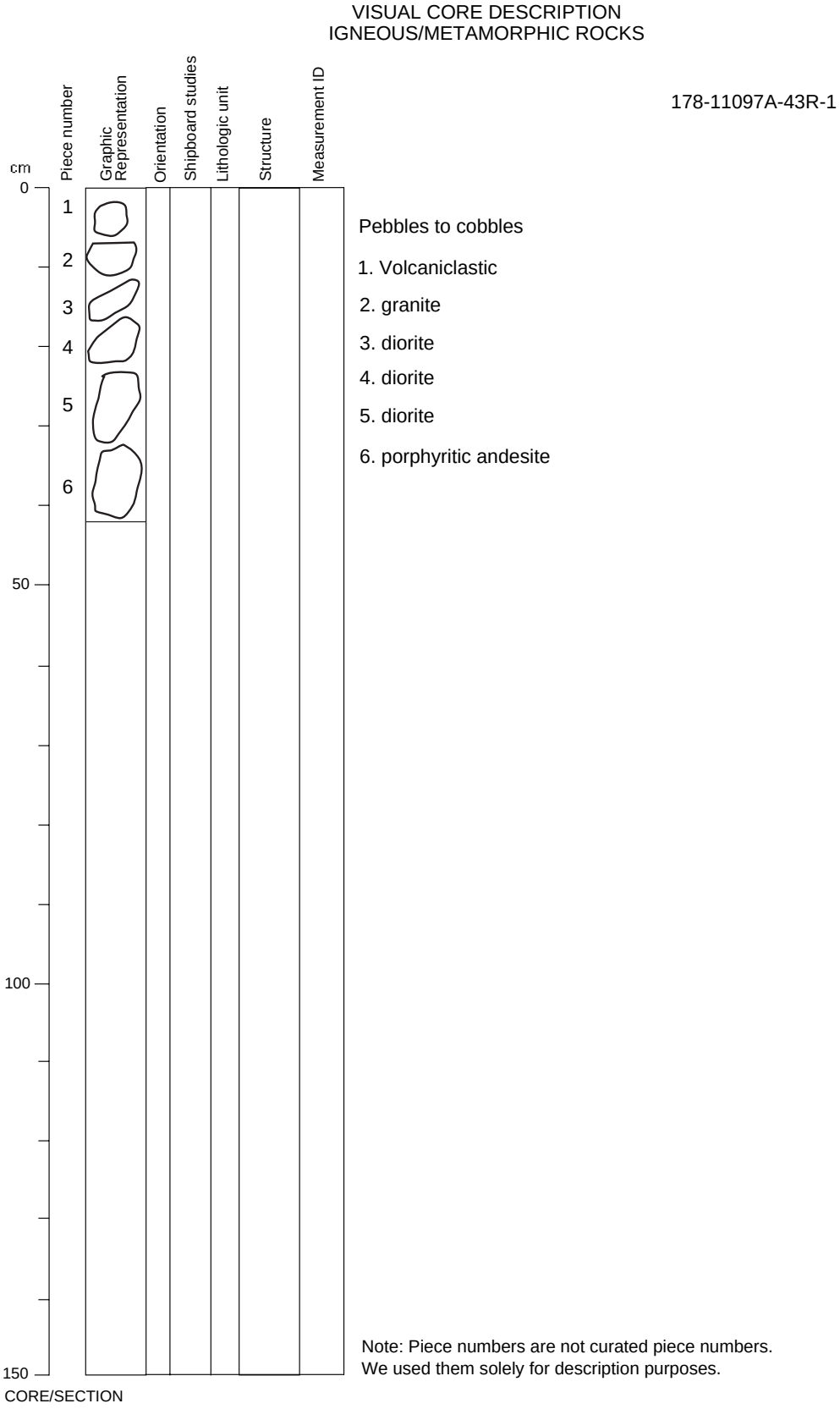
Core Image


Site 1097 Hole A Core 41R
Cored 346.9-351.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
GRAVEL
0-11 cm: Drilling breccia of diamicton and pebbles, most pebbles are volcaniclastics.
11-32 cm, three pebbles:
1. medium-grained granodiorite, subangular, 5 cm.
2. pale green rhyolitic tuff, very compact, angular, 6 cm.
3. fine-grained granodiorite, more mafic than 1., subrounded, 8 cm.

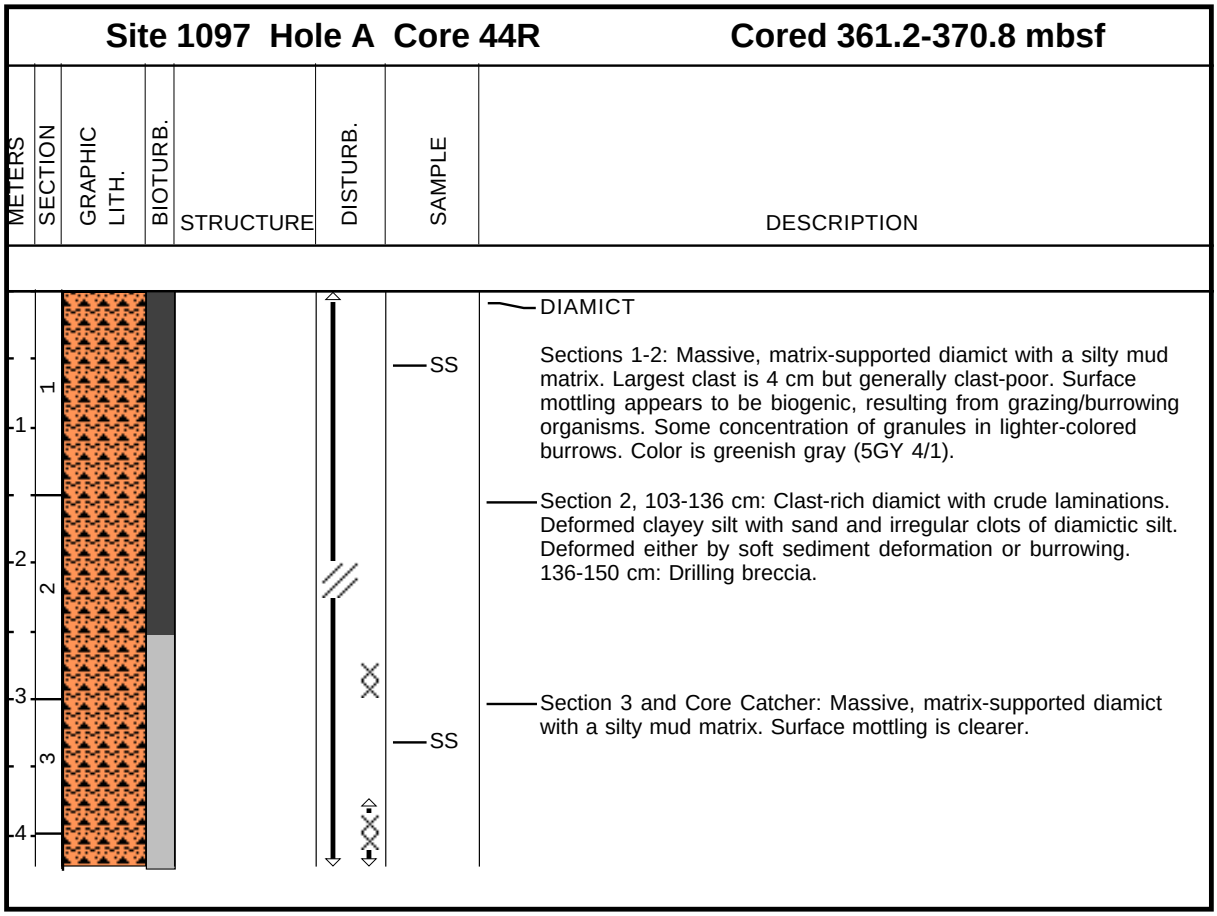
Core Image


Site 1097 Hole A Core 42R
Cored 351.5-356.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
SS
SS
DIAMICTITE
Section 1: Basalt cobbles, 1 massive diamictite clast, very dark gray (5Y 3/1), 2 granite cobbles below.
Section 2 and 3: Diamictite, very dark gray (5Y 3/1), massive with pebbles ranging from 2 mm to 1 cm scattered throughout, no preferred orientation. Pebbles are mafic volcanic and plutonic, at 8 cm an rounded altered tephra clast occurs. Matrix is silty mud with 3% diatoms. Fractures caused by drilling are horizontal at the section top and bottom and at high angle in between.
Core Catcher: Pebble of volcaniclastic breccia, 6 cm in diameter.

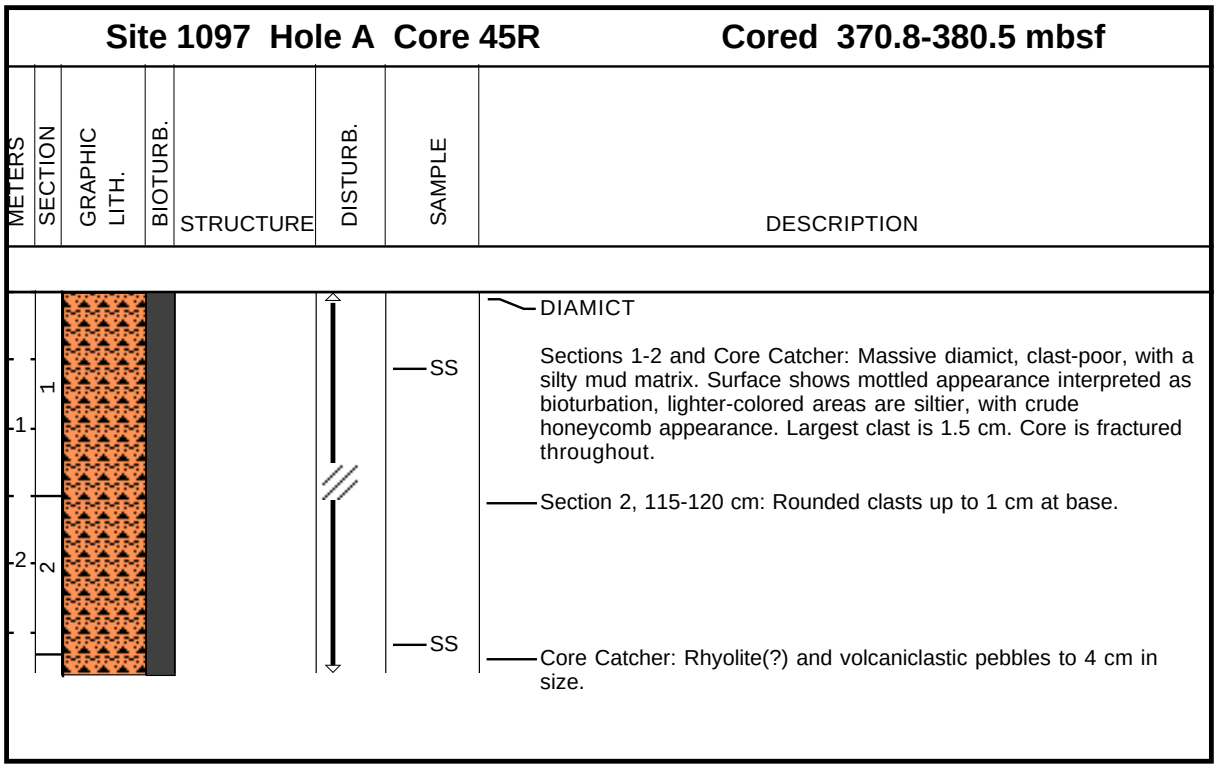
Core Image


VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS
178-11097A-43R-1
Piece number
Graphic Representation
Orientation
Shipboard studies
Lithologic unit
Structure
Measurement ID
cm
0
50
100
150
1
2
3
4
5
6
Pebbles to cobbles
1. Volcaniclastic
2. granite
3. diorite
4. diorite
5. diorite
6. porphyritic andesite
Note: Piece numbers are not curated piece numbers.
We used them solely for description purposes.
CORE/SECTION

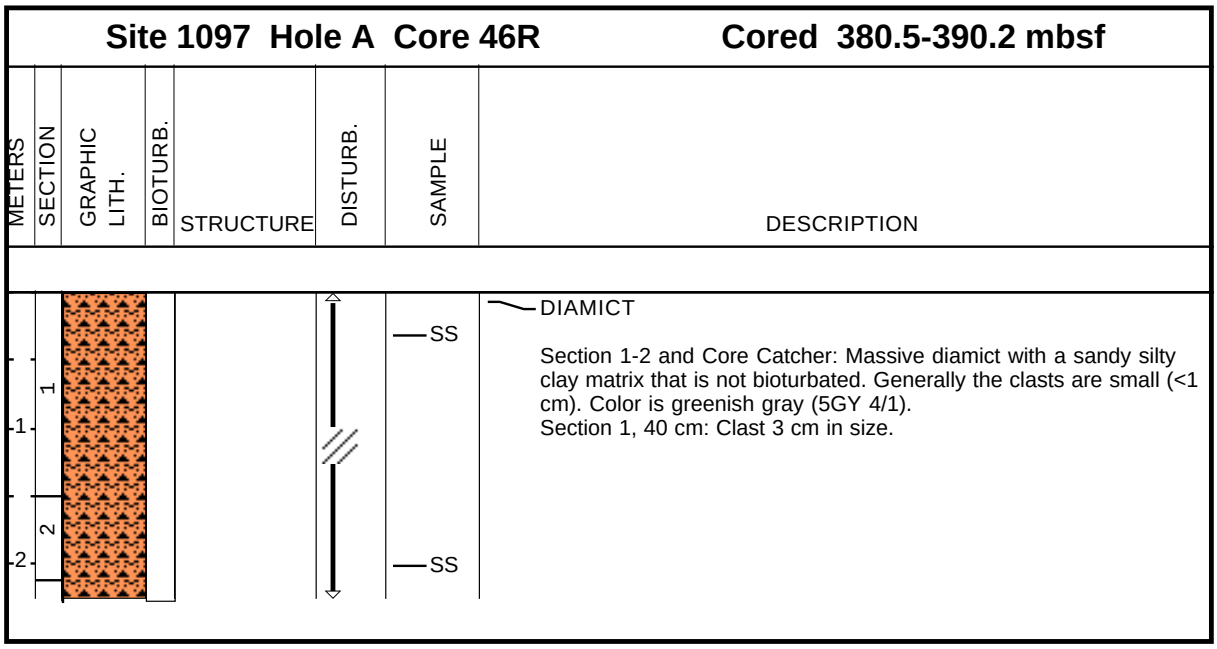
Core Image


Site 1097 Hole A Core 44R
Cored 361.2-370.8 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
3
0
1
2
3
4
SS
SS
DIAMICT
Sections 1-2: Massive, matrix-supported diamict with a silty mud matrix. Largest clast is 4 cm but generally clast-poor. Surface mottling appears to be biogenic, resulting from grazing/burrowing organisms. Some concentration of granules in lighter-colored burrows. Color is greenish gray (5GY 4/1).
Section 2, 103-136 cm: Clast-rich diamict with crude laminations. Deformed clayey silt with sand and irregular clots of diamictic silt. Deformed either by soft sediment deformation or burrowing.
136-150 cm: Drilling breccia.
Section 3 and Core Catcher: Massive, matrix-supported diamict with a silty mud matrix. Surface mottling is clearer.

Core Image


Site 1097 Hole A Core 45R
Cored 370.8-380.5 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
SS
SS
DIAMICT
Sections 1-2 and Core Catcher: Massive diamict, clast-poor, with a silty mud matrix. Surface shows mottled appearance interpreted as bioturbation, lighter-colored areas are siltier, with crude honeycomb appearance. Largest clast is 1.5 cm. Core is fractured throughout.
Section 2, 115-120 cm: Rounded clasts up to 1 cm at base.
Core Catcher: Rhyolite(?) and volcaniclastic pebbles to 4 cm in size.

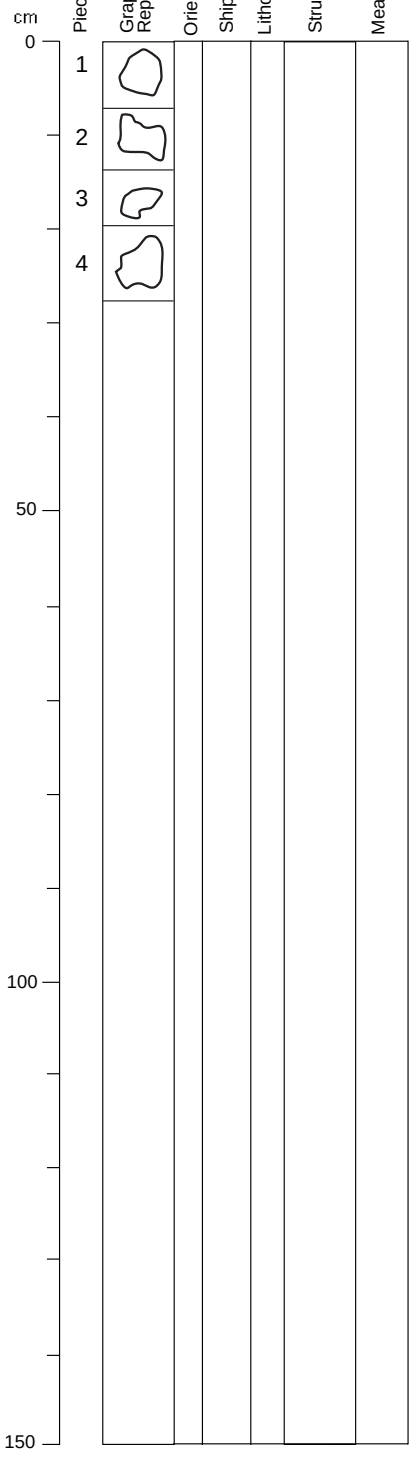
Core Image


Site 1097 Hole A Core 46R
Cored 380.5-390.2 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
2
1
2
SS
SS
DIAMICT
Section 1-2 and Core Catcher: Massive diamict with a sandy silty clay matrix that is not bioturbated. Generally the clasts are small (<1 cm). Color is greenish gray (5GY 4/1).
Section 1, 40 cm: Clast 3 cm in size.

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

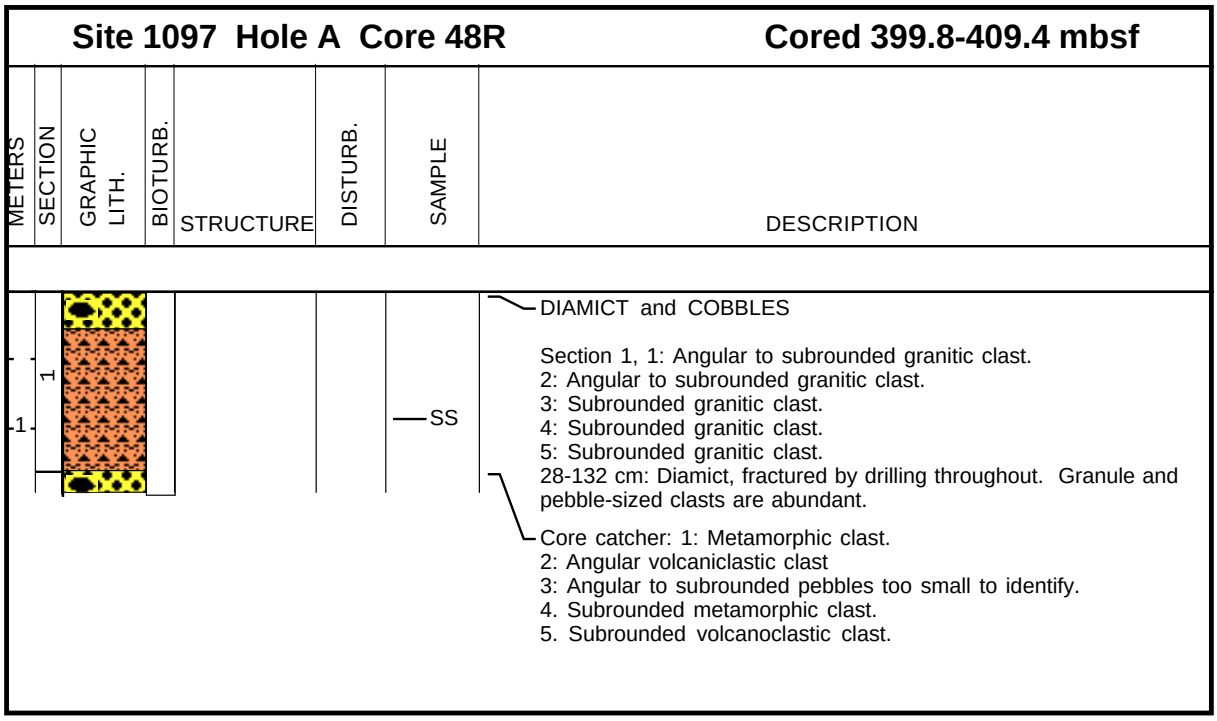
178-11097A-47R-CC



1 to 4. metavolcanic?, subangular

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

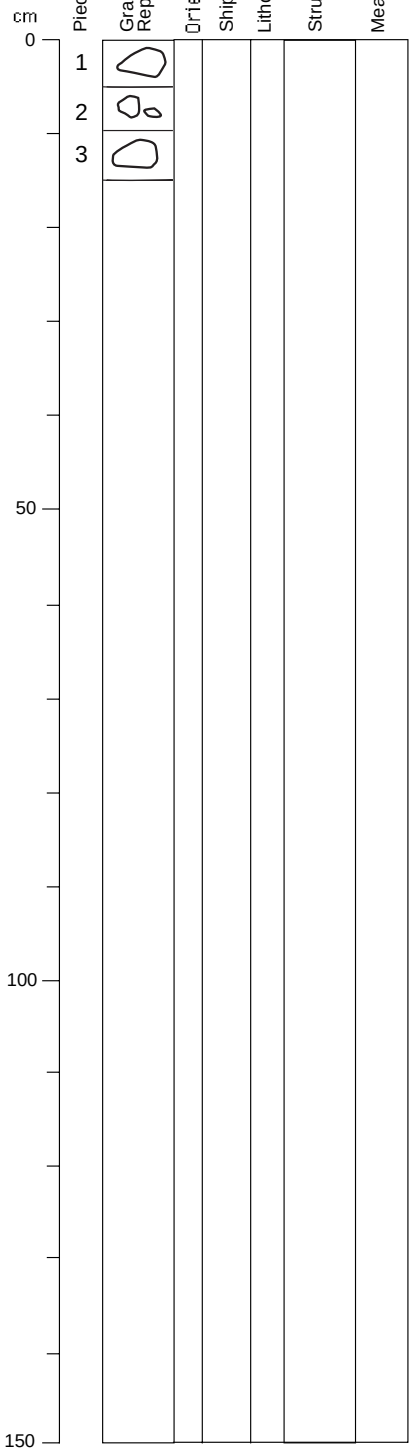
Core Image


Site 1097 Hole A Core 48R
Cored 399.8-409.4 mbsf
METERS
SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
DISTURB.
SAMPLE
DESCRIPTION
1
1
SS
DIAMICT and COBBLES
Section 1, 1: Angular to subrounded granitic clast.
2: Angular to subrounded granitic clast.
3: Subrounded granitic clast.
4: Subrounded granitic clast.
5: Subrounded granitic clast.
28-132 cm: Diamict, fractured by drilling throughout. Granule and pebble-sized clasts are abundant.
Core catcher: 1: Metamorphic clast.
2: Angular volcaniclastic clast
3: Angular to subrounded pebbles too small to identify.
4. Subrounded metamorphic clast.
5. Subrounded volcanoclastic clast.

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

178-11097A-49R-CC



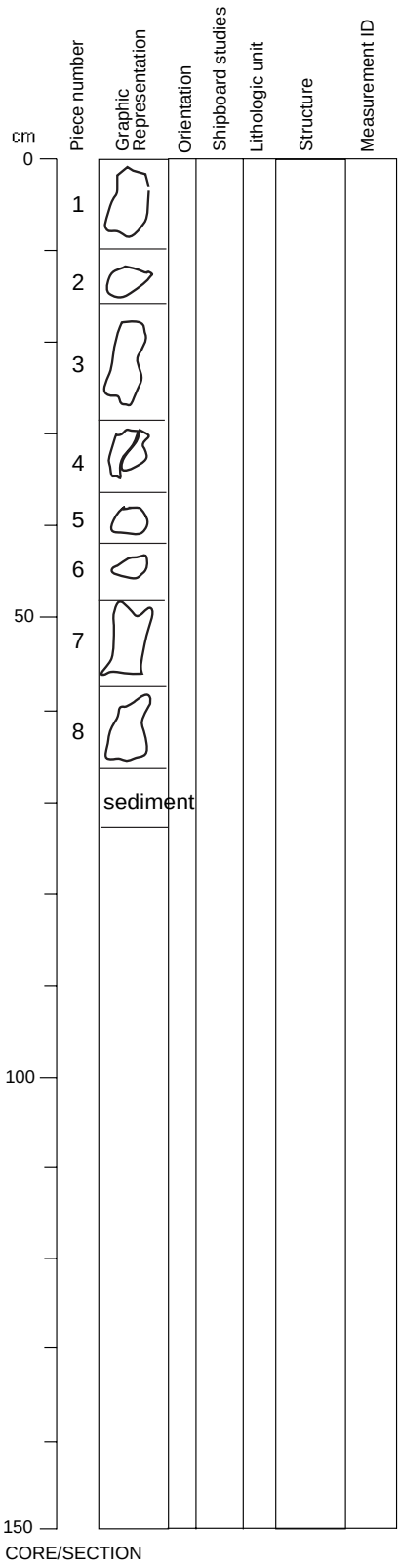
1. volcaniclastic (maybe metamorphic?), greenish, subrounded to rounded
2. granite, greenish, angular to subrounded pebble
   igneous, black, angular to subrounded pebble
3. granite, subrounded

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

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

178-11097A-50R-1



1. granite, greenish, angular to subrounded
2. granite, greenish, angular to subrounded
3. granite, angular to subrounded, slightly smaller crystals in matrix, dark green
4. same as 3 above, fractured
5. granite, somewhat reddish, subrounded
6. igneous, black, angular to subrounded
7. granite with large feldspar crystals, reddish, angular to subrounded,
8. same as 7 above

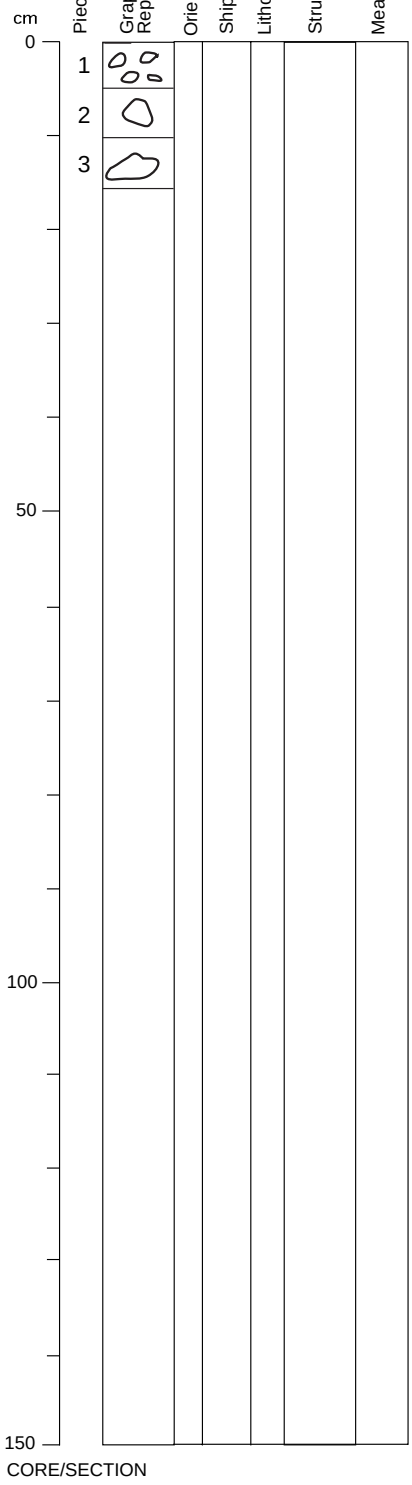
66-72 cm: Very dark greenish gray (5Y 3/1), diamict(?), heavily disturbed by drilling

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

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

178-11097A-50R-CC



1. igneous, angular to subrounded, blackish-dark greenish; four pieces

2. igneous, subrounded, 2.5 cm, blackish

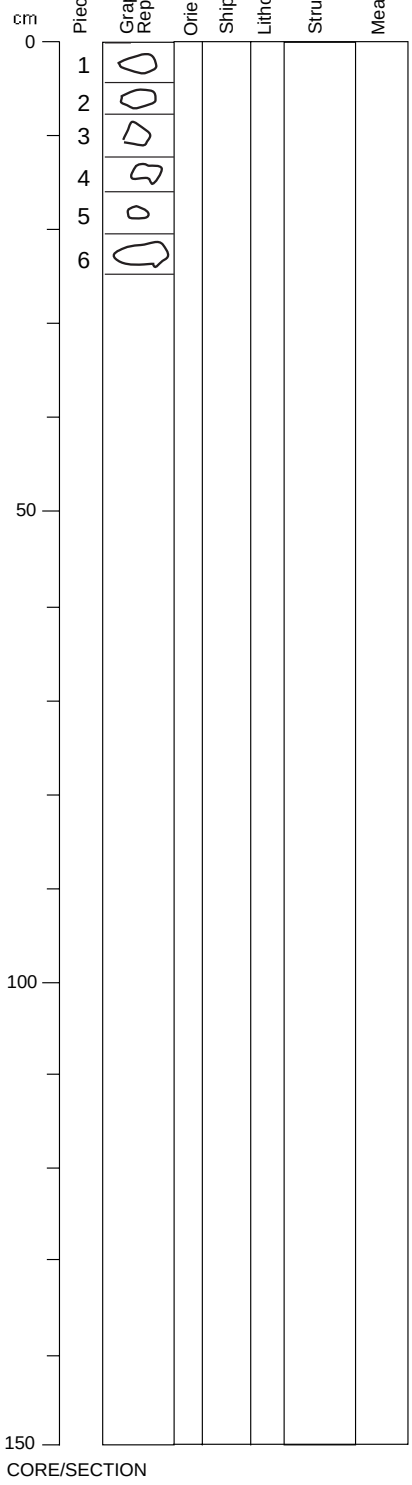
3. granite, angular to subrounded, 3.5x4 cm, dark blackish

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

Core Image

VISUAL CORE DESCRIPTION
IGNEOUS/METAMORPHIC ROCKS

178-11097A-51R-1



1. igneous, subrounded, 2 x 1.8 cm, blackish color, fractured (epidote(?) in fracture)
2. granite, subrounded, 2 x 2 cm, top slightly reddish
3. igneous, subrounded, 3.2x2.6 cm, appear to be fine-grained, color is black (8BG 2/7)
4. granite, angular to subrounded, 3x2.4 cm, reddish
5. igneous, angular to subrounded, 2.8x2 cm, dark greenish color, fine matrix
6. igneous, subrounded, 3x5 cm, dark blackish color fine matrix

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

	Note: 0.5 equal to tr.											Size					Composition - Siliciclastic														Composition - Biogenic										
Leg	Site	Hole	Core	Type	Section	Interval (cm)	Depth (mbsf)	Depth (mcd)	Described by	Major lithology (1)	Minor lithology (2)	Sand	Silt	sum {sand+silt}	Clay	sum {sand+silt+clay}	Quartz	Feldspar	Clay (too fine to identify)	Mica	Glauconite	Rock Fragments	Volcanic Glass	Acc. Minerals	Carbonate	Opaque	Framboids/micronodules	Other	Terrigenous (tot silcci.-clay coutns)	Total clay + siliciclastic	Nannofossils	Foraminifers	Diatoms	Radiolarians	Coccolith	Silicoflagellates	Sponge Spicules	Shell debris	unidentified/other	Total Biogenic	Sediment or Rock Name
178	1097	A	4	R	1	3	25.03		cjp		2	10	60		30		40.0	10.0	30.0	0.5				5.0		1.0		1.0	70	100			0.5								0	silty mud
178	1097	A	10	R	1	21	82.61		eac	1		15	75		10		74.0	10.0	0.0	1.0						1.0		2.0	88	88			10.0				1.0				11	silty mud
178	1097	A	10	R	1	38	82.78		eac		2	2	88		10		80.0	10.0	6.0									2.0	92	98			2.0								2	silty mud
178	1097	A	10	R	1	56	82.96		eac	1		15	60		25		80.0	10.0	2.0							1.0		1.0	92	94			5.0				1.0				6	Diatom-bearing silty mud
178	1097	A	11	R	1	12	92.22		eac	1		20	65		25		70.0	8.0	4.0									6.0	84	88			10.0				2.0				12	silt
178	1097	A	12	R	1	54	102.34		cjp	1		10	60		30		30.0	10.0	25.0			10.0		3.0		2.0			55	80			20.0				0.5				20	silty mud
178	1097	A	12	R	1	145	103.25		cjp	1		20	50		30		30.0	5.0	30.0			16.0		3.0		1.0			55	85			15.0				0.5				15	Diatom-bearing silty mud
178	1097	A	13	R	1	30	111.80		cjp	1		10	50		40		30.0	7.0	40.0			10.0		3.0		1.0			50	90			10.0				0.5				10	Diatom-bearing silty mud
178	1097	A	14	R	1	90	117.00		am	1		30	50		20		40.0	20.0	11.0	3.0		20.0						0.5	83	94			5.0				1.0				6	Diatom-bearing silty mud
178	1097	A	15	R	2	25	121.89		cjp	1		20	60		20		40.0	10.0	20.0	0.5		21.0		3.0		1.0			75	95			5.0				0.5				5	Diatom-bearing silty mud
178	1097	A	16	R	1	16	125.86		cjp		2	10	70		20		20.0	10.0	15.0			31.0		3.0		1.0			65	80			20.0				0.5				20	clayey silt
178	1097	A	16	R	1	29	125.99		wlf	1		30	40		30		18.0	7.0	18.0	2.0		35.0				3.0		10.0	75	93			5.0				2.0				7	sandy silt
178	1097	A	16	R	1	30	126.00		cjp	1		25	55		20		35.0	10.0	15.0			21.0		3.0		1.0			70	85			15.0				0.5				15	silty mud
178	1097	A	16	R	1	71	126.41		wlf	1		15	35		45		15.0	3.0	19.0			35.0		2.0	2.0	3.0		10.0	78	97			1.0				2.0				3	Diatom-bearing silty mud
178	1097	A	18	R	1	55	140.85		wlf	1		30	40		30		15.0	5.0	17.0			30.0		3.0	3.0	5.0		15.0	76	93			4.0		1.0		2.0				7	sandy mud
178	1097	A	18	R	1	55	140.85		wlf		2	20	30		50		15.0	4.0	45.0			20.0			1.0	1.0		10.0	51	96			1.0		2.0		1.0				4	silty mud
178	1097	A	25	R	1	21	198.31		wlf		2	4	56		40		10.0	5.0	22.0	2.0		19.0		2.0		5.0		12.0	55	77			15.0				8.0				23	silty mud
178	1097	A	25	R	1	41	198.51		wlf		2	10	70		20		12.0	6.0	22.0	4.0		23.0		2.0		4.0		15.0	66	88			7.0				4.0				12	silty mud
178	1097	A	26	R	1	2	207.72		ce	1		3	30		67		20.0	4.0	71.0	2.0								3.0	19	90			6.0				4.0				10	Diatom-bearing silty mud
178	1097	A	27	R	1	25	217.55		cjp		2	5	55		40		20.0	5.0	35.0			12.0		2.0		0.5			39	74			25.0				1.0				26	silty mud
178	1097	A	27	R	1	57	217.87		cjp		2	70	20		10		5.0	2.0	10.0				78.0			5.0			90	100											0	silty mud
178	1097	A	27	R	1	80	218.10		cjp	1		10	70		20		40.0	10.0	20.0			18.0		3.0		1.0			72	92			8.0				0.5				8	clayey mud
178	1097	A	27	R	1	102	218.32		cjp		2																		89			10.0				1.0				11	silty mud
178	1097	A	28	R	1	55	227.45		cjp	1		10	60		30		40.0	10.0	30.0			15.0		3.0		0.5			68	98			1.0				1.0				2	clayey mud
178	1097	A	32	R	cc	15	265.45		ce	1		15	25		60		20.0	15.0	52.0	2.0						2.0		7.0	43	95			3.0				2.0				5	sandy mud
178	1097	A	32	R	cc	24	265.54		ce	1		45	25		30		30.0	10.0	50.0	2.0								8.0	44	94			3.0				3.0				6	Diatom-bearing silty clay
178	1097	A	32	R	cc	24	265.54		ce		2	1	30		69		25.0	3.0	67.0	2.0								3.0	26	93			5.0				2.0				7	silty mud
178	1097	A	33	R	1	28	275.18		eac	1		20	60		20		80.0	6.0	4.0			5.0						1.0	92	96			3.0				1.0				4	silty mud
178	1097	A	34	R	1	40	284.90		cjp	1		2	30		68														89			10.0				1.0				11	silty clay
178	1097	A	34	R	2	135	287.35		ce	1		5	30		65		25.0	10.0	57.0	3.0								5.0	39	96			3.0				1.0				4	Diatom-bearing silty clay
178	1097	A	34	R	3	18	287.68		cjp	1		1	69		30		35.0	5.0	25.0			12.0		5.0		2.0			59	84			15.0				1.0				16	sandy mud (ash)
178	1097	A	34	R	3	30	287.80		wlf	1		0	25		75		12.0	5.0	62.0	1.0		7.0				2.0		5.0	32	94			4.0				2.0				6	silty mud
178	1097	A	35	R	1	43	294.33		wlf	1		25	50		25		16.0	8.0	25.0	2.0		16.0				10.0		12.0	64	89			7.0				4.0				11	unknown
178	1097	A	35	R	2	32	295.72		wlf	1		30	45		25		14.0	7.0	29.0			19.0				12.0		11.0	63	92			6.0				2.0				8	silty mud
178	1097	A	36	R	1	133	304.83		wlf	1		15	45		40		13.0	6.0	33.0			18.0		2.0		2.0		15.0	56	89			8.0				3.0				11	silty clay
178	1097	A	36	R	4	39	308.39		wlf	1		10	40		50		15.0	8.0	29.0			20.0		2.0		5.0		15.0	65	94			5.0				1.0				6	sandy mud
178	1097	A	37	R	1	20	313.30		wlf	1		20	50		30		13.0	7.0	27.0			20.0		3.0		5.0		10.0	58	85			12.0				3.0				15	silty clay
178	1097	A	37	R	2	11	314.71		wlf	1		25	40		35		15.0	8.0	30.0	3.0		19.0				5.0		12.0	59	89			8.0		0.5		3.0				11	sandy silt
178	1097	A	39	R	1	64	332.94		wlf	1		20	50		30		12.0	7.0	35.0			22.0		3.0		8.0		13.0	55	90			8.0				2.0				10	Diatom-bearing silty clay
178	1097	A	39	R	2	35	333.65		wlf	1		20	45		35		13.0	8.0	30.0	2.0		21.0		2.0		5.0		10.0	61	91			7.0				2.0				9	silty clay
178	1097	A	40	R	2	56	343.46		wlf	1		25	45		30		12.0	7.0	27.0			21.0		5.0		8.0		12.0	64	91			7.0				2.0				9	Diatom-bearing clayey silt
178	1097	A	42	R	2	12	352.04		eac	1		25	65		10		80.0	5.0	7.0			2.0				2.0			89	96			3.0				4.0				4	silty clay
178	1097	A	42	R	3	56	353.72		eac	1		5	70		25		80.0	9.0	5.0									1.0	90	95			5.0				0.5				5	silty mud
178	1097	A	44	R	1	54	361.74		wlf	1		25	45		30		17.0	9.0	20.0			22.0		2.0		3.0		15.0	68	88			8.0				4.0				12	silty mud

	Note: 0.5 equal to tr.											Size					Composition - Siliciclastic													Composition - Biogenic										
Leg	Site	Hole	Core	Type	Section	Interval (cm)	Depth (mbsf)	Depth (mcd)	Described by	Major lithology (1)	Minor lithology (2)	Sand	Silt	sum {sand+silt}	Clay	sum {sand+silt+clay}	Quartz	Feldspar	Clay (too fine to identify)	Mica	Glauconite	Rock Fragments	Volcanic Glass	Acc. Minerals	Carbonate	Opaque	Framboids/micronodules	Other	Terrigenous (tot silccl.-clay counts)	Total clay + siliciclastic	Nannofossils	Foraminifers	Diatoms	Radiolarians	Coccolith	Silicoflagellates	Sponge Spicules	Shell debris	unidentified/other	Total Biogenic	Sediment or Rock Name
178	1097	A	44	R	3	30	364.50		wlf	1		25	40		35		18.0	7.0	23.0			20.0		2.0		5.0		15.0	67	90			7.0		0.5		3.0			10	silty mud
178	1097	A	45	R	1	55	371.35		wlf	1		25	45		30		18.0	9.0	25.0			20.0		4.0		8.0		10.0	69	94			4.0				2.0			6	silty mud
178	1097	A	45	R	2	107	373.37		wlf	1		30	40		30		13.0	9.0	26.0			25.0		4.0		6.0		12.0	69	95			3.0		1.0		1.0			5	Diatom-bearing silty mud
178	1097	A	46	R	1	30	380.80		wlf	1		25	40		35		14.0	5.0	23.0			25.0		3.0		4.0		15.0	66	89			8.0				3.0			11	silty mud
178	1097	A	46	R	1	50	381.00		wlf	1		20	45		35		18.0	9.0	14.0			18.0		3.0		5.0		18.0	75	89			7.0				4.0			11	silty mud
178	1097	A	48	R	1	92	400.72		wlf	1		25	45		30		15.0	10.0	33.0			25.0		2.0		3.0		15.0	62	95			3.0				2.0			5	silty mud

Leg	Site	Hole	Core	Type	Sect	Top	Bot	Sediment/rock name	Observer	Type of slide	Dominant lithology	Minor lithology	Sand	Silt	Clay	Comments	Quartz	Feld-spar	Mica	Glauco-nite	Clay	Rock (sedi-mentary)	IG frag	Opaques	Fe Oxide	Carbon-ate	Other	Mineral subtotal	Forams	Diatoms	Rads	Nannos (general)	Bioclast	Shell deb	Spicules	Organic deb	Other	Bio sub-total
178	1097	A	10	R	1	40	43	Diamict	Evans	TS	Diamict/ clayey mud	N/A	20	20	60	Pyrite cement	38	12	1		28		3	11			7	98		40	15	5	5		30	5		2
178	1097	A	25	R	1	91	94	Diamict	Evans	TS	Diamict/ clayey mud	N/A	5	25	70		10	14	4	1	63			2			6	98	5	10	45			5	20		15	2