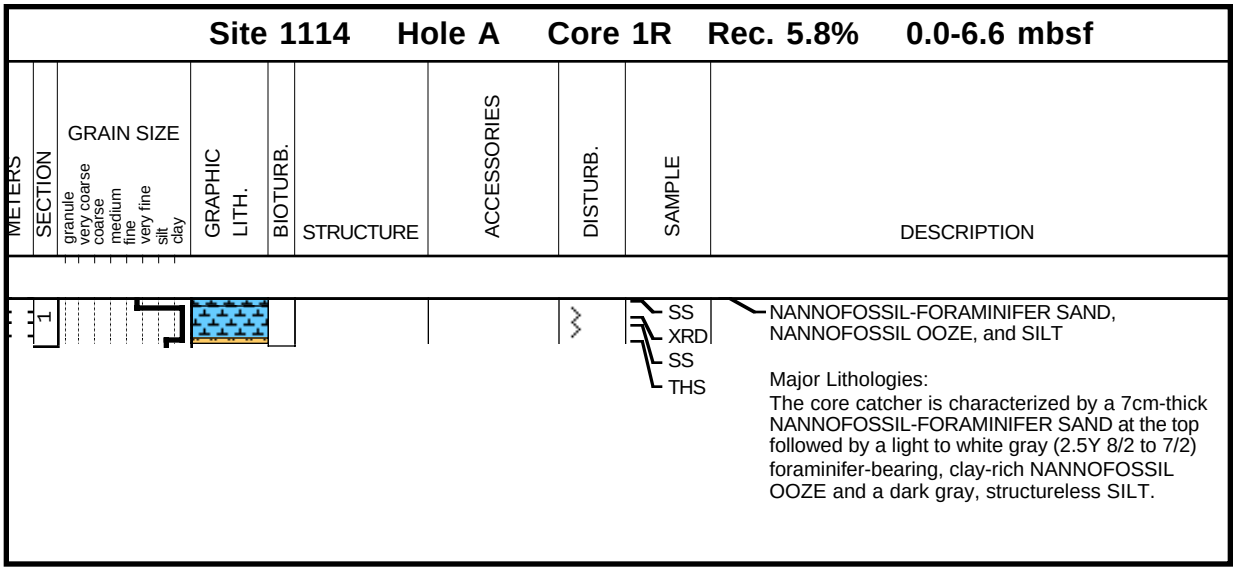
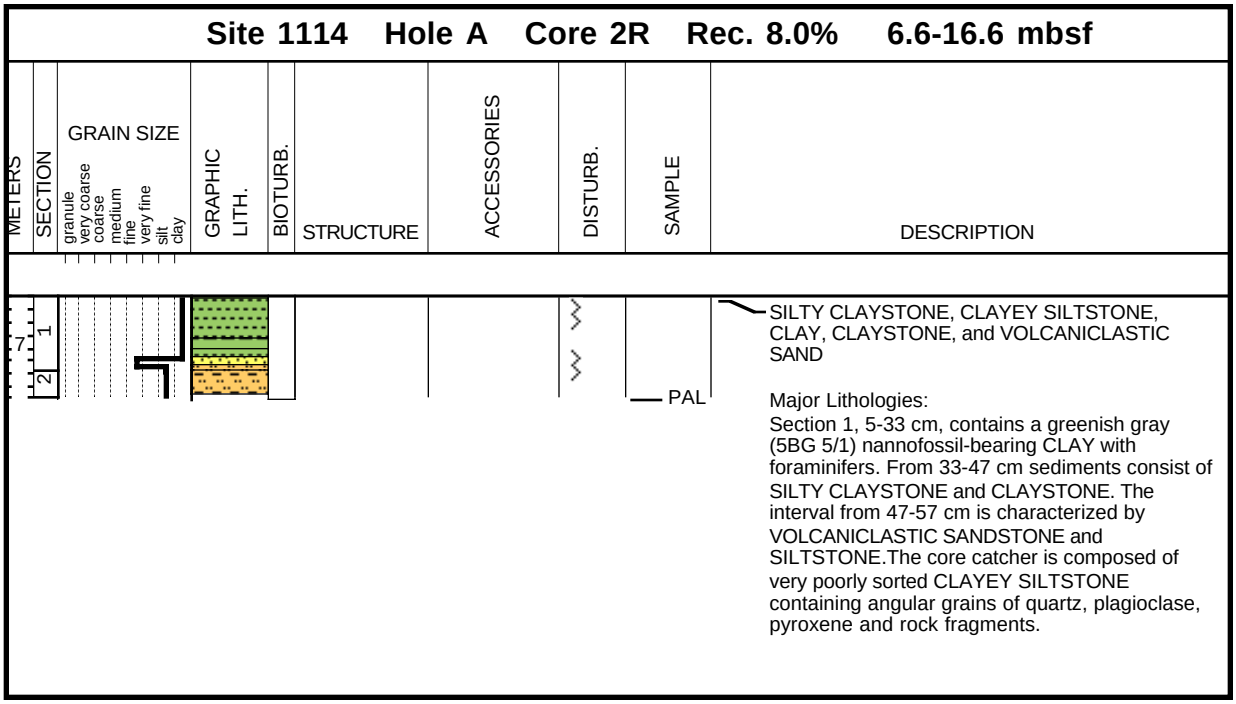
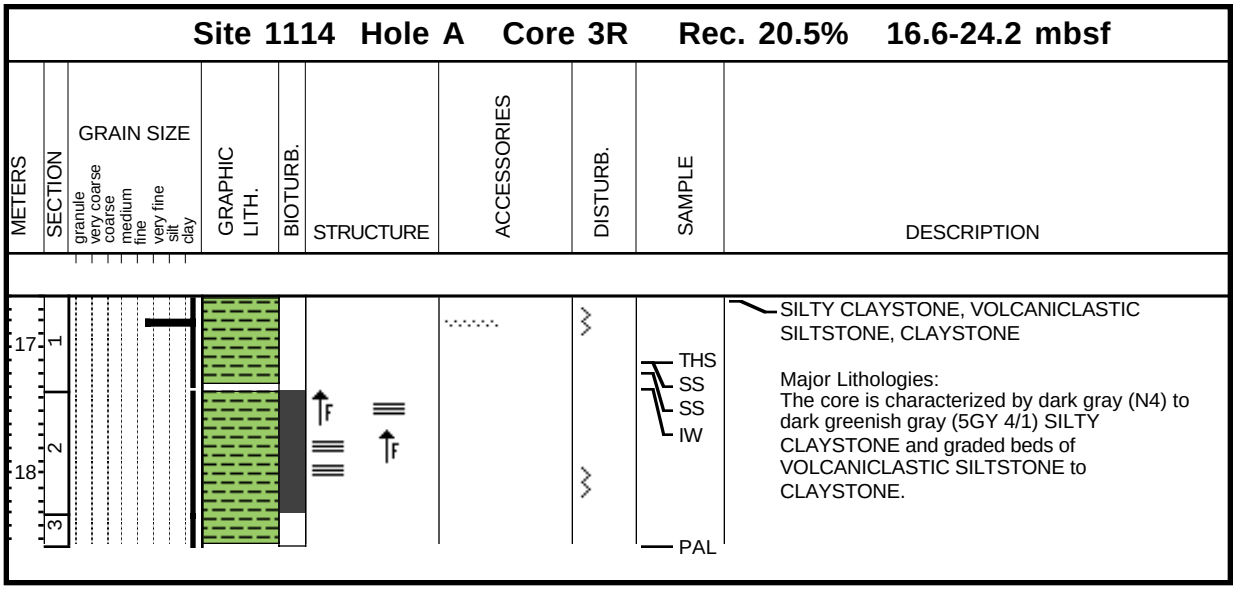
Core Photo


Site 1114 Hole A Core 1R Rec. 5.8% 0.0-6.6 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
1
SS
XRD
SS
THS
NANNOFOSSIL-FORAMINIFER SAND, NANNOFOSSIL OOZE, and SILT
Major Lithologies:
The core catcher is characterized by a 7cm-thick NANNOFOSSIL-FORAMINIFER SAND at the top followed by a light to white gray (2.5Y 8/2 to 7/2) foraminifer-bearing, clay-rich NANNOFOSSIL OOZE and a dark gray, structureless SILT.

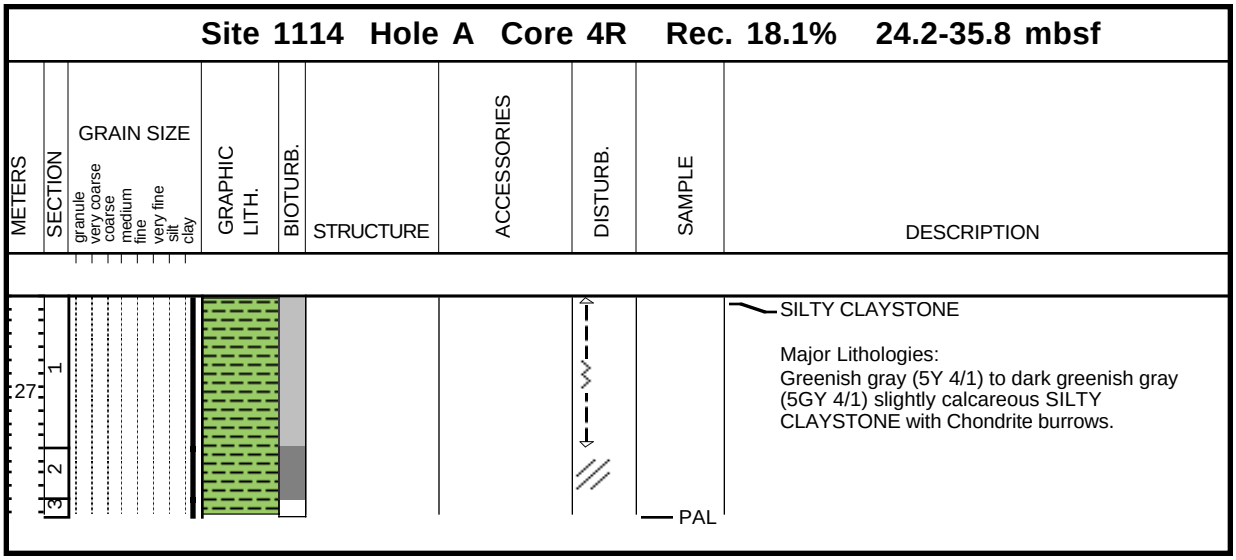
Core Photo


Site 1114 Hole A Core 2R Rec. 8.0% 6.6-16.6 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
7
1
2
PAL
SILTY CLAYSTONE, CLAYEY SILTSTONE, CLAY, CLAYSTONE, and VOLCANICLASTIC SAND
Major Lithologies:
Section 1, 5-33 cm, contains a greenish gray (5BG 5/1) nannofossil-bearing CLAY with foraminifers. From 33-47 cm sediments consist of SILTY CLAYSTONE and CLAYSTONE. The interval from 47-57 cm is characterized by VOLCANICLASTIC SANDSTONE and SILTSTONE.The core catcher is composed of very poorly sorted CLAYEY SILTSTONE containing angular grains of quartz, plagioclase, pyroxene and rock fragments.

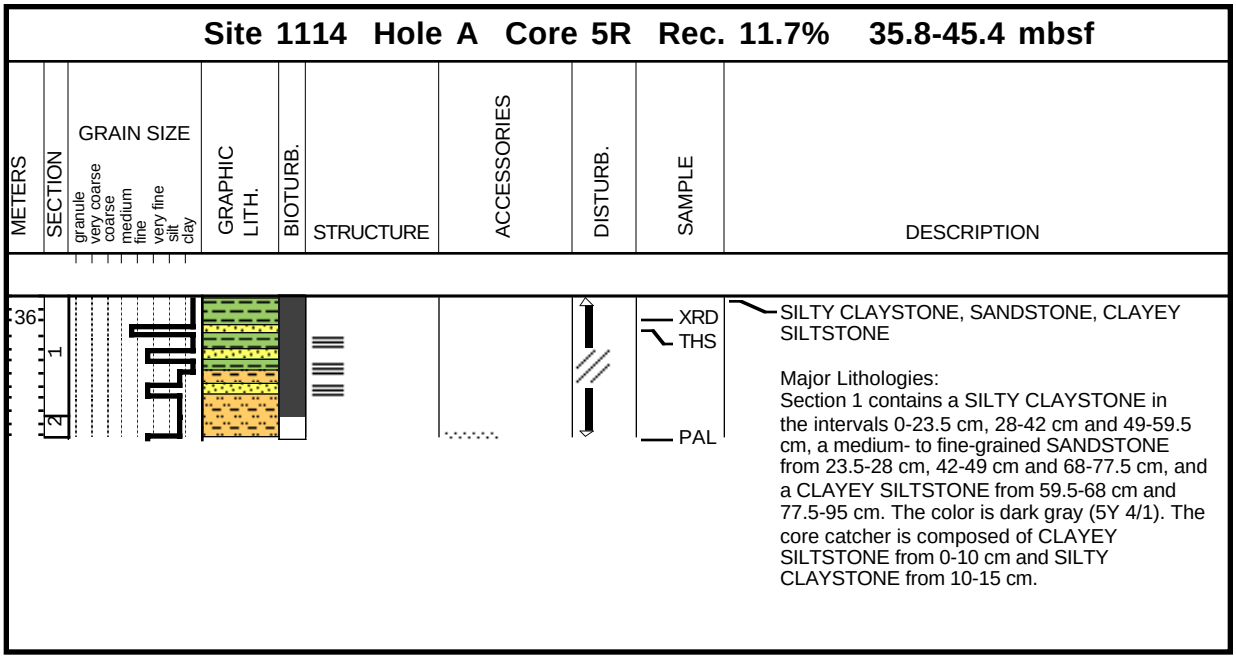
Core Photo


Site 1114 Hole A Core 3R Rec. 20.5% 16.6-24.2 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
17
18
1
2
3
F
F
THS
SS
SS
IW
PAL
SILTY CLAYSTONE, VOLCANICLASTIC SILTSTONE, CLAYSTONE
Major Lithologies:
The core is characterized by dark gray (N4) to dark greenish gray (5GY 4/1) SILTY CLAYSTONE and graded beds of VOLCANICLASTIC SILTSTONE to CLAYSTONE.

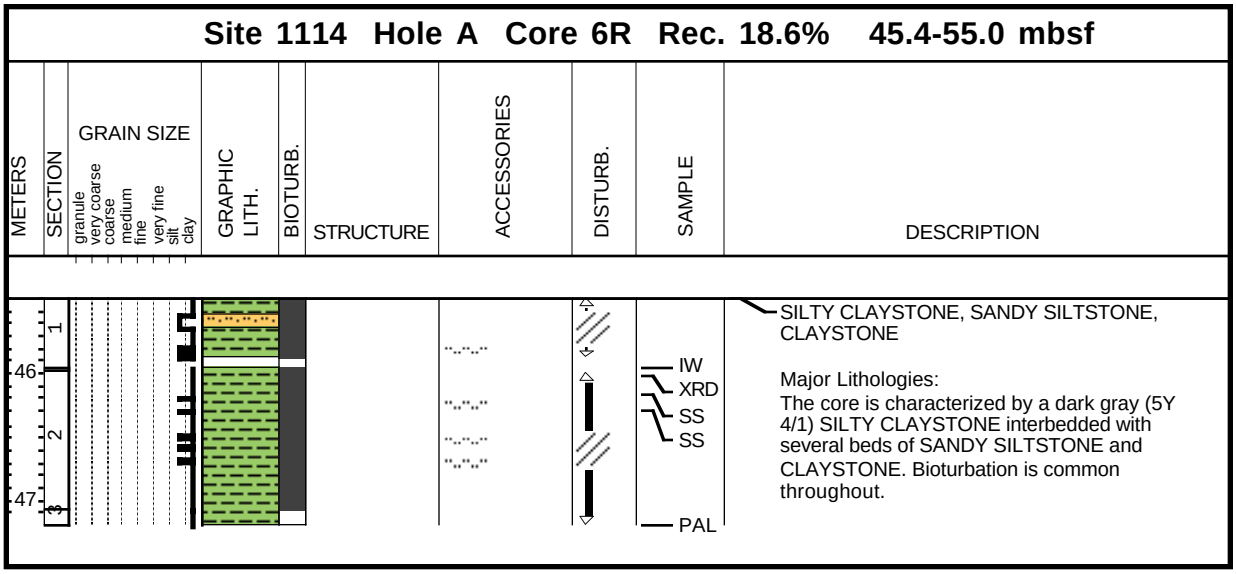
Core Photo


Site 1114 Hole A Core 4R Rec. 18.1% 24.2-35.8 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
27
1
2
3
SILTY CLAYSTONE
Major Lithologies:
Greenish gray (5Y 4/1) to dark greenish gray (5GY 4/1) slightly calcareous SILTY CLAYSTONE with Chondrite burrows.
PAL

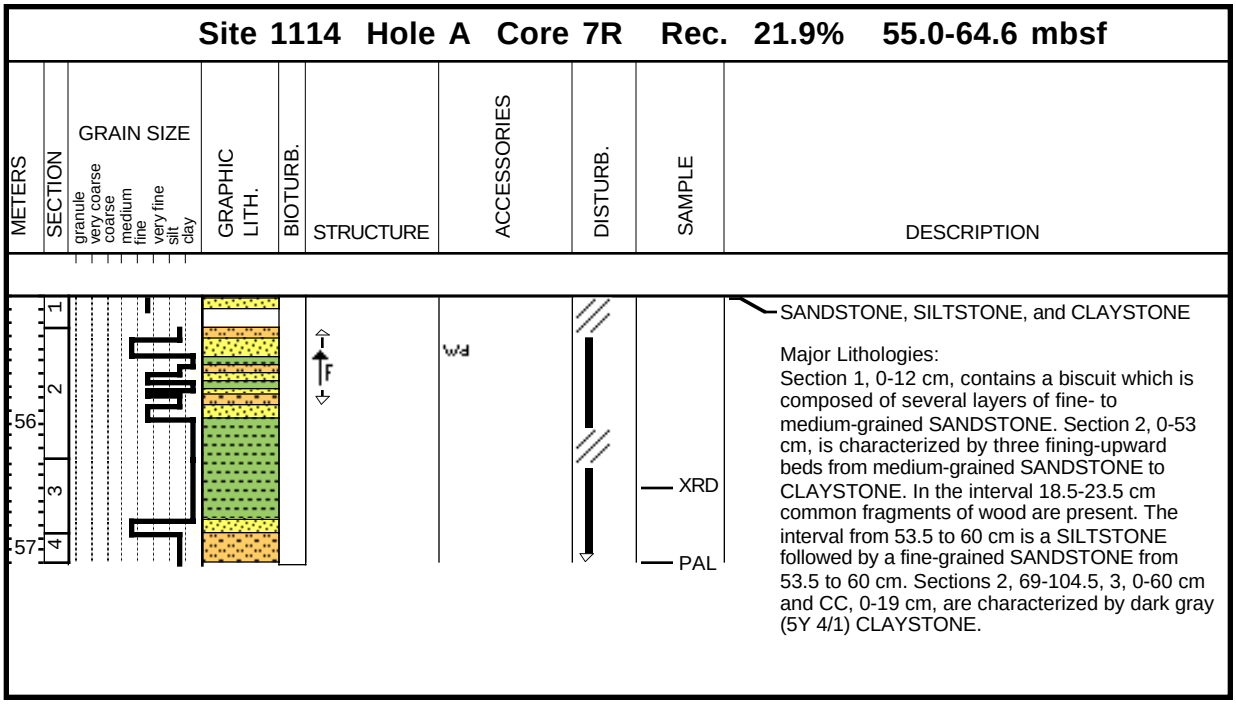
Core Photo


Site 1114 Hole A Core 5R Rec. 11.7% 35.8-45.4 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
36
1
2
XRD
THS
PAL
SILTY CLAYSTONE, SANDSTONE, CLAYEY SILTSTONE
Major Lithologies:
Section 1 contains a SILTY CLAYSTONE in the intervals 0-23.5 cm, 28-42 cm and 49-59.5 cm, a medium- to fine-grained SANDSTONE from 23.5-28 cm, 42-49 cm and 68-77.5 cm, and a CLAYEY SILTSTONE from 59.5-68 cm and 77.5-95 cm. The color is dark gray (5Y 4/1). The core catcher is composed of CLAYEY SILTSTONE from 0-10 cm and SILTY CLAYSTONE from 10-15 cm.

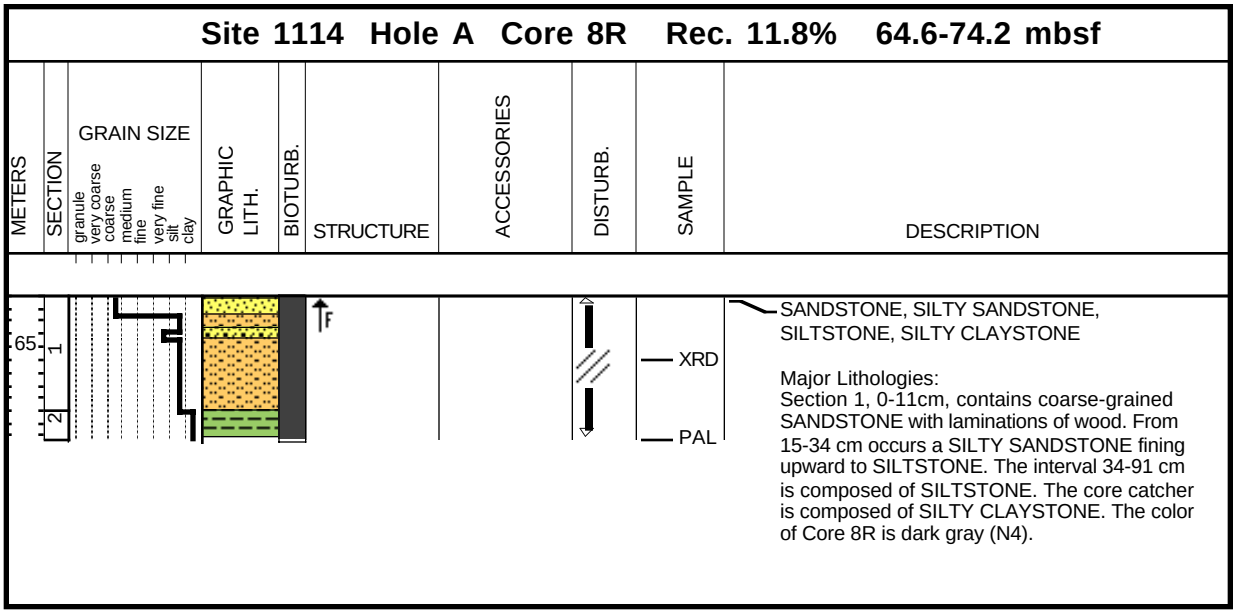
Core Photo


Site 1114 Hole A Core 6R Rec. 18.6% 45.4-55.0 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
46
47
1
2
3
IW
XRD
SS
SS
PAL
SILTY CLAYSTONE, SANDY SILTSTONE, CLAYSTONE
Major Lithologies:
The core is characterized by a dark gray (5Y 4/1) SILTY CLAYSTONE interbedded with several beds of SANDY SILTSTONE and CLAYSTONE. Bioturbation is common throughout.

Core Photo

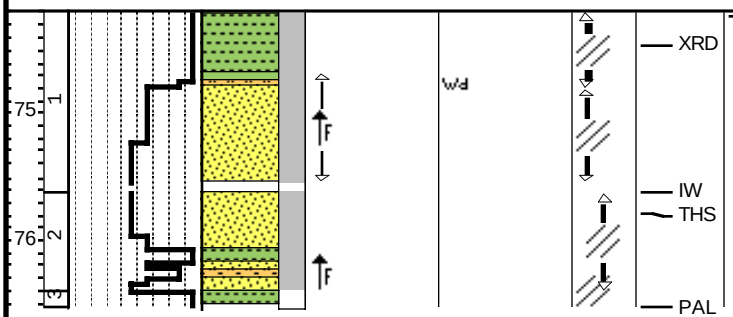

Site 1114 Hole A Core 7R Rec. 21.9% 55.0-64.6 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
56
57
1
2
3
4
T
F
wd
XRD
PAL
SANDSTONE, SILTSTONE, and CLAYSTONE
Major Lithologies:
Section 1, 0-12 cm, contains a biscuit which is composed of several layers of fine- to medium-grained SANDSTONE. Section 2, 0-53 cm, is characterized by three fining-upward beds from medium-grained SANDSTONE to CLAYSTONE. In the interval 18.5-23.5 cm common fragments of wood are present. The interval from 53.5 to 60 cm is a SILTSTONE followed by a fine-grained SANDSTONE from 53.5 to 60 cm. Sections 2, 69-104.5, 3, 0-60 cm and CC, 0-19 cm, are characterized by dark gray (5Y 4/1) CLAYSTONE.

Core Photo


Site 1114 Hole A Core 8R Rec. 11.8% 64.6-74.2 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
65
1
2
F
XRD
PAL
SANDSTONE, SILTY SANDSTONE, SILTSTONE, SILTY CLAYSTONE
Major Lithologies:
Section 1, 0-11cm, contains coarse-grained SANDSTONE with laminations of wood. From 15-34 cm occurs a SILTY SANDSTONE fining upward to SILTSTONE. The interval 34-91 cm is composed of SILTSTONE. The core catcher is composed of SILTY CLAYSTONE. The color of Core 8R is dark gray (N4).

Core Photo

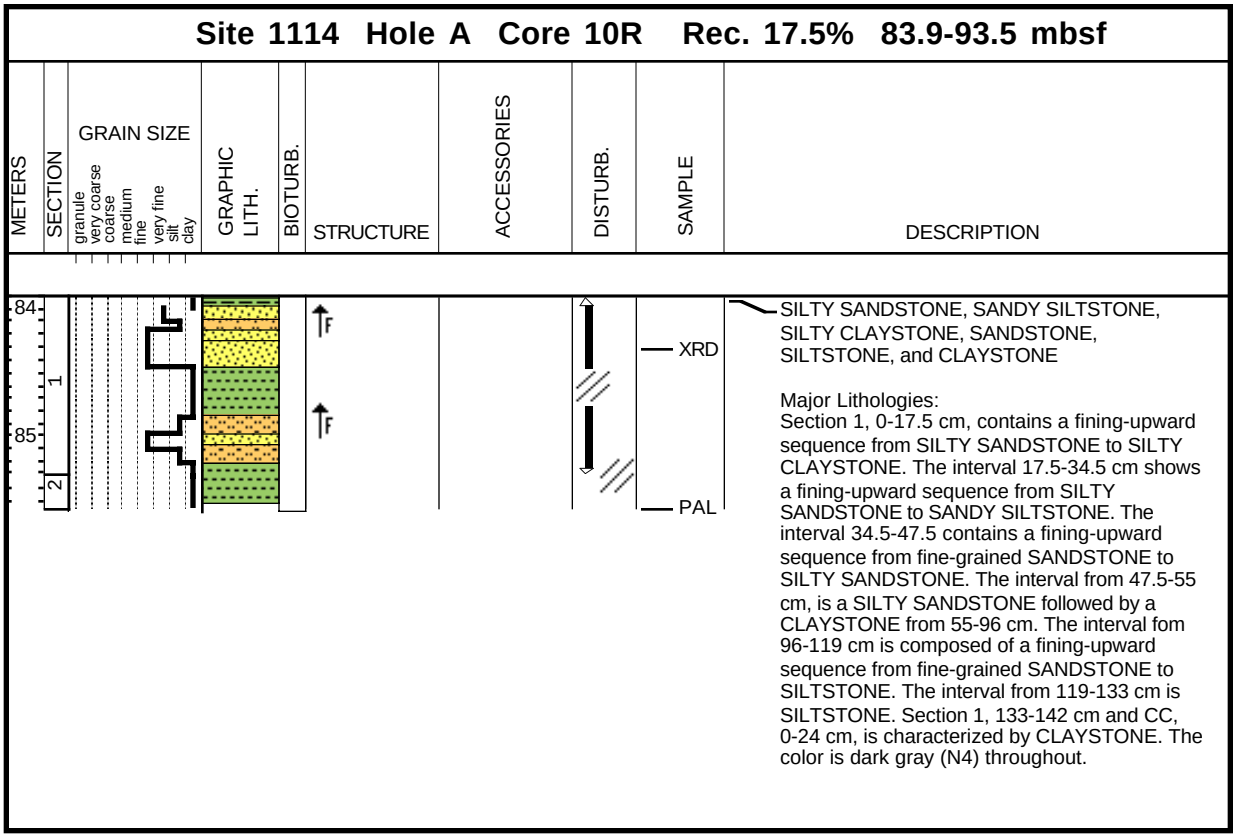
Site 1114 Hole A Core 9R Rec. 24.0% 74.2-83.9 mbsf



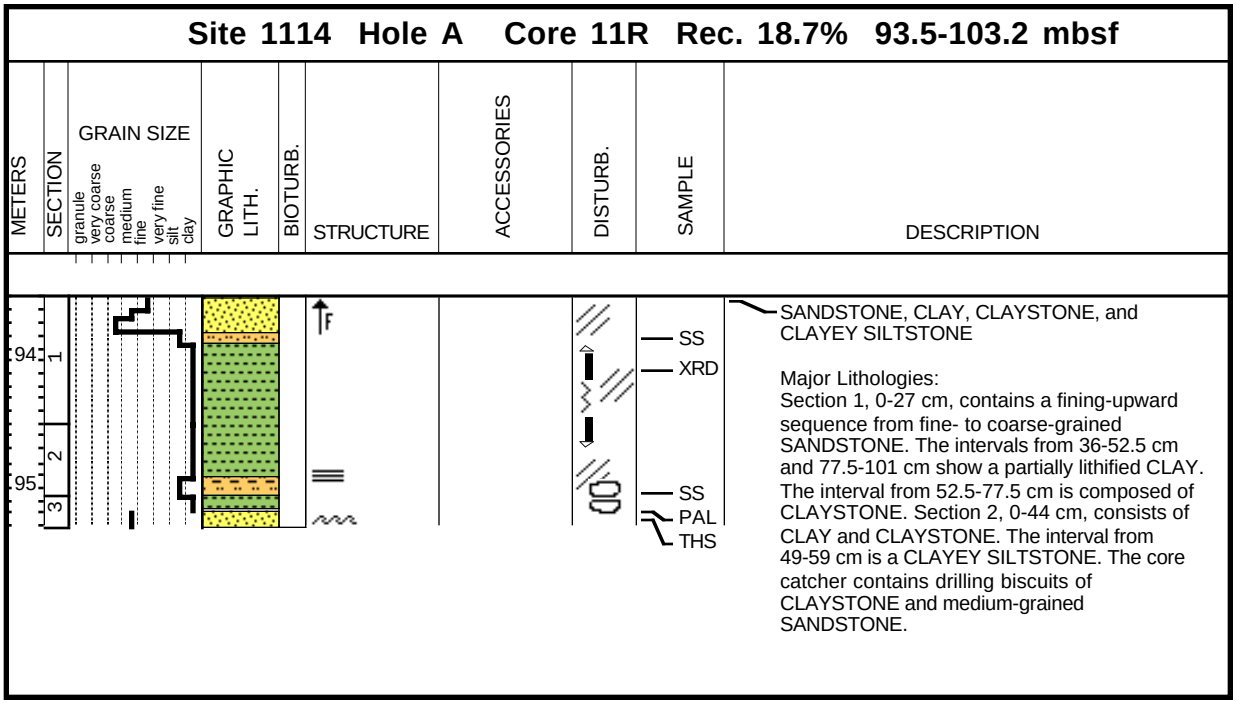
SANDSTONE, CLAYSTONE, SILTSTONE, and SILTY CLAYSTONE

Major Lithologies:
Section 1, 2-48 cm, is composed of dark gray (N4) CLAYSTONE followed by a SILTSTONE from 48-56 cm. The interval 56-114 cm is medium-grained SANDSTONE fining upwards to fine-grained SANDSTONE. From 114-134 cm occurs a fine-grained SANDSTONE. Section 2 is characterized by two fining-upward sequences of fine-grained SANDSTONE to CLAYSTONE and SILTSTONE, respectively. The core catcher contain CLAYSTONE and SILTY CLAYSTONE.

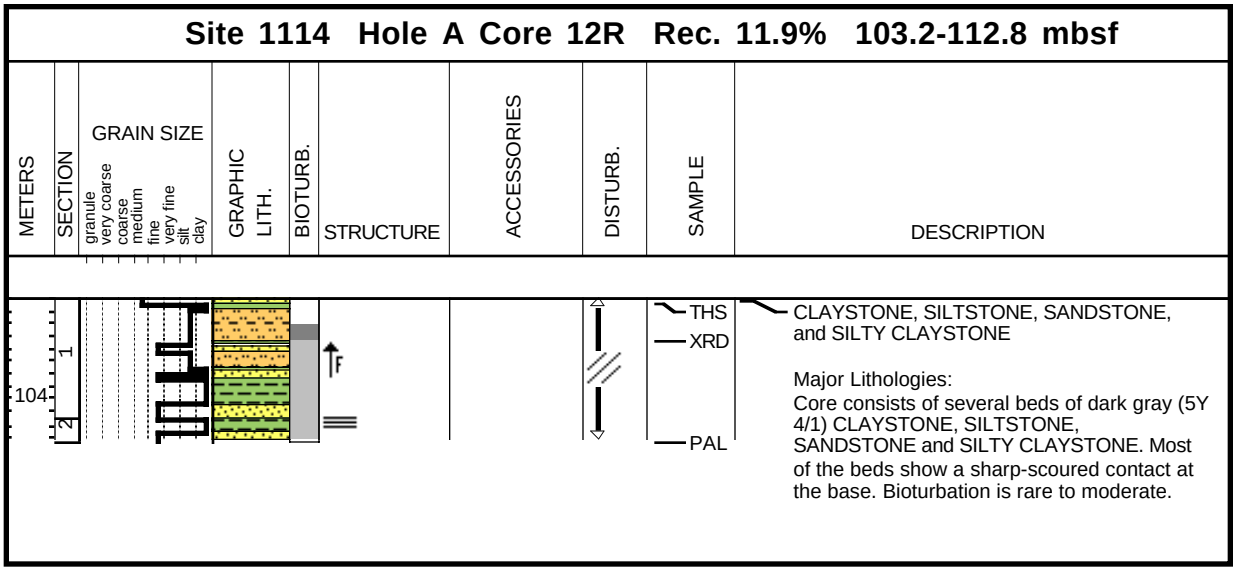
Core Photo


Site 1114 Hole A Core 10R Rec. 17.5% 83.9-93.5 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
84
85
1
2
F
F
XRD
PAL
SILTY SANDSTONE, SANDY SILTSTONE, SILTY CLAYSTONE, SANDSTONE, SILTSTONE, and CLAYSTONE
Major Lithologies:
Section 1, 0-17.5 cm, contains a fining-upward sequence from SILTY SANDSTONE to SILTY CLAYSTONE. The interval 17.5-34.5 cm shows a fining-upward sequence from SILTY SANDSTONE to SANDY SILTSTONE. The interval 34.5-47.5 contains a fining-upward sequence from fine-grained SANDSTONE to SILTY SANDSTONE. The interval from 47.5-55 cm, is a SILTY SANDSTONE followed by a CLAYSTONE from 55-96 cm. The interval fom 96-119 cm is composed of a fining-upward sequence from fine-grained SANDSTONE to SILTSTONE. The interval from 119-133 cm is SILTSTONE. Section 1, 133-142 cm and CC, 0-24 cm, is characterized by CLAYSTONE. The color is dark gray (N4) throughout.

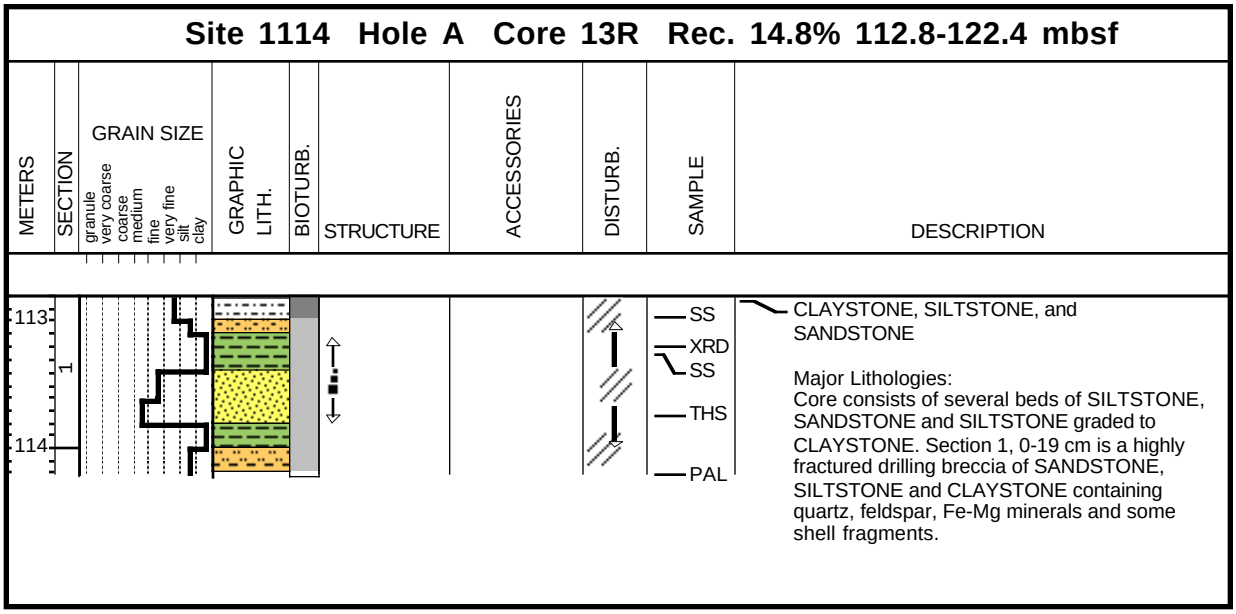
Core Photo


Site 1114 Hole A Core 11R Rec. 18.7% 93.5-103.2 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
94
95
1
2
3
F
SS
XRD
SS
PAL
THS
SANDSTONE, CLAY, CLAYSTONE, and CLAYEY SILTSTONE
Major Lithologies:
Section 1, 0-27 cm, contains a fining-upward sequence from fine- to coarse-grained SANDSTONE. The intervals from 36-52.5 cm and 77.5-101 cm show a partially lithified CLAY. The interval from 52.5-77.5 cm is composed of CLAYSTONE. Section 2, 0-44 cm, consists of CLAY and CLAYSTONE. The interval from 49-59 cm is a CLAYEY SILTSTONE. The core catcher contains drilling biscuits of CLAYSTONE and medium-grained SANDSTONE.

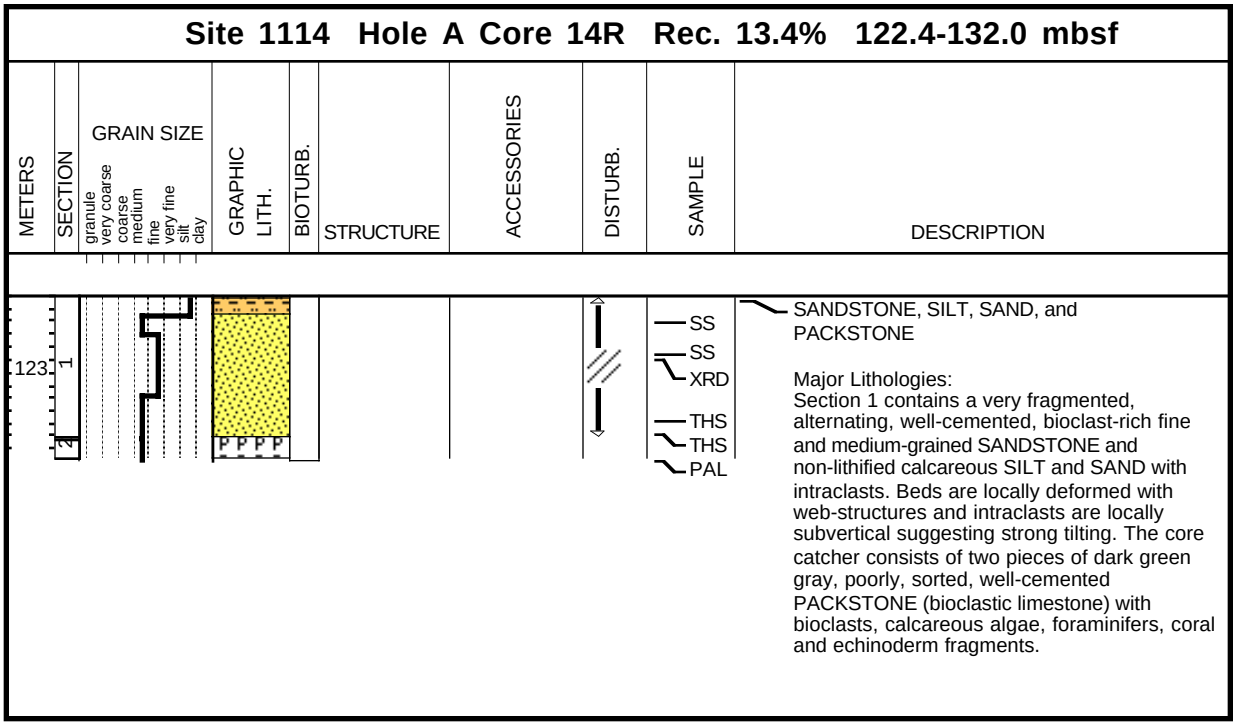
Core Photo


Site 1114 Hole A Core 12R Rec. 11.9% 103.2-112.8 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
104
1
2
F
THS
XRD
PAL
CLAYSTONE, SILTSTONE, SANDSTONE, and SILTY CLAYSTONE
Major Lithologies:
Core consists of several beds of dark gray (5Y 4/1) CLAYSTONE, SILTSTONE, SANDSTONE and SILTY CLAYSTONE. Most of the beds show a sharp-scoured contact at the base. Bioturbation is rare to moderate.

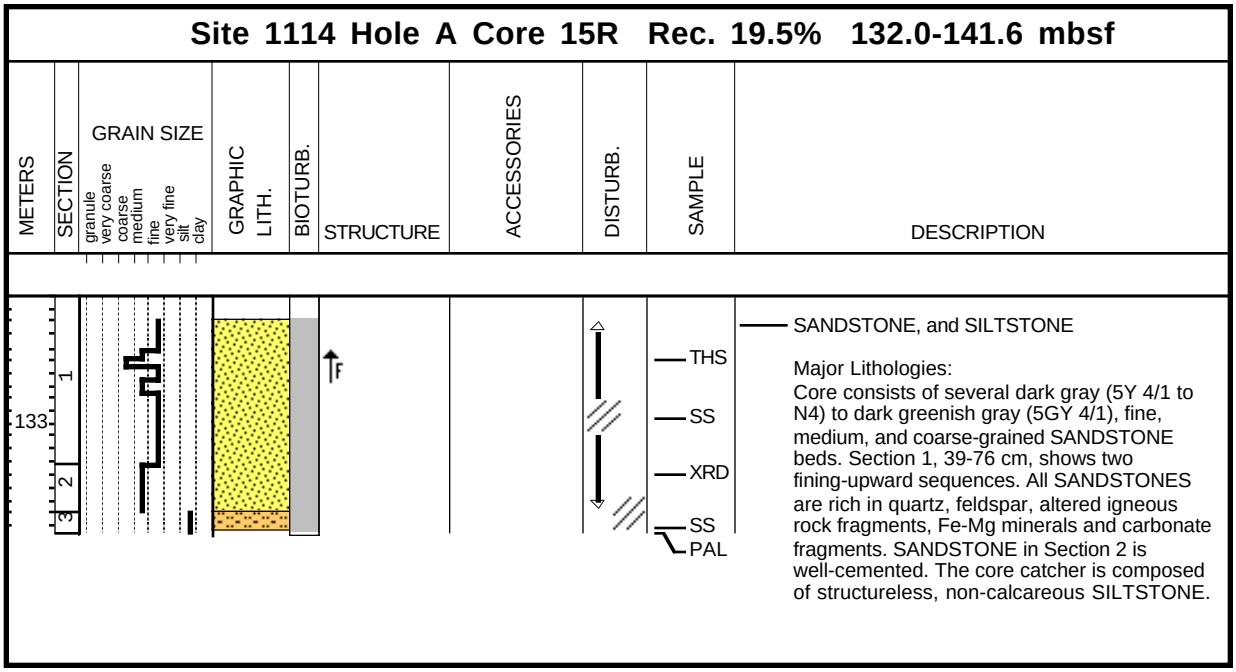
Core Photo


Site 1114 Hole A Core 13R Rec. 14.8% 112.8-122.4 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
113
114
1
SS
XRD
SS
THS
PAL
CLAYSTONE, SILTSTONE, and SANDSTONE
Major Lithologies:
Core consists of several beds of SILTSTONE, SANDSTONE and SILTSTONE graded to CLAYSTONE. Section 1, 0-19 cm is a highly fractured drilling breccia of SANDSTONE, SILTSTONE and CLAYSTONE containing quartz, feldspar, Fe-Mg minerals and some shell fragments.

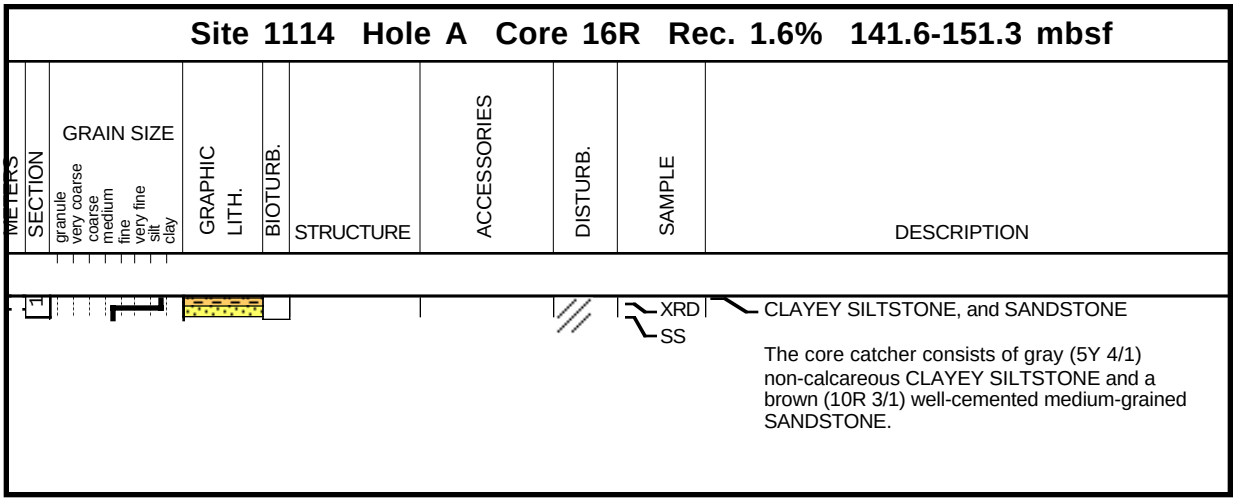
Core Photo


Site 1114 Hole A Core 14R Rec. 13.4% 122.4-132.0 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
123
1
SS
SS
XRD
THS
THS
PAL
SANDSTONE, SILT, SAND, and PACKSTONE
Major Lithologies:
Section 1 contains a very fragmented, alternating, well-cemented, bioclast-rich fine and medium-grained SANDSTONE and non-lithified calcareous SILT and SAND with intraclasts. Beds are locally deformed with web-structures and intraclasts are locally subvertical suggesting strong tilting. The core catcher consists of two pieces of dark green gray, poorly, sorted, well-cemented PACKSTONE (bioclastic limestone) with bioclasts, calcareous algae, foraminifers, coral and echinoderm fragments.

Core Photo

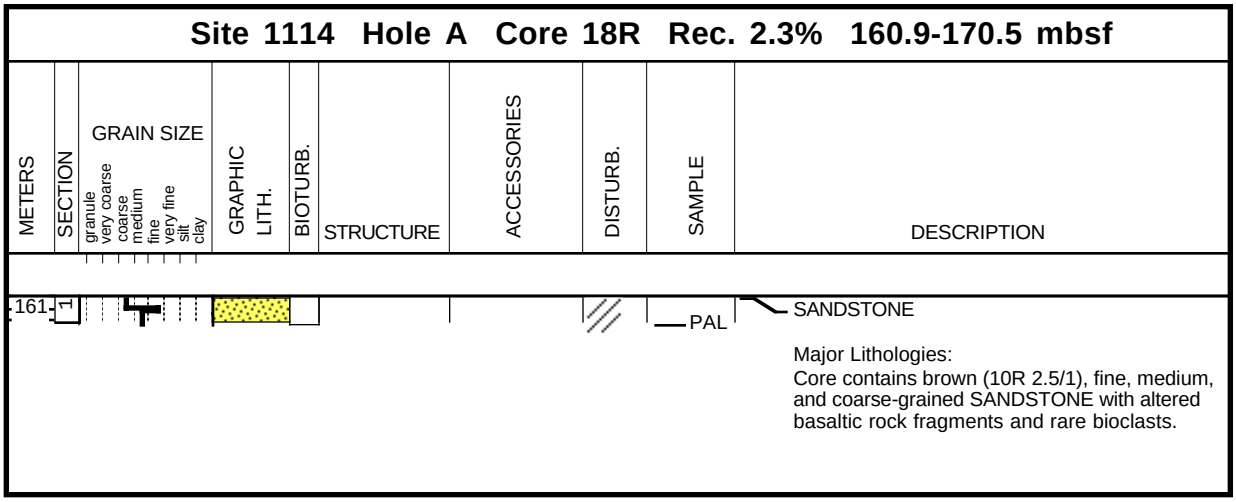

Site 1114 Hole A Core 15R Rec. 19.5% 132.0-141.6 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
133
1
2
3
F
THS
SS
XRD
SS
PAL
SANDSTONE, and SILTSTONE
Major Lithologies:
Core consists of several dark gray (5Y 4/1 to N4) to dark greenish gray (5GY 4/1), fine, medium, and coarse-grained SANDSTONE beds. Section 1, 39-76 cm, shows two fining-upward sequences. All SANDSTONES are rich in quartz, feldspar, altered igneous rock fragments, Fe-Mg minerals and carbonate fragments. SANDSTONE in Section 2 is well-cemented. The core catcher is composed of structureless, non-calcareous SILTSTONE.

Core Photo

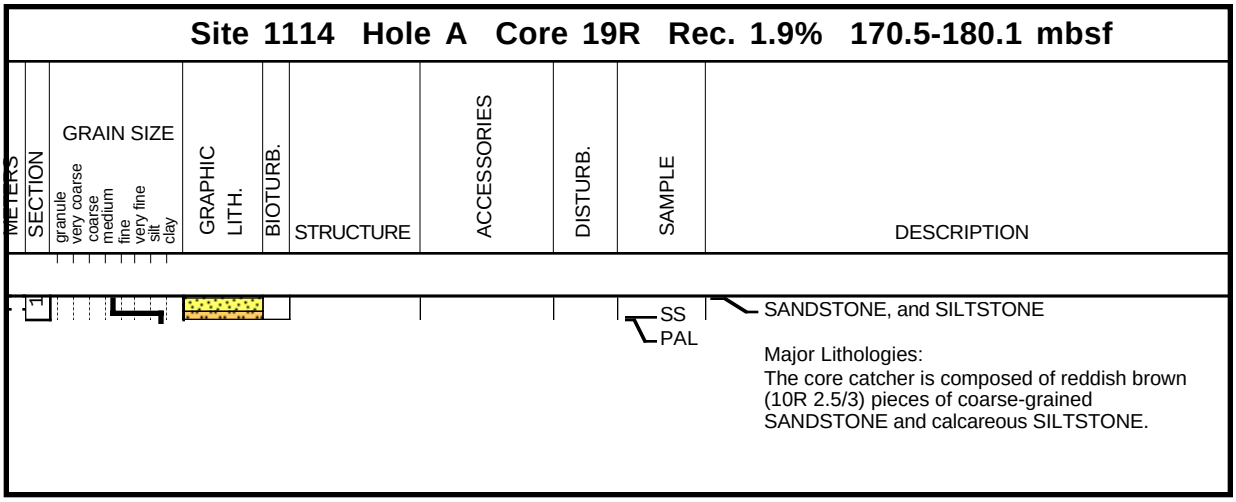


1114A-17R NO RECOVERY

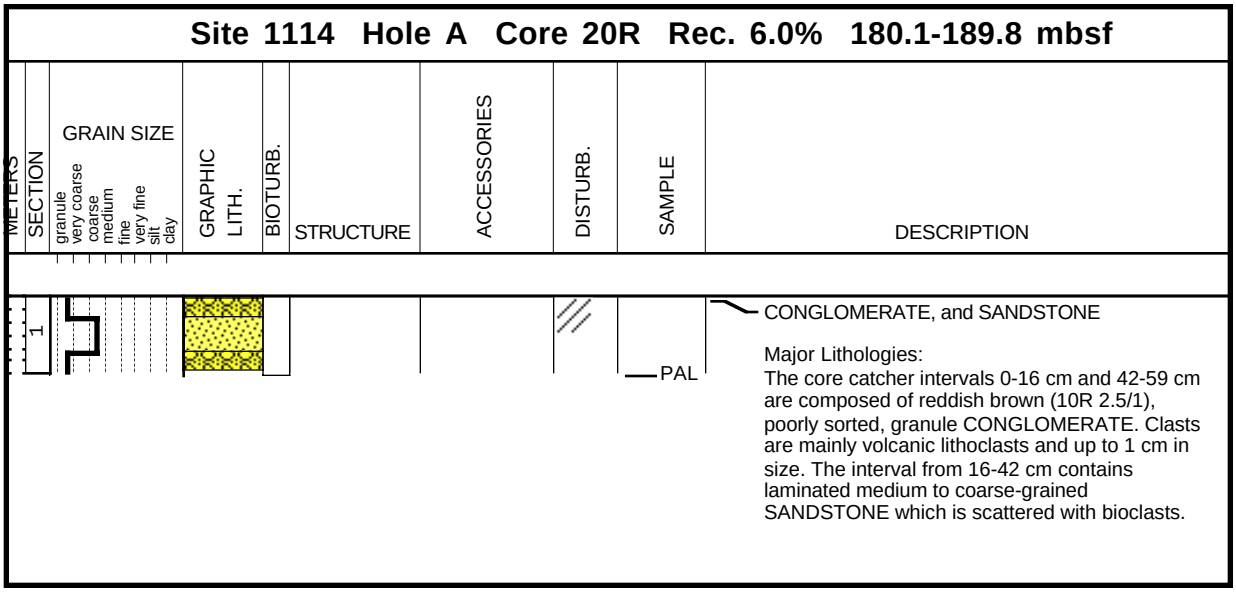
Core Photo


Site 1114 Hole A Core 18R Rec. 2.3% 160.9-170.5 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
161
1
PAL
SANDSTONE
Major Lithologies:
Core contains brown (10R 2.5/1), fine, medium, and coarse-grained SANDSTONE with altered basaltic rock fragments and rare bioclasts.

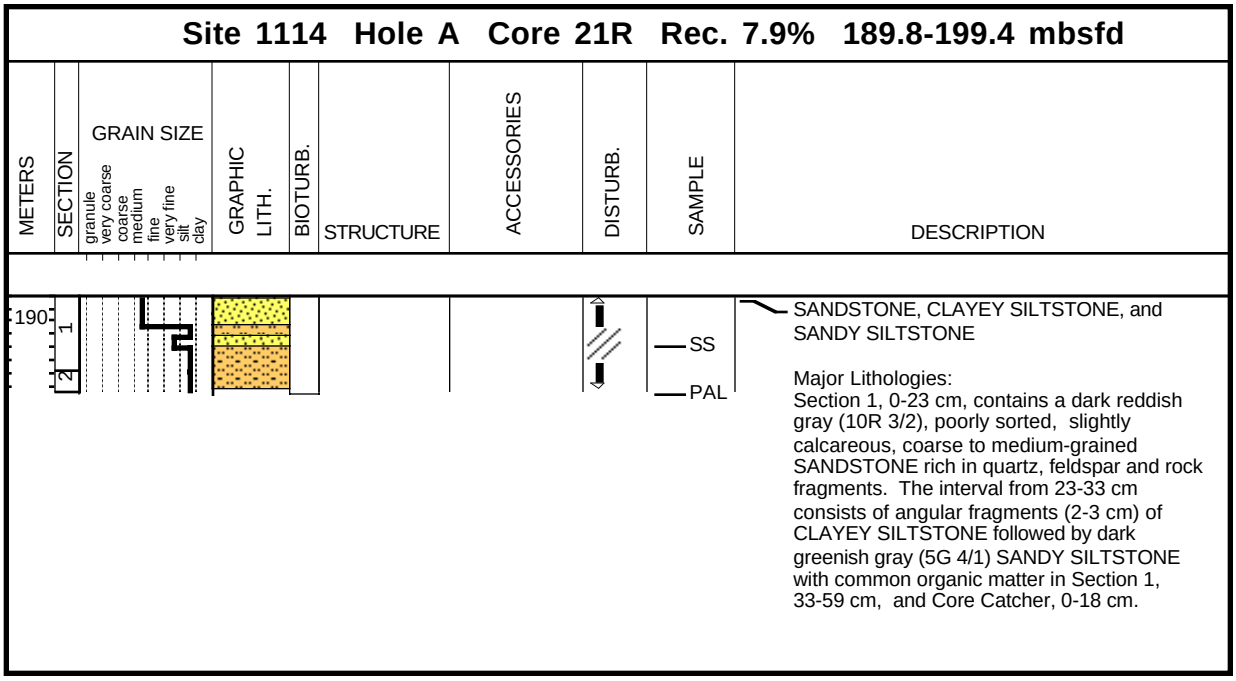
Core Photo


Site 1114 Hole A Core 19R Rec. 1.9% 170.5-180.1 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
1
SS
PAL
SANDSTONE, and SILTSTONE
Major Lithologies:
The core catcher is composed of reddish brown (10R 2.5/3) pieces of coarse-grained SANDSTONE and calcareous SILTSTONE.

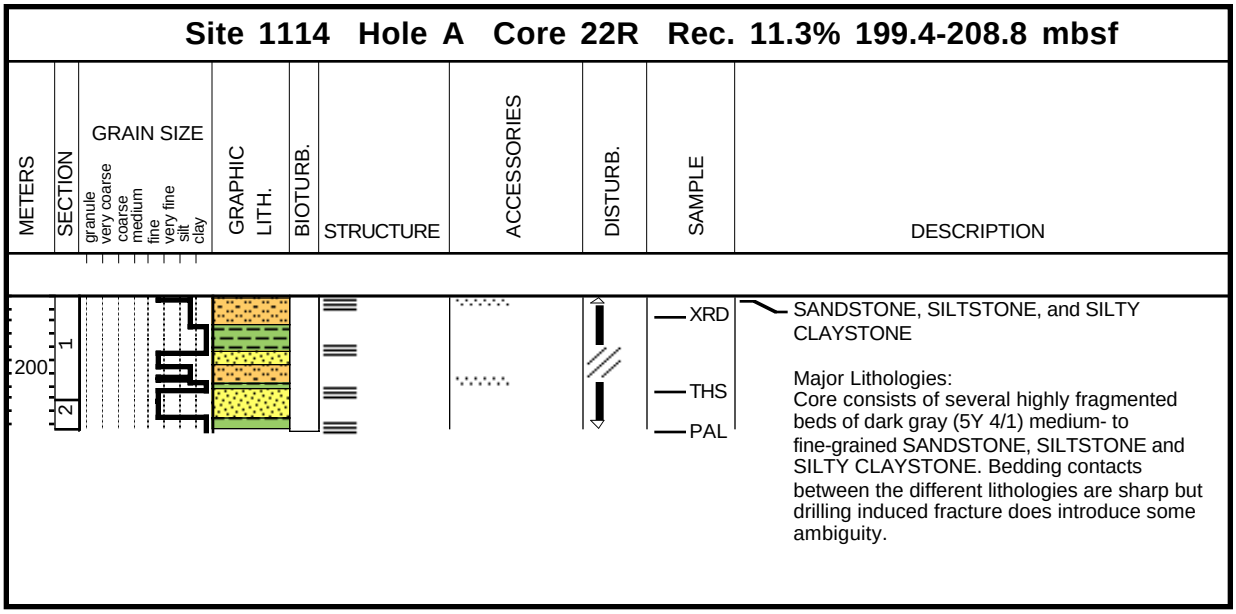
Core Photo


Site 1114 Hole A Core 20R Rec. 6.0% 180.1-189.8 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
1
PAL
CONGLOMERATE, and SANDSTONE
Major Lithologies:
The core catcher intervals 0-16 cm and 42-59 cm are composed of reddish brown (10R 2.5/1), poorly sorted, granule CONGLOMERATE. Clasts are mainly volcanic lithoclasts and up to 1 cm in size. The interval from 16-42 cm contains laminated medium to coarse-grained SANDSTONE which is scattered with bioclasts.

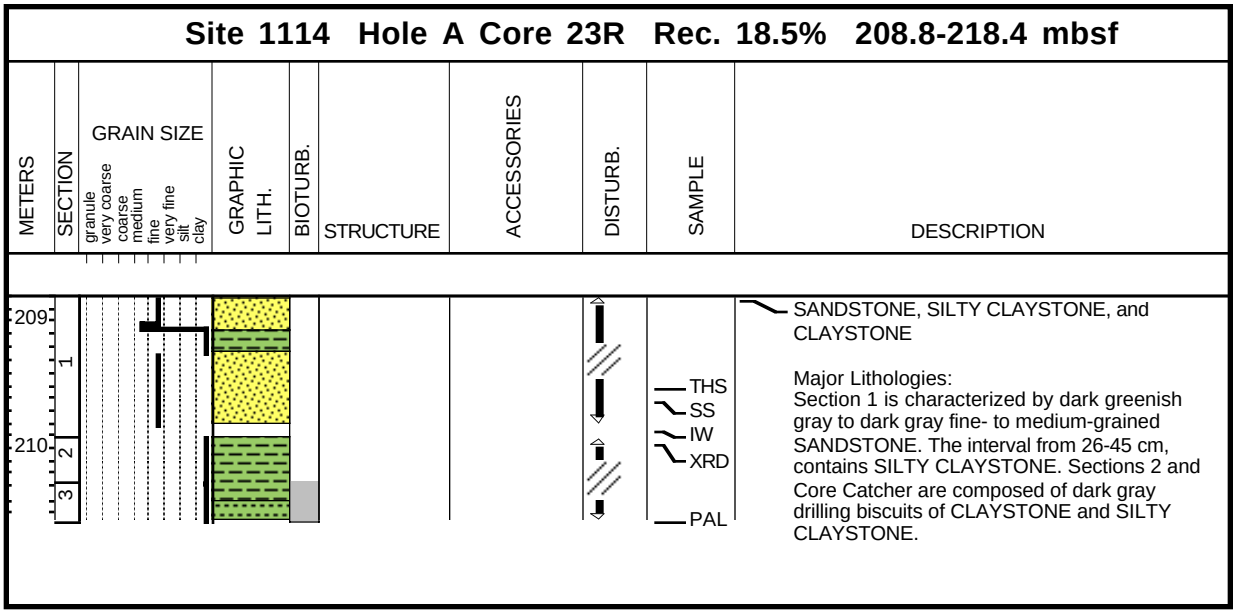
Core Photo


Site 1114 Hole A Core 21R Rec. 7.9% 189.8-199.4 mbsfd
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
190
1
2
SS
PAL
SANDSTONE, CLAYEY SILTSTONE, and SANDY SILTSTONE
Major Lithologies:
Section 1, 0-23 cm, contains a dark reddish gray (10R 3/2), poorly sorted, slightly calcareous, coarse to medium-grained SANDSTONE rich in quartz, feldspar and rock fragments. The interval from 23-33 cm consists of angular fragments (2-3 cm) of CLAYEY SILTSTONE followed by dark greenish gray (5G 4/1) SANDY SILTSTONE with common organic matter in Section 1, 33-59 cm, and Core Catcher, 0-18 cm.

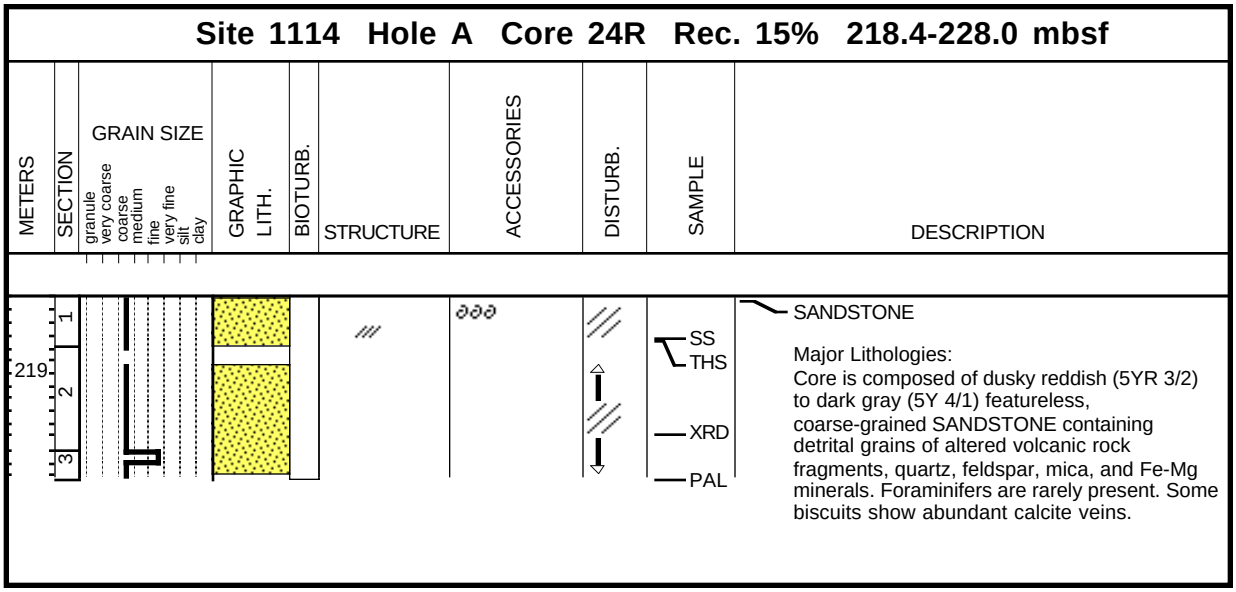
Core Photo


Site 1114 Hole A Core 22R Rec. 11.3% 199.4-208.8 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
200
1
2
XRD
THS
PAL
SANDSTONE, SILTSTONE, and SILTY CLAYSTONE
Major Lithologies:
Core consists of several highly fragmented beds of dark gray (5Y 4/1) medium- to fine-grained SANDSTONE, SILTSTONE and SILTY CLAYSTONE. Bedding contacts between the different lithologies are sharp but drilling induced fracture does introduce some ambiguity.

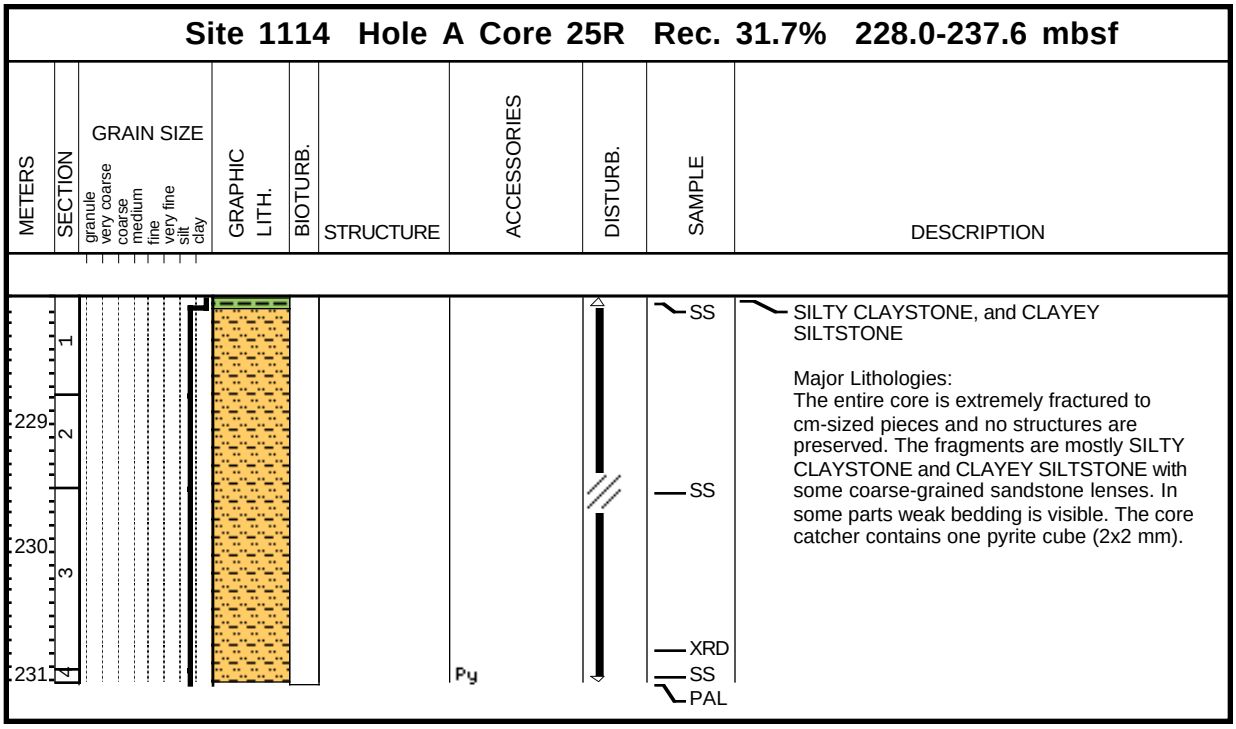
Core Photo


Site 1114 Hole A Core 23R Rec. 18.5% 208.8-218.4 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
209
210
1
2
3
THS
SS
IW
XRD
PAL
SANDSTONE, SILTY CLAYSTONE, and CLAYSTONE
Major Lithologies:
Section 1 is characterized by dark greenish gray to dark gray fine- to medium-grained SANDSTONE. The interval from 26-45 cm, contains SILTY CLAYSTONE. Sections 2 and Core Catcher are composed of dark gray drilling biscuits of CLAYSTONE and SILTY CLAYSTONE.

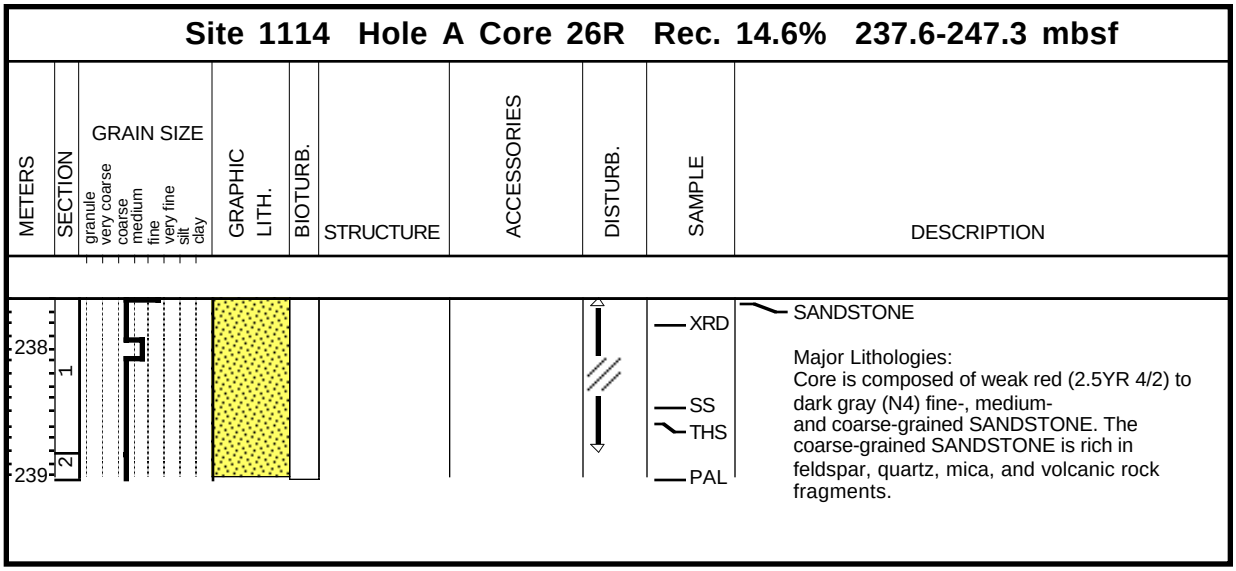
Core Photo


Site 1114 Hole A Core 24R Rec. 15% 218.4-228.0 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
219
1
2
3
SS
THS
XRD
PAL
SANDSTONE
Major Lithologies:
Core is composed of dusky reddish (5YR 3/2) to dark gray (5Y 4/1) featureless, coarse-grained SANDSTONE containing detrital grains of altered volcanic rock fragments, quartz, feldspar, mica, and Fe-Mg minerals. Foraminifers are rarely present. Some biscuits show abundant calcite veins.

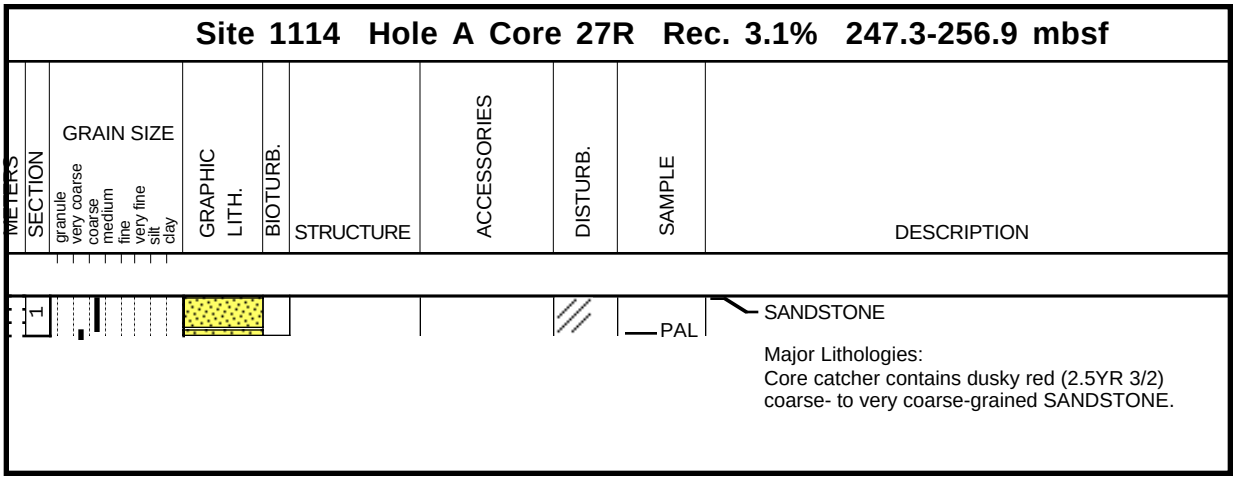
Core Photo


Site 1114 Hole A Core 25R Rec. 31.7% 228.0-237.6 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
229
230
231
1
2
3
4
Py
SS
SS
XRD
SS
PAL
SILTY CLAYSTONE, and CLAYEY SILTSTONE
Major Lithologies:
The entire core is extremely fractured to cm-sized pieces and no structures are preserved. The fragments are mostly SILTY CLAYSTONE and CLAYEY SILTSTONE with some coarse-grained sandstone lenses. In some parts weak bedding is visible. The core catcher contains one pyrite cube (2x2 mm).

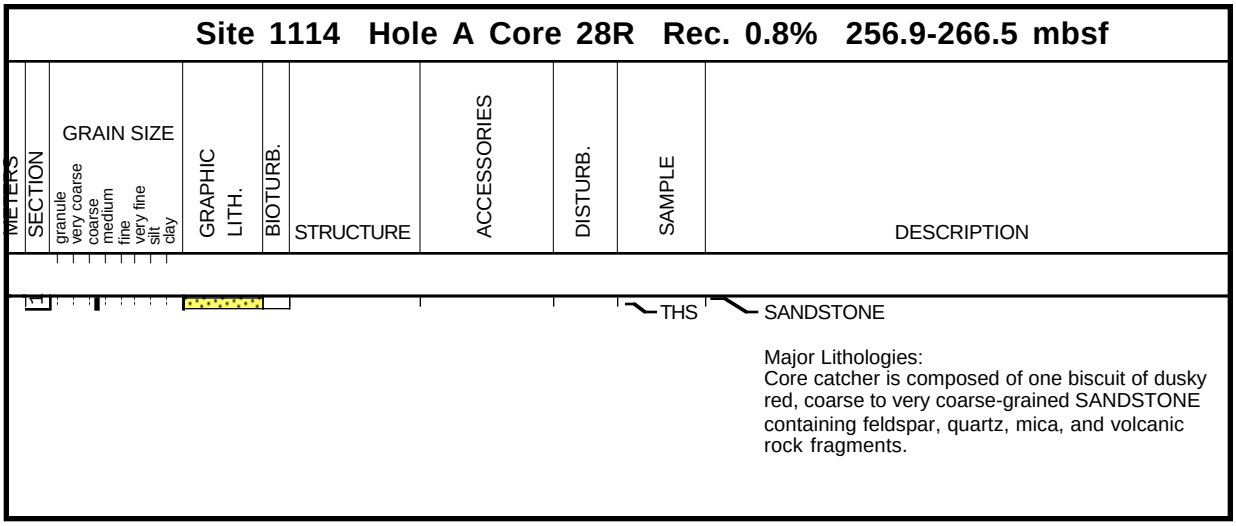
Core Photo


Site 1114 Hole A Core 26R Rec. 14.6% 237.6-247.3 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
238
239
1
2
XRD
SS
THS
PAL
SANDSTONE
Major Lithologies:
Core is composed of weak red (2.5YR 4/2) to dark gray (N4) fine-, medium- and coarse-grained SANDSTONE. The coarse-grained SANDSTONE is rich in feldspar, quartz, mica, and volcanic rock fragments.

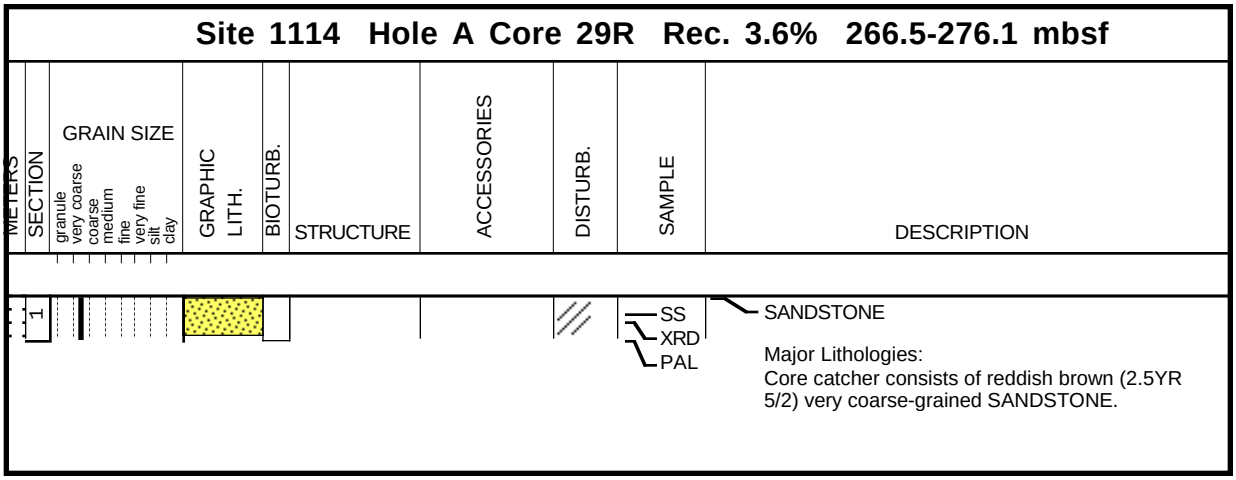
Core Photo


Site 1114 Hole A Core 27R Rec. 3.1% 247.3-256.9 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
1
PAL
SANDSTONE
Major Lithologies:
Core catcher contains dusky red (2.5YR 3/2)
coarse- to very coarse-grained SANDSTONE.

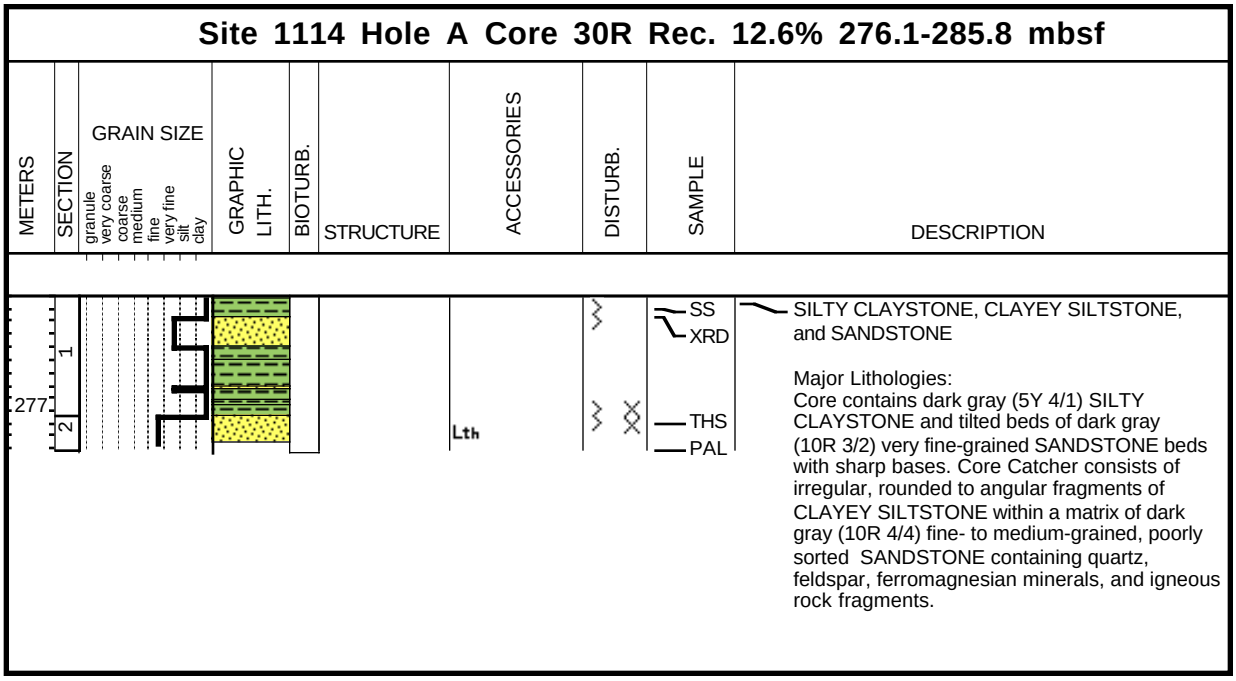
Core Photo


Site 1114 Hole A Core 28R Rec. 0.8% 256.9-266.5 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
1
THS
SANDSTONE
Major Lithologies:
Core catcher is composed of one biscuit of dusky red, coarse to very coarse-grained SANDSTONE containing feldspar, quartz, mica, and volcanic rock fragments.

Core Photo


Site 1114 Hole A Core 29R Rec. 3.6% 266.5-276.1 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
1
SS
XRD
PAL
SANDSTONE
Major Lithologies:
Core catcher consists of reddish brown (2.5YR 5/2) very coarse-grained SANDSTONE.

Core Photo


Site 1114 Hole A Core 30R Rec. 12.6% 276.1-285.8 mbsf
METERS
SECTION
GRAIN SIZE
granule
very coarse
coarse
medium
fine
very fine
silt
clay
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
DISTURB.
SAMPLE
DESCRIPTION
277
1
2
Lth
SS
XRD
THS
PAL
SILTY CLAYSTONE, CLAYEY SILTSTONE, and SANDSTONE
Major Lithologies:
Core contains dark gray (5Y 4/1) SILTY CLAYSTONE and tilted beds of dark gray (10R 3/2) very fine-grained SANDSTONE beds with sharp bases. Core Catcher consists of irregular, rounded to angular fragments of CLAYEY SILTSTONE within a matrix of dark gray (10R 4/4) fine- to medium-grained, poorly sorted SANDSTONE containing quartz, feldspar, ferromagnesian minerals, and igneous rock fragments.

Core Photo

Site 1114 Hole A Core 31R Rec. 16.1% 285.8-295.4 mbsf

METERS | SECTION | GRAIN SIZE (granule, very coarse, coarse, medium, fine, very fine, silt, clay) | GRAPHIC LITH. | BIOTURB. | STRUCTURE | ACCESSORIES | DISTURB. | SAMPLE | DESCRIPTION

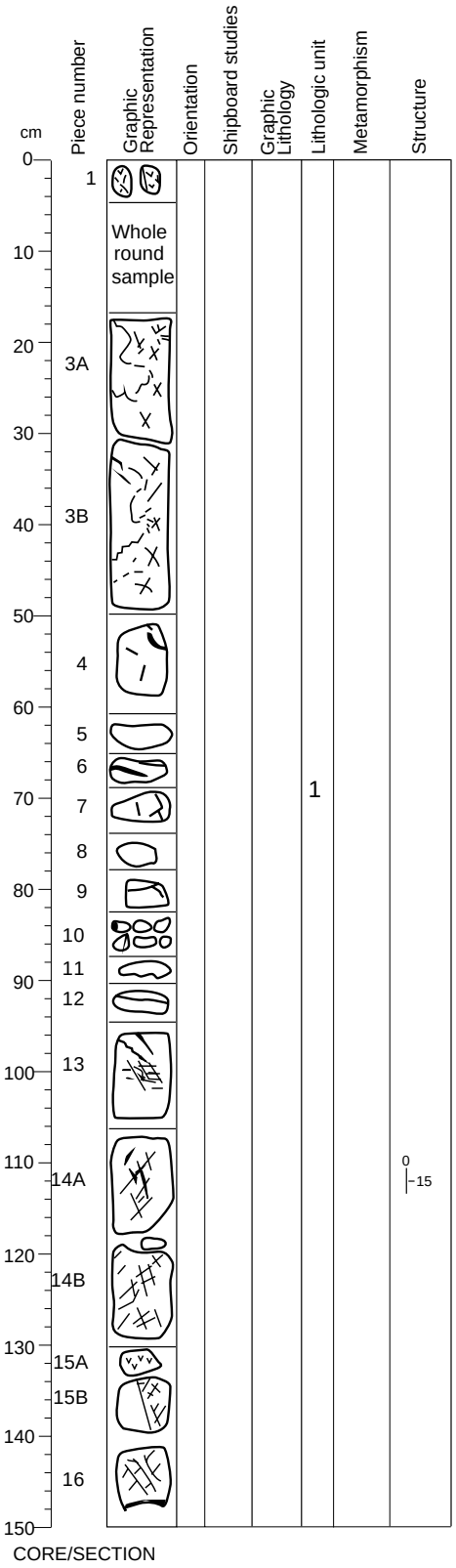
286
287
1
2

SS
XRD
SS
SS
XRD
SS
PAL

SILTY CLAY, SILT, CLAY, and BRECCIA

Major Lithologies:
Section 1 contains weakly-indurated, brown (10R 4/2) CLAY with thin, brown (10R 4/2), weakly-indurated SILT in the first 25 cm of Section 1, underlain by drilling BRECCIA from 25-74 cm and tectonic BRECCIA from 74-130 cm. BRECCIA contains fragments of hydrothermally-altered metamorphic rocks (greenschist facies). The upper BRECCIA contains metamorphic fragments and rounded sedimentary grains. The contact between the SILTY CLAY and the metamorphic rock possibly lies between 115 and 130 cm.
Core Catcher contains tectonic BRECCIA similar to that in Section 1 with larger fragments (0.5-1.5 cm) in size.

Core Photo



180-1114A-32R-1 (259.40-296.90 mbsf)

UNIT: 1 **BRECCIATED METADOLERITE**

Pieces: 1-16

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	32R	1	1	295.40
Lower contact:	32R	1	16	296.90

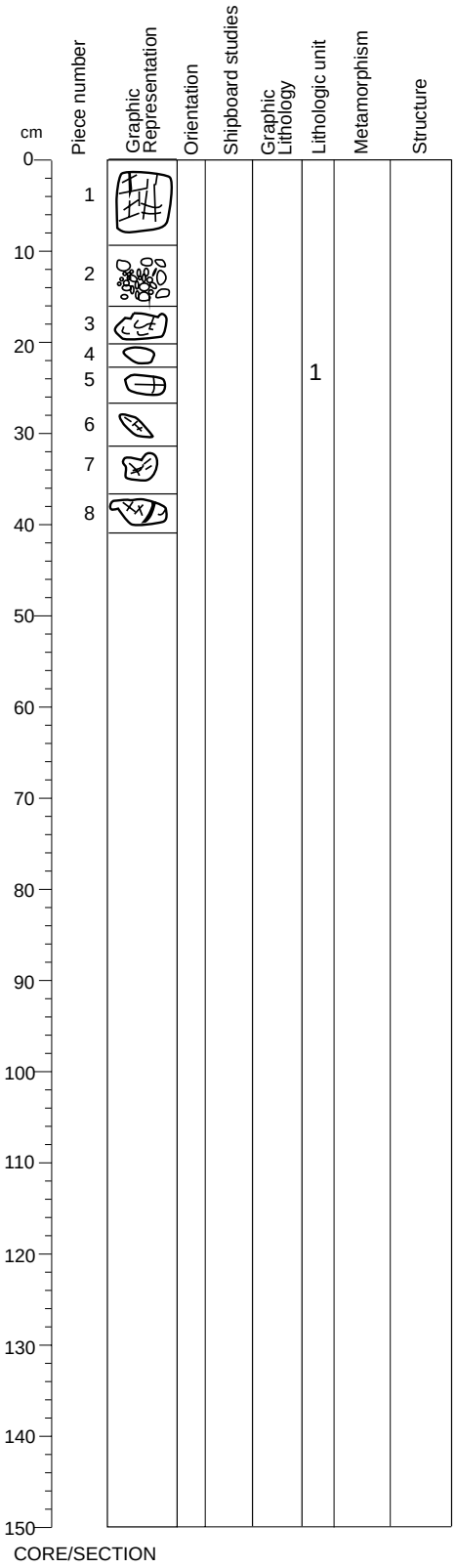
Thickness (m): 1.50
Contact Type: None observed.

GENERAL: These are pieces of metadolerite that have been hydrothermally altered and deformed by brittle deformation.

GRAIN SIZE: Medium-grained
TEXTURE: Mortar
STRUCTURE: Crosscutting fractures
ALTERATION: High sericite and epidote

COMMENTS: Tray 1 contains a fine-grained sandstone that is likely debris from up-hole. Pieces 1, 3, and 13-16 are highly brecciated, Pieces 4-8 are slightly brecciated, and Pieces 9-12 are moderately brecciated. Veins are filled with quartz (mostly), calcite, epidote, and chlorite. These veins are subsequently fractured. Evidence of ductile deformation exists in Pieces 4-8.

Core Photo



180-1114A-32R-2 (296.90-297.32 mbsf)

UNIT: 1 **BRECCIATED METADOLERITE**

Pieces: 1-8

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	32R	2	1	296.90
Lower contact:	32R	2	8	297.32

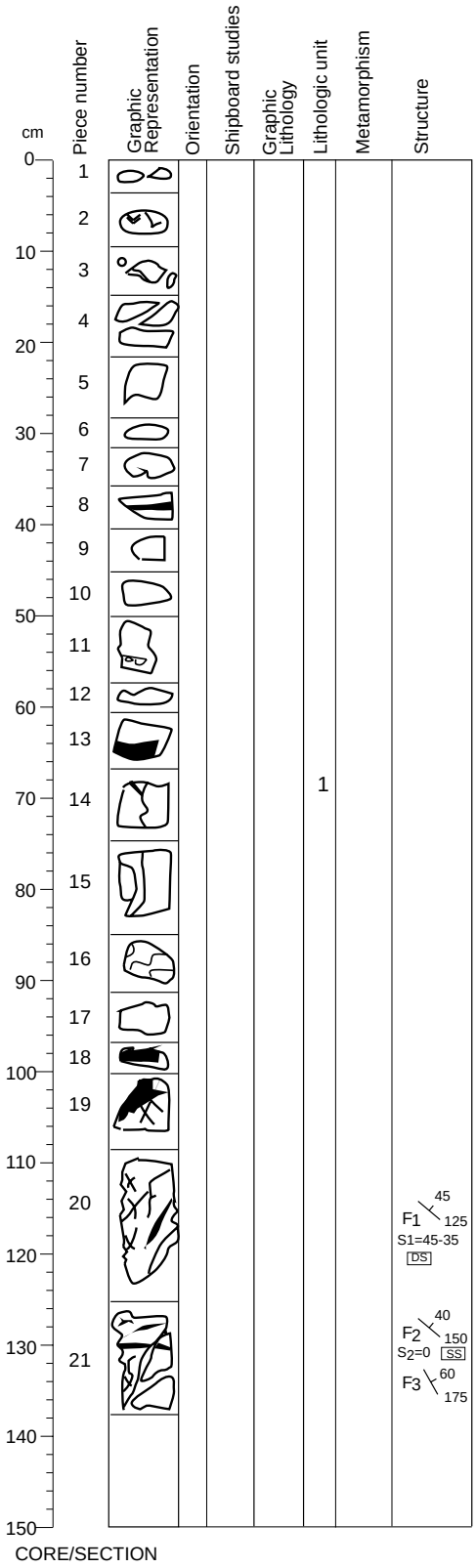
Thickness (m): 0.42
Contact Type: None observed.

GENERAL: These are pieces of metadolerite that have been hydrothermally altered.

GRAIN SIZE: Medium-grained
TEXTURE: Cataclastic
STRUCTURE: Intersecting fractures
ALTERATION: Pervasive alteration to epidote and sericite.

COMMENTS: These rocks are all heavily-brecciated and have pervasive hydrothermal alteration, as evidenced by veins of quartz, calcite, epidote, and chlorite. Pieces 5-8 resemble phyllites on outer surfaces, but have not been sectioned.

Core Photo



180-1114A-33R-1 (305.10-306.47 mbsf)

UNIT: 1 **BRECCIATED METADOLERITE**

Pieces: 1-21

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	33R	1	1	305.10
Lower contact:	33R	1	21	306.47

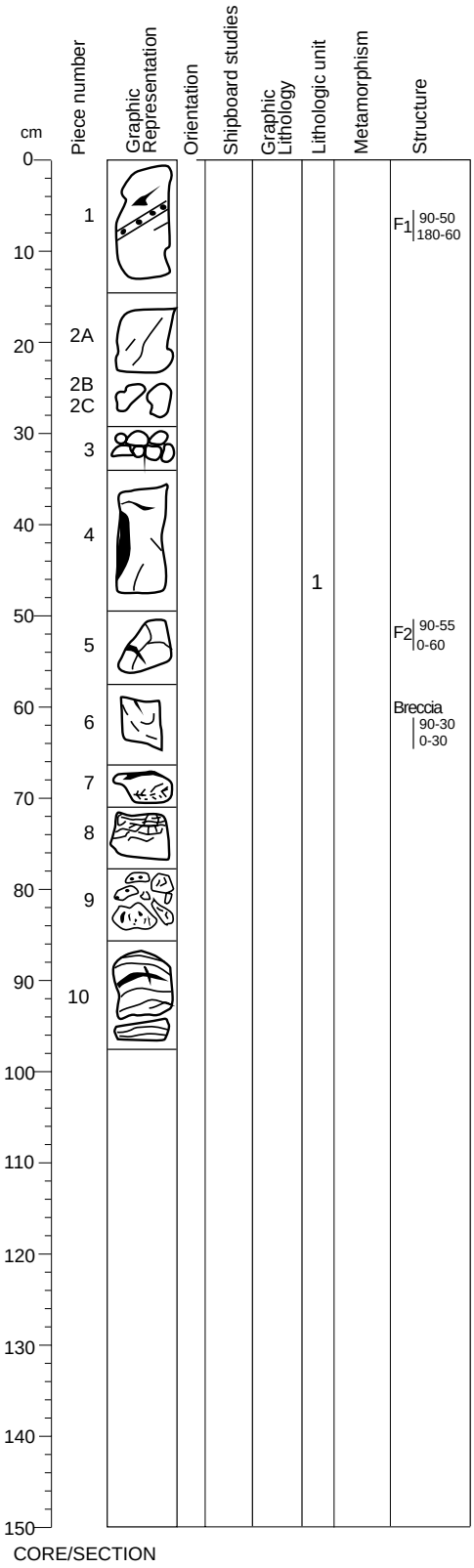
Thickness (m): 1.37
Contact Type: None observed.

GENERAL: These are brecciated, hydrothermally-altered metadolerite clasts.

GRAIN SIZE: Medium-grained
TEXTURE: Cataclastic
STRUCTURE: Intersecting fractures
ALTERATION: Highly altered to epidote and sericite

COMMENTS: Pieces 1-19 are slightly- to moderately- brecciated and have 1-5 mm veins, subsequently fractured. Pieces 18-21 are highly-brecciated and have 2 mm quartz veins, subsequently fractured by a later generation of veins. Thinner (<.5 mm) veins occur in Pieces 14-17, and are filled with epidote.

Core Photo



180-1114A-33R-2 (306.61-307.59 mbsf)

UNIT: 1 **BRECCIATED METADOLERITE**

Pieces: 1-10

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	33R	2	1	306.47
Lower contact:	33R	2	10	307.45

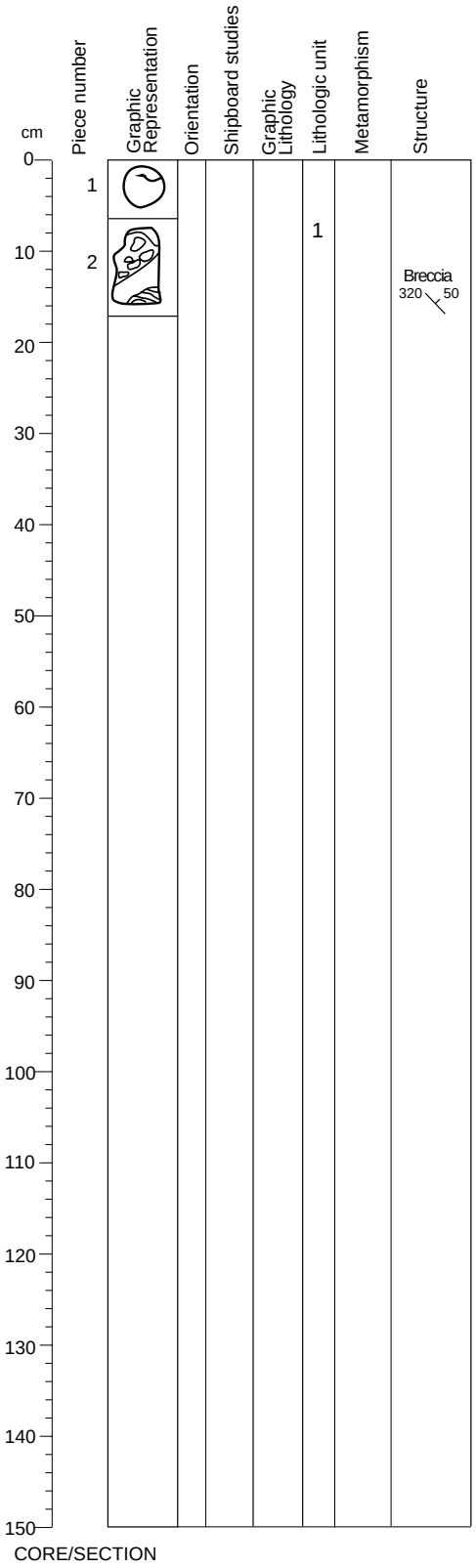
Thickness (m): 0.98
Contact Type: None observed.

GENERAL: These are highly brecciated, hydrothermally-altered metadolerite clasts similar to those previously described at this site.

GRAIN SIZE: Medium-grained
TEXTURE: Cataclastic
STRUCTURE: Fractures, crosscut by mylonitic bands
ALTERATION: Moderately to highly-altered to epidote and sericite

COMMENTS: These clasts are similar to those previously-described. Shear bands occur within Pieces 1, 6, 7,8, and 10. These shear bands crosscut previous cataclastic textures.

Core Photo



180-1114A-34R-1 (314.70-314.87 mbsf)

UNIT: 1 **BRECCIATED METADIOLERITE**

Pieces: 1 and 2

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	34R	1	1	314.70
Lower contact:	34R	1	2	314.87

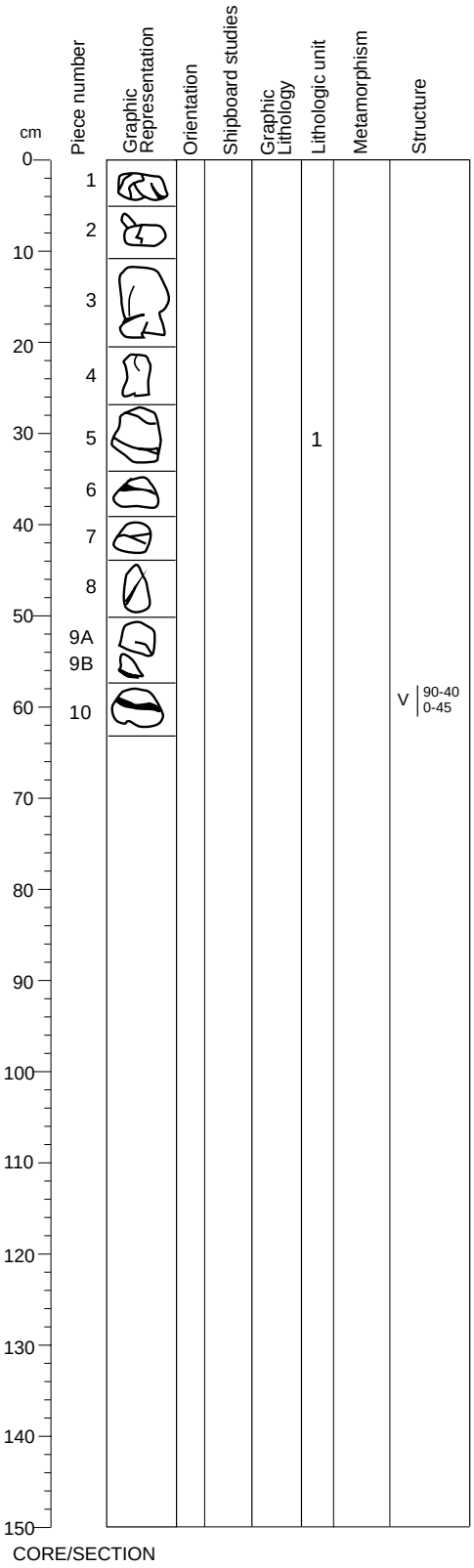
Thickness (m): 0.17
Contact Type: Not observed.

GENERAL: These are brecciated, hydrothermally-altered metadolerite clasts similar to those previously described.

GRAIN SIZE: Fine-grained
TEXTURE: Cataclastic
STRUCTURE: Fractures, cross-cut by shear zone in Piece 2
ALTERATION: Moderately altered to epidote and sericite

COMMENTS: Piece 1 is similar to those previously described but is finer-grained. Piece 2 has evidence of initial brittle deformation of a pre-existing, 1-2 mm quartz vein, subsequently crosscut by a shear band. Angular quartz exists within this shear band, which has been subse-quently filled with siliceous matrix, creating a pseudoporphyritic texture.

Core Photo



180-1114A-35R-1 (324.30-324.93 mbsf)

UNIT: 1 **BRECCIATED METADOLERITE**

Pieces: 1-10

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	35R	1	1	324.30
Lower contact:	35R	1	10	324.93

Thickness (m): 0.63
Contact Type: None observed.

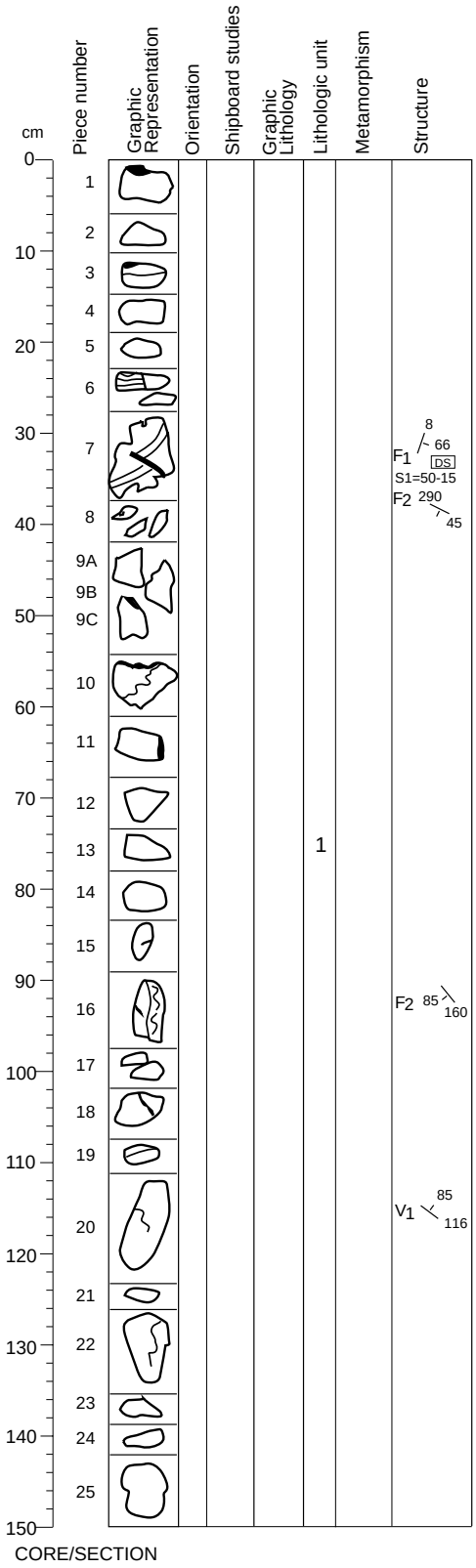
GENERAL: These are brecciated, hydrothermally-altered metadolerite rocks similar to those previously described, but are less brecciated and hydrothermally-altered.

GRAIN SIZE: Fine- to medium-grained

TEXTURE: Ophitic
STRUCTURE: Fractures
ALTERATION: Slight to moderate alteration to epidote and sericite

COMMENTS: These are similar to those previously-described, but less effected by the brittle deformation and hydrothermal alteration process(es). Igneous ophitic textures are preserved.

Core Photo



180-1114A-36R-1 (333.90-335.40 mbsf)

UNIT: 1 **BRECCIATED METADOLERITE**

Pieces: 1-25

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	36R	1	1	333.90
Lower contact:	36R	1	25	335.40

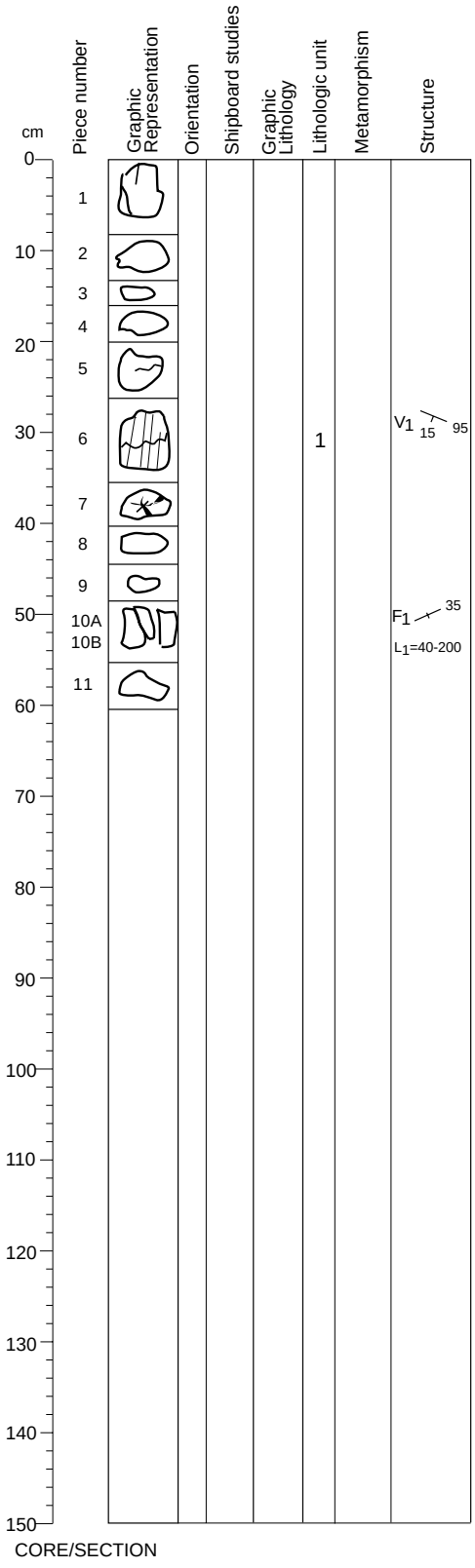
Thickness (m): 1.50
Contact Type: Not observed.

GENERAL: These are similar to those previously described, but are less brecciated and hydrothermally-altered like those of Core 35R.

GRAIN SIZE: Medium-grained
TEXTURE: Ophitic
STRUCTURE: Veins, fault on Piece 7
ALTERATION: Slight to moderate alteration to sericite and epidote

COMMENTS: These rocks are similar to those described in Core 35R, Section 1. In general, it appears that the extent of deformation is decreasing downhole. Piece 7 has a fault that cuts through a quartz vein. Sides of rocks have a phyllite texture.

Core Photo



180-1114A-36R-2 (335.40-336.00 mbsf)

UNIT: 1 **BRECCIATED METADOLERITE**

Pieces: 1-11

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	36R	2	1	335.40
Lower contact:	36R	2	11	336.00

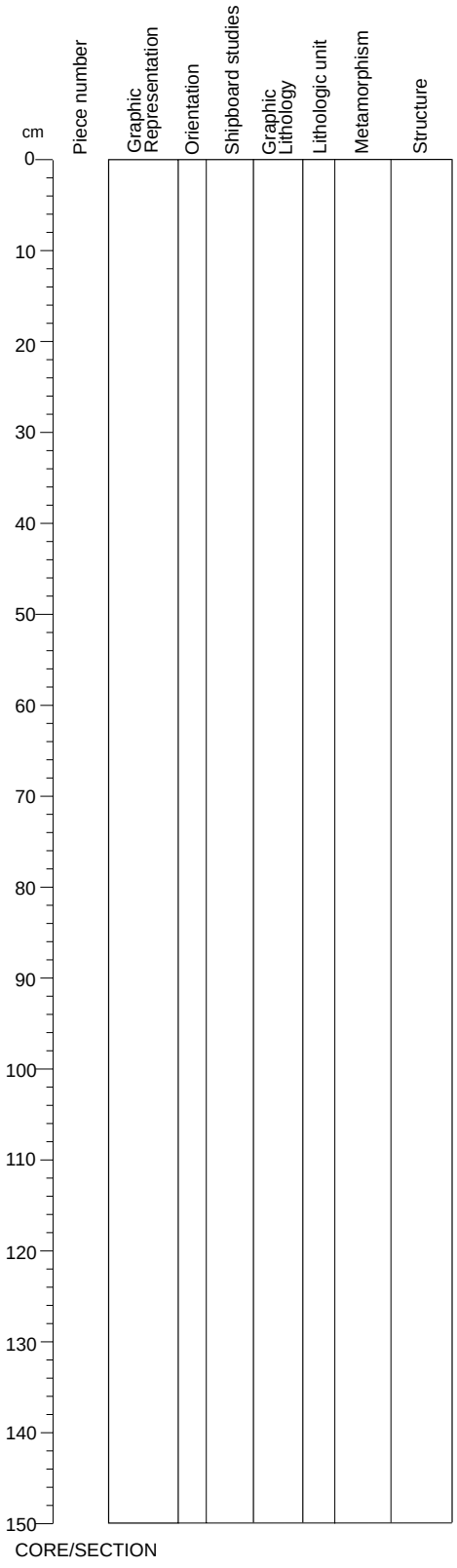
Thickness (m): 0.60
Contact Type: Not observed.

GENERAL: These are slightly brecciated, and hydrothermally-altered metadolerite rocks similar to Core 36R, Section 1.

GRAIN SIZE: Fine- to medium-grained
TEXTURE: Ophitic
STRUCTURE: Veins
ALTERATION: Slight alteration to epidote and sericite

COMMENTS: These are similar to Core 36R, Section 1. It appears that dolerite is progressively less altered downhole.

Core Photo



180-1114A-37R-1 (343.50-344.67 mbsf)

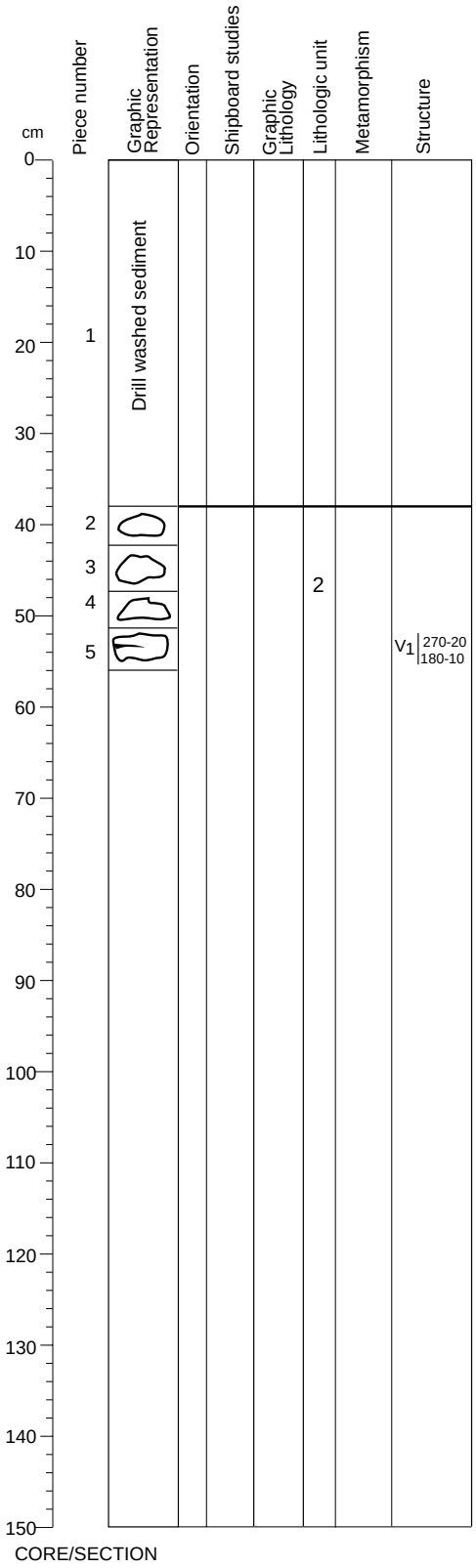
Pieces: 1

Interval Location:	Core	Section	Piece	Depth (mbsf)
Upper contact:	37R	1	1	N/a
Lower contact:	37	R1	1	N/a

Thickness (m): 1.18

GENERAL: This is drill wash sediment, a product of a wash down of the hole. Sediments are not from the depth of coring.

Core Photo



180-1114A-37R-2 (mbsf)

UNIT: 2 DOLERITE

Pieces: 2-5

Interval Location:	Core	Depth Section	Piece	(mbsf)
Upper contact:	37R	2	2	344.67
Lower contact:	37R	2	6	345.24

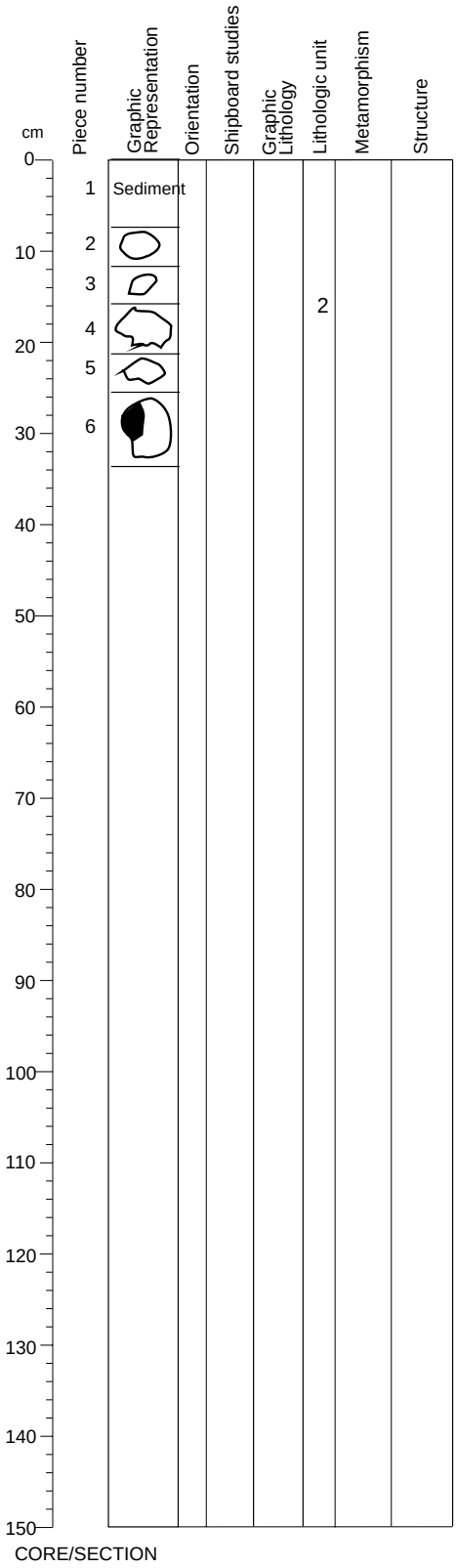
Thickness (m): 0.57
Contact Type: Not observed.

GENERAL: These are fresh-slightly altered dolerite clasts similar to those previously described but less altered.

GRAIN SIZE: Fine- to medium-grained
TEXTURE: Ophitic
STRUCTURE: Veins
ALTERATION: Negligible to slight

COMMENTS: Tray 1 contains drill-wash sediments. Pieces 2-5 are likely the relatively unaltered, unbrecciated protolith of the brecciated metadolerite rocks described above.

Core Photo



180-1114A-37R-CC (mbsf)

Tray 1 contains drill-wash sediments.

UNIT: 2 DOLERITE

Pieces: 2-6

Interval Location:	Core	Depth Section	Piece	(mbsf)
Upper contact:	37R	2	2	345.24
Lower contact:	37R	2	6	345.59

Thickness (m): 0.35
Contact Type: Not observed.

GENERAL: These are fresh-slightly altered dolerite clasts similar to those previously described but less altered.

GRAIN SIZE: Fine- to medium-grained
TEXTURE: Ophitic
STRUCTURE: Veins
ALTERATION: Negligible to slight

COMMENTS: Pieces 2-6 are likely the unaltered, unbrecciated protolith of the brecciated metadolerite rocks described above.

Core, section interval (cm)	Depth (mbsf)	Described by	Lithology (dominant/minor)	Size: Sand	Size: Silt	Size: Clay	Siliciclastic and volcaniclastic composition: Quartz	Feldspar	Plagioclase	Muscovite	Biotite	Glauconite	Amphibole	Pyroxene	Rock fragments (sedimentary)	Rock fragments (metamorphic)	Rock fragments (basaltic)	Volcanic glass	Volcanic glass (brown)	Volcanic glass (colorless)	Accessory Minerals	Carbonate	Calcite	Dolomite	Opaque (oxide)	Opaque (sulfide)	Fe-oxides	Clinoptilolite	Phillipsite	Other	Clay	Biogenic composition: Nannofossils	Foraminifers	Diatoms	Radiolarians	Sponge spicules	Shell debris	Organic material	Fish debris	Bioclasts	Unidentified/other	Sediment or rock name	Remarks
180-1114A-																																										
1R-CC, 3	0.03	AR	D	r	c	a	r										r					r	r		r					a	a	c		r	c							Nannofossil ooze with foraminifers
1R-CC, 22	0.22	AR	D	c	r	a	r										r						r		r					a	a	c		r	r							Clay
3R-1, 50	17.10	AR	D	a	c	r	c		c							c	c			r			c							a	c	c			r							Calcareous siltstone
3R-1, 58	17.18	AR	D	a	c	r	c		c							c	r						c							a	c	c			r							Calcareous siltstone
6R-2, 16	46.13	AR	D	r	a	c	c	r	r		r						c			r			r		r					a	c	r			r							Clayey silt
6R-2, 30	46.27	AR	D	r	r	a	r	r			r							r		r			r							a	c	r										Nannofossil-rich claystone
11R-1, 32	93.82	AR	D	r	a	c	c		c		r						r		c		r		r		r					r		c	r										Clayey silt
11R-2, 57	95.07	AR	D	r	a	c	r		r		r						r	r	r		r	r	c		r					r	c	r	r										Calcareous silt
13R-1, 16	112.96	AR	D	r	a	r	c		a		r						r	c			r		r		r	r				r	c	c	r										Volcaniclastic silt
13R-1, 44	113.24	AR	D	r	a	c	c		r		r						r	c			r		r								c	r	r			r							Siltstone
14R-1, 20	122.60	AR	D	r	a	c	c		r		r						r	r			r		r		r					r	a		r										Volcaniclastic siltstone
14R-1, 22	122.62	AR	D	r	c	a	c		r		r						r	r					r		r					r	a	r											Silty claystone
14R-1, 45	122.85	AR	D	a	c	r	c		c		r							r					r								c		r										Sandstone
15R-1, 20	132.20	TS	M	a	r	r	c	c			r						c	c			r		r								r		r										Medium-grained sandstone
15R-CC, 10	133.80	AR	D	r	a	c	r		r								r	r			r		r		r					r	c	r			r							Clay-rich silt
16R-CC, 6	141.66	AR	M	r	a	c	c		r		r						r	r			r		r		r						a	r	r										Siltstone
19R-CC, 17	170.67	AR	M	r	c	a	r		r		r						r	r			r		c		r						a	r	r										Calcareous silty claystone
21R-1, 36	190.16	AR	M	c	a	r	c		c		r						c	r			r		r			c			c	r	r											Volcaniclastic siltstone
23R-1, 84	209.64	TS	M	a	c	c	c		c		r						c	c					c		r						c		r										Fine-grained sandstone
25R-1, 3	228.03	TS	M	c	c	c	r		c		r						r	c			r				r						c		r										Sandy siltstone
25R-3, 1	229.57	TS	M	c	c	c	r		c		r						c	c			r		r								c											Fine-grained sandstone
25R-CC, 4	230.96	AR	M		c	a	r		c		r						c	r			r		r		r						a	r	r										Silty claystone
29R-CC, 17	266.67	TS	D	a	c	r	c		c		r						r	c			r		c								r		r										Coarse-grained sandstone
30R-1, 8	276.18	TS	D	r	a	c	r		c	r							c						r								r											Clayey siltstone
30R-1, 73	276.83	AR	M	a	c	r	r		c								a				r	c	r																				Fine-grained sandstone
31R-1, 5	285.85	AR	D	r	a	c	r		c		r										r		c							a	r				r							Calcareous silt
31R-1, 22	286.02	AR	D	r	c	a	r		r		r						r						a							a	r											Calcareous clay
31R-1, 67	286.47	AR	D		c	a	r		r												r		r		r					a												Silty clay
31R-CC, 5	287.18	AR	D		c	a	r		r		r										r		c							a												Clay-rich silt

Note: a = abundant (51%–100%); c = common (11%–50%); r = rare (1%–10%).

Thin-section number	Core, section, interval (cm)	Depth (mbsf)	Described by	Lithology (dominant/minor)	Size	Minerals	Rock Fragments	Matrix/cement (%)	Minerals	Sediment or rock name	Comments
	130-1114A-				Sand Silt Clay	**Minerals (%)** Quartz; Strained; Unstraind; Feldspar; Multiple twins; Single/untwinned; Mica; Biotite; Muscovite; Calcite; Chlorite; Accessory minerals; Clinopyroxene; Amphibole; Olivine; Epidote; Opaques	**Rock fragments (%)** Plutonic; Volcanic; Rhyolitic/dacitic; Vitric; Andesitic/basaltic; Dolerite; Sedimentary; Limestone; Siltstone; Metamorphic; Calcite-schist; Polycrystalline quartz of uncertain origin; Serpentinite		**Bioclasts (%)** Foraminifers; Benthic; Planktonic; Shell debris; Algae; Echinoderms; Bryozoa/Corals; Carbonaceous detritus		
132	1-R-CC, 34-36	0.34	TRS/AR		R C C	20 C a A r c C a R C R a r R	2 A r r r	68	10 A a C	Siltstone	Fragments of devitrified glass, claystone-filled burrows.
133	3R-1, 50-52	17.10	TRS/AR		C A C	60 R a A c c C a r R R R c r r R	5 A c c R c c	30	5 C a A	Siltstone	Claystone-filled burrows, rare phosphate grains, calcareous matrix, minor carbonate cement, chloritized micas
134	5R-1, 24-26	36.04	TRS/AR		A R	70 C a A c c C a c R C R a c C	10 R A c c c R c c	10	10 C a A	Medium-grained sandstone	Pyrite-filled foraminifers, moderate sorting, angular detrital minerals , subangular rock fragments, glassy basalt fragments, fresh glass shards (pipe vesicles)
135	9R-2, 15-17	75.77	TRS/AR		A C R	78 C a C c c C a c R C R c c r	15 A r c c R c c	5	2 C a R A	Fine-grained sandstone	Moderate sorting, angular to subangular detrital minerals and rock fragments, aligned carbonaceous detritus defining a weak laminae
136	11R-CC, 18-20	95.25	TRS/AR		A R C	40 C a A c c C a C C R a r C	10 A a c C c c	49	1 A a R	Fine-grained sandstone	Angular to subangular detrital minerals, angular to subangular rock fragments, moderately sorted, sparry calcite cement
137	12R-1, 3-4	103.23	TRS/AR		A C C	50 R a A c c A R R R a r	30 C c r C c a r	19	1 C a A	Fine-grained sandstone	Angular to subangular grains, moderately sorted, sharp mineral boundaries, abundant micritic cement
138	13R-1, 90-93	113.70	TRS/AR		A R R	50 R a A c c R a R R C a r R	40 A r r r R a	9	1 A a C	Medium-grained sandstone	Subangular to angular detrital minerals, subrounded to rounded rock fragments, fresh and altered felspar, olivine basalts
139	14R-1, 96-98	123.36	TRS/AR		A C C	40 R a A c c R a R R R a r r	30 R A c r a	29	1 A a	Silty clay	Laminae of fine- to medium-grained sandstone (normally graded), fresh and altered feldspar, trace nannofossils
140	14R-1, 106-108	123.46	TRS/AR		A R	30 R a A a c R a R R R c r r r	60 R A c c c R a	9	1 A c a R R R	Coarse-grained sandstone	Subrounded to well-rounded rock fragments, subangular detrital minerals, brownish fresh glass, silty clay-filled burrows, sparry calcite cement

Thin-section number	Core, section, interval (cm)	Depth (mbsf)	Described by	Lithology (dominant/minor)	Size			Minerals																		Rock Fragments															Minerals									Sediment or rock name	Comments
					Sand	Silt	Clay	**Minerals (%)**	Quartz	Strained	Unstraind	Feldspar	Multiple twins	Single/untwinned	Mica	Biotite	Muscovite	Calcite	Chlorite	Accessory minerals	Clinopyroxene	Amphibole	Olivine	Epidote	Opaques	**Rock fragments (%)**	Plutonic	Volcanic	Rhyolitic/dacitic	Vitric	Andesitic/basaltic	Dolerite	Sedimentary	Limestone	Siltstone	Metamorphic	Calcite-schist	Polycrystalline quartz of uncertain origin	Serpentinite	**Matrix/cement (%)**	**Bioclasts (%)**	Foraminifers	Benthic	Planktonic	Shell debris	Algae	Echinoderms	Bryozoa/Corals	Carbonaceous detritus		
141	15R-1, 46-48	132.46	TRS/AR		A	R	R	25	R	a		A	a	c	R	a	r	R	R	R	a	r	r		R	70		A	c		a									4	1	C	a		C	R		C		Medium-grained sandstone	Subrounded rock fragments, variolitic and flow texture present in andesite/basaltic rock fragments, minor sparry calcite cement, olivine phenocrysts or clinopyroxene present in basalts
142	22R-1, 74-76	200.14	TRS/AR		A	C	C	50	C	a		A	a	r	C	a	r	R	C	R	a				C	40		A	c		c					C		C		5	5	A	a			R			A	Fine-grained sandstone	Well-sorted, subrounded rock fragments, weak laminae defined by aligned detrital grains and carbonaceous detritus
143	23R-1, 70-72	209.50	TRS/AR		A	C	R	40	C	a		A	a	r	C	a	r	R	R	R	c	c			C	35		A	r	r	a									15	10	R							A	Fine-grained sandstone	Well-sorted, angular detrital mineral grains, subangular to subrounded rock fragments, laminae indicated by aligned detrital minerals and carboncaeous detritus
144	24R-1, 33-35	218.73	TRS/AR		A	R	R	30	C	a		A	c	c	R	a		R	R	R	a		r		R	60		A	c	r	a		R	a						9	1	C	A			C				Medium-grained sandstone	Poorly sorted, well-rounded rock fragments, angular detrital minerals, variolitic basalt fragments
145	26R-1, 96-97	238.56	TRS/AR		A	R		20	R	a	r	C	a	c	R	a		R	R	R	a	c	r		R	75	R	R	c	r	c									5										Coarse-grained sandstone	Poorly sorted, angular detrital minerals, subrounded rock fragments, altered and unaltered feldspars
146	28R-CC, 3-7	256.93	TRS/AR		A	R		25	R	a		A	a	r	R	a			R	C	a		r	r		65	R	A	c	r	a	r								5	5									Coarse-grained sandstone	Poorly sorted, well-rounded rock fragments, angular detrital mineral grains, porphyritic basalt with phenocryst of either clinopyroxene or olivine
147	30R-CC, 1-4	277.07	TRS/AR		A	R	R	30	R	a		C	a	r	R	a			R	R	a		r			60	R	A	c	r	a									5	5								A	Coarse-grained sandstone	Poorly sorted, angular detrital minerals, subrounded lithoclasts, variolitic texture occurs in some of the basalts

Note: A = abundant (51%–100%); C = common (11%–50%); R = rare (1%–10%); lower case letters indicate subcategories of the major constituents.

180-1114A-33R-1 (Piece 14, 67-69 cm)
Thin section: # 150
ROCK NAME: Brecciated dolerite
GRAIN SIZE: Medium-grained
TEXTURE: Mortar

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPO-SITION	MORPHOLOGY	COMMENTS
Plagioclase	~20	~60	0.5		Euhedral, prismatic	Cloudy.
Clinopyroxene	~25	~40	0.5	Augite	Anhedral	Fractured.

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Chlorite	5		
Clay Sericite Epidote	50	Plagioclase	Very fine-grained matrix made of clay, sericite, and epidote.

COMMENTS:

180-1114A-33R-2 (Piece 4, 24-27 cm)
Thin section: # 152
ROCK NAME: Brecciated dolerite
GRAIN SIZE: Fine-grained
TEXTURE: Cataclastic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPO-SITION	MORPHOLOGY	COMMENTS
Plagioclase	5	~50	0.5-1.5		Euhedral, prismatic	Cloudy.
Clinopyroxene	1	~45	1-3	Augite	Anhedral to subhedral	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Calcite	10	Vein	
Quartz	10	Vein	
Chlorite	5		
Tremolite			
Clay 55	All minerals?		
Sericite	8	Plagioclase	
Pyrite	10	Vein	
Celadonite	5	Vein	

COMMENTS: 60 % of the thin section consists of a very fine intergrowth of fibrolitic amphibole (tremolite?), Chlorite, and clay from a common center. Coarse-grained quartz contains inclusions.

180-1114A-35R-1 (Piece 8, 45-50 cm)
Thin section: # 154
ROCK NAME: Metadolerite
GRAIN SIZE: Medium-grained
TEXTURE: Ophitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPO-SITION	MORPHOLOGY	COMMENTS
Plagioclase	~10	~50	0.5-1.5		Euhedral, prismatic	Cloudy,
Clinopyroxene	~20	~45	0.8-1.5	Augite	Anhedral to subhedral	Fractured

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Chlorite	20	Plagioclase/groundmass	
Sericite	10	Plagioclase	
Epidote	20	Plagioclase/vein	
Clay	15		
Quartz	5		

COMMENTS:

180-1114A-35R-3 (Piece 4, 24-27 cm)
Thin section: # 155
ROCK NAME: Metadolerite
GRAIN SIZE: Medium-grained
TEXTURE: Ophitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPO-SITION	MORPHOLOGY	COMMENTS
Plagioclase	~60	~50	0.5-1.5		Euhedral, prismatic	Cloudy.
Clinopyroxene	~20	~45	1-3	Augite	Anhedral to subhedral	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Tremolite	2	Clinopyroxene	
Chlorite	5	Tremolite/groundmass	
Sericite	8	Plagioclase	
Pyrite	~5		Possibly primary.

COMMENTS: Retrogressed dolerite, plagioclase replaced by sericite, but pyroxenes are fresh. Negligible trace of brecciation.

180-1114A-36R-1 (Piece 22, 127-134 cm)
Thin section: # 156
ROCK NAME: Basalt / Dolerite (brecciated)
GRAIN SIZE: Fine-grained
TEXTURE: Cataclastic, ophitic, and variolitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPO-SITION	MORPHOLOGY	COMMENTS
Basalt, variolitic	20				Lath	Very fine-grained intergrowth of ?
Diabase						
Plagioclase	10	?	0.1		Euhedral, prismatic	Cloudy.
Clinopyroxene	10	?	0.1	Augite	Anhedral	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Epidote	30	Plagioclase(?)	Granular, in the matrix of the breccia
Chlorite	5		
Calcite	5	Vein	
Clay	10	All minerals(?)	
Natrolite	5	Vein	Relief negative, birefringence I order (yellow), some are altered to clay.
Pyrite	2	Vein	
Celadonite	2	Vein	Small, radiating, bluish green masses in vesicles (in the Basalt) cleavage 001 visible.
Quartz	2	Vein	Very small veinlets crosscutting the spherulite.

COMMENTS: This rock is made of a basaltic part (1/3 of this thin section) and a doleritic part (2/3). The contact between the two rock types is highly brecciated. This rock represents a glassy margin (basaltic) of a doleritic rock similar to that described in Hole 1109D.
Celadonite (phyllosilicate) is frequent in altered volcanic rocks.

180-1114A-36R-2 (Piece 8, 40-48 cm)
Thin section: # 157
ROCK NAME: Brecciated dolerite
GRAIN SIZE: Fine-grained
TEXTURE: Cataclastic and ophitic

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPO-SITION	MORPHOLOGY	COMMENTS
Plagioclase	20	?	0.1		Euhedral, prismatic	Cloudy.
Clinopyroxene	50	?	0.1	Augite	Anhedral to subhedral	

SECONDARY MINERALOGY	PERCENT	REPLACING/ FILLING	COMMENTS
Chlorite	5		
Clay	15	All minerals(?)	
Natrolite	5	Plagioclase	
Pyrite	10	Vein	
Celadonite	2	Vein	

COMMENTS: