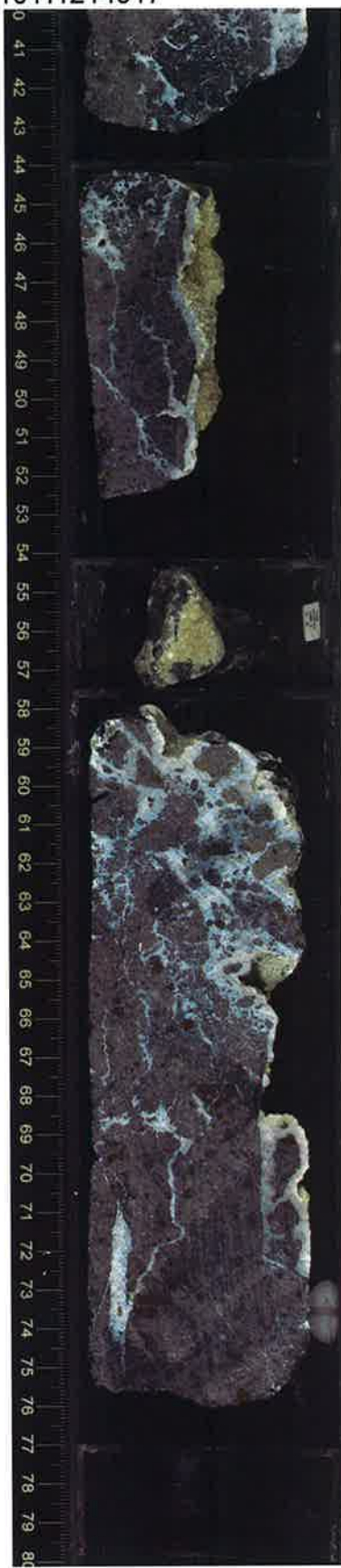


330-U1374A-26R-5-A_SHLF2765061_2011011214917

UNIT (31)
PIECE 1-4
CONTD



26-39cm
vein n=3
3mm irreg
in clust



UNIT (31)
(Continued)

basaltic
breccia

modal grain
size 20mm

mottled gray

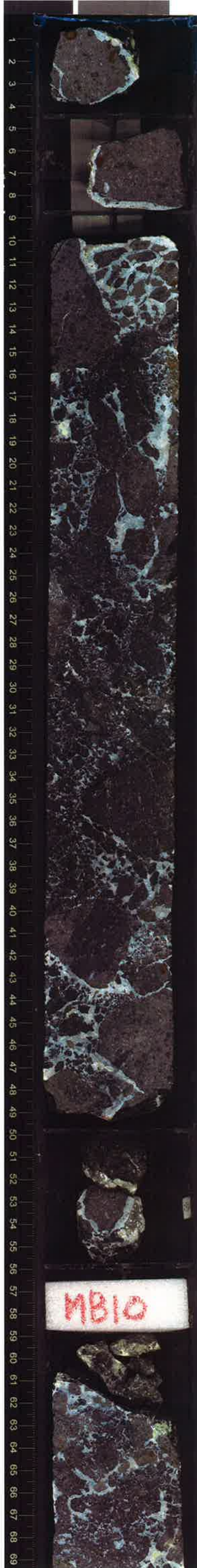
clasts

fine grained
glass pervasively
altered

highly plag - al-
augite phytic
basalt

no vesicles

clasts
low spherulites
highly angular



All four
sections very
similar

← late-stage material
dehydrating & shrinking

13-15 cm vein in clast
0.5mm irregular

phenocrysts

plag 5%

20mm max
1.5mm nodal

elongate
subhedral
(larger phenocrysts
rounded)

fresh

olivine 5%

7mm max
1.5mm nodal

equant
subhedral

completely altered

augite 2%

2mm max,
1mm nodal

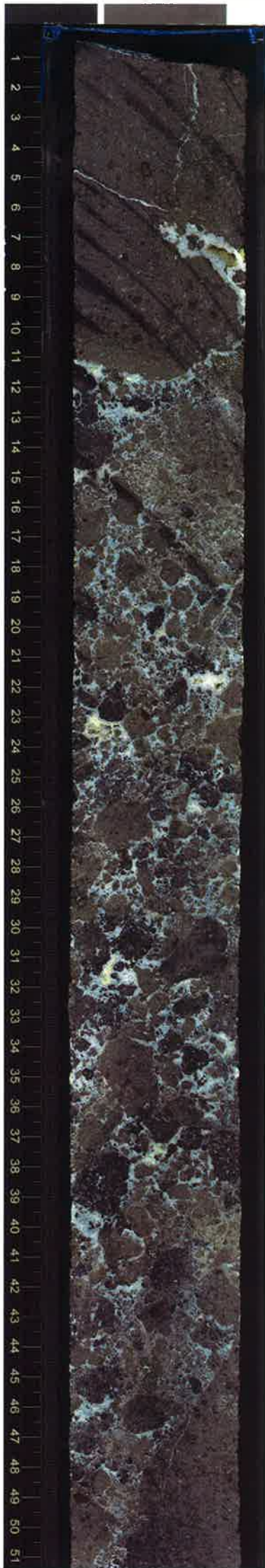
elongate
subhedral
fresh



129-134 cm vein in clast
1-2mm curved

on opposite side of core
have 15mm long olivine
crystals (altered)

5-6cm
vein 1mm
50-7029



1-6cm vein 1mm
80-7274

As section 1

84 cm.

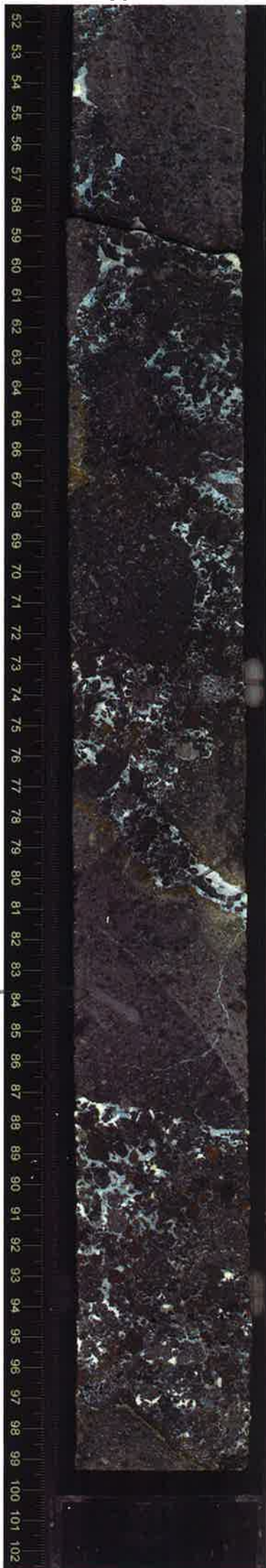
Large (20mm)

plagioclase
phenocryst

plag. phenos
are often rounded
and filled with
tiny inclusions

-hard to
see on cut
face & core

46-56 cm
vein (n=4)
includ 0.1mm
irregular



altered rim

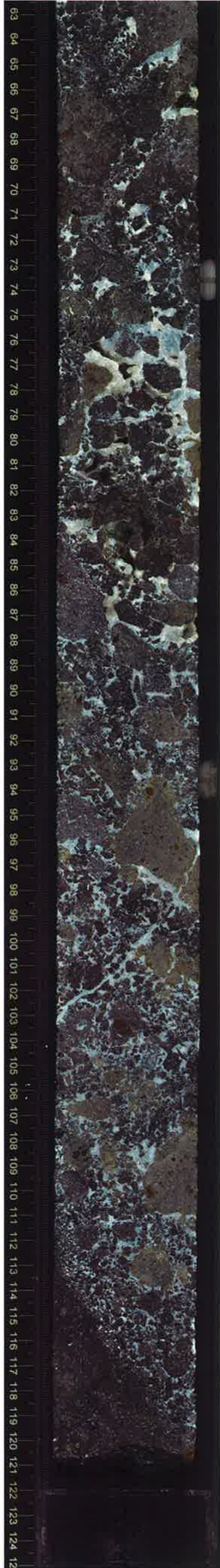
81-87cm vein in clast
0.5mm irregular, branching

unaltered
break



As section 1

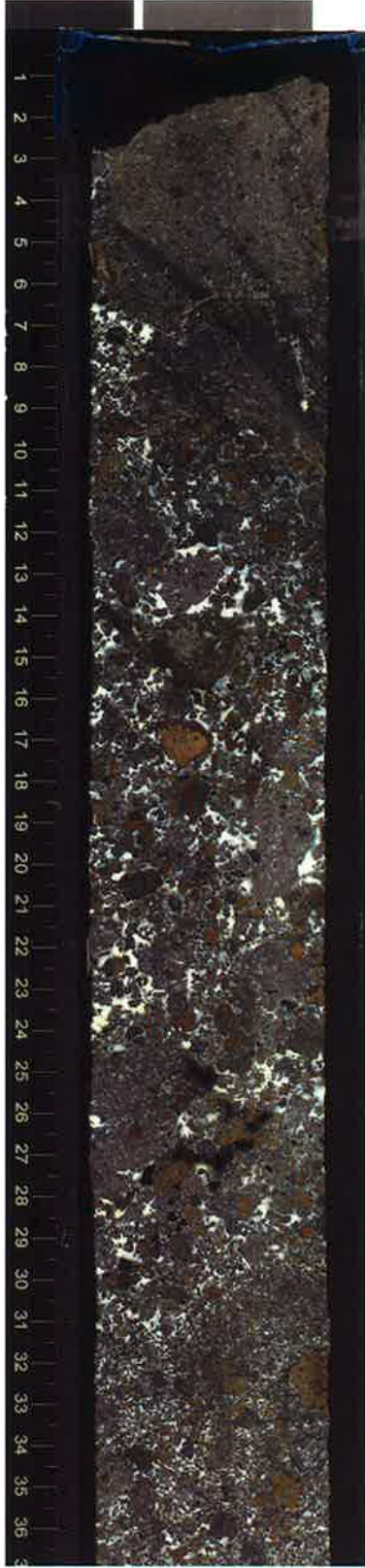
← green mineral
in voids ?



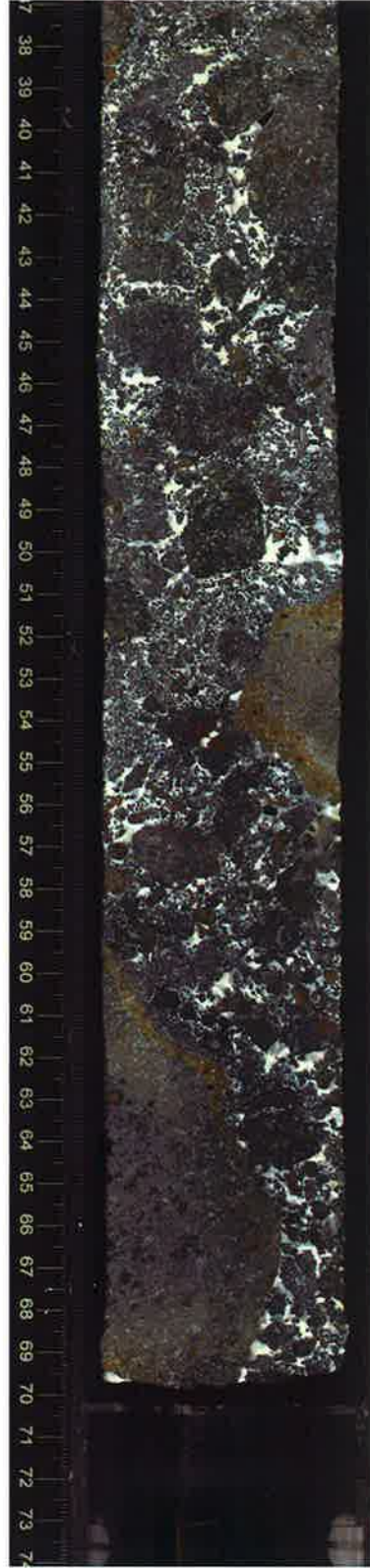
← green mineral in void ?

96-103cm vein
single 2mm
30 → 310°

330-U1374A-27R-4-A_SHLF2765521_20110112015316



Ar section 1



50 cm geopedal 150°

UNIT 31
(continued)

Basaltic breccia

Grain size
Aphanitic

Mottled gray.

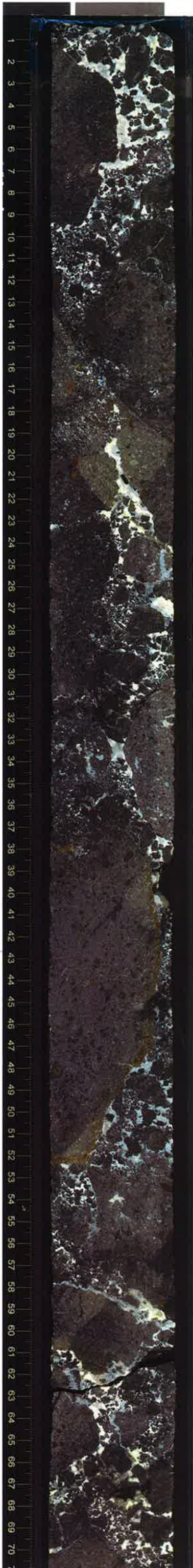
Moderately altered

Clasts

Fine grained
Highly plagioclase-
olivine - augite
phyric basalt.

Low sphericity
Highly angular.

moderately
altered
but some
fresh
glass
present



Phenocrysts:

- Plagioclase - 5%

5mm - max.
2mm - mod.
elongate,
subhedral
fresh

- Olivine - 4%

10mm - max.
2mm - mod.
equant
subhedral
completely altered

- Augite - 3%

8mm - max.
1.5mm - mod.
equant
subhedral
fresh.



101-109cm vein in clast
3-1mm

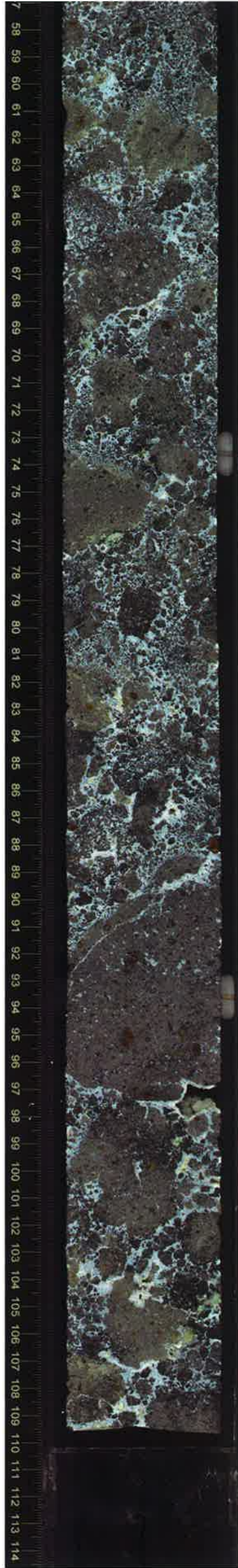
Some moderately
fresh olivine
in this piece

117-122.5cm vein (in clast)
1mm irregular

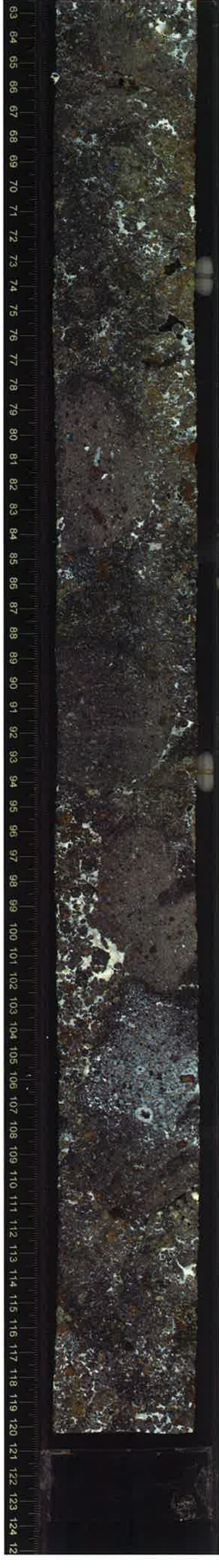
127.5-137cm
vein network (in clast)
2mm to 0.5mm irregular

330-U1374A-28R-2-A_SHLF2765901_20110112065315

*Modified
at level
but find
glass
is present*



moderately
alkaline
Fe-rich
glass
pieces



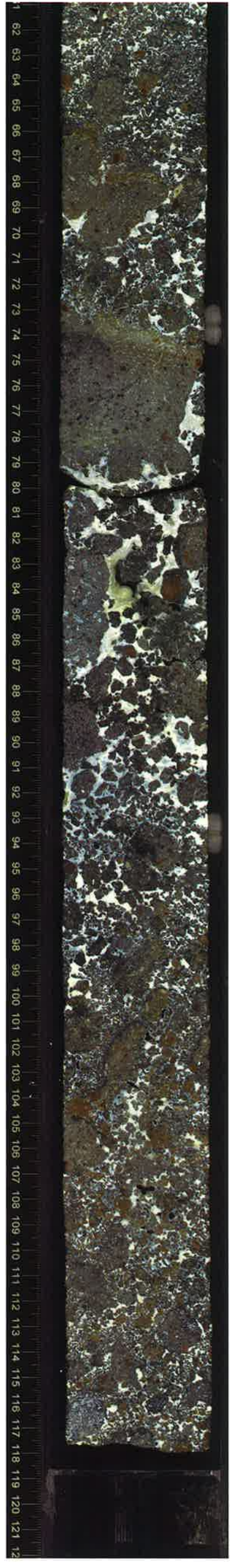
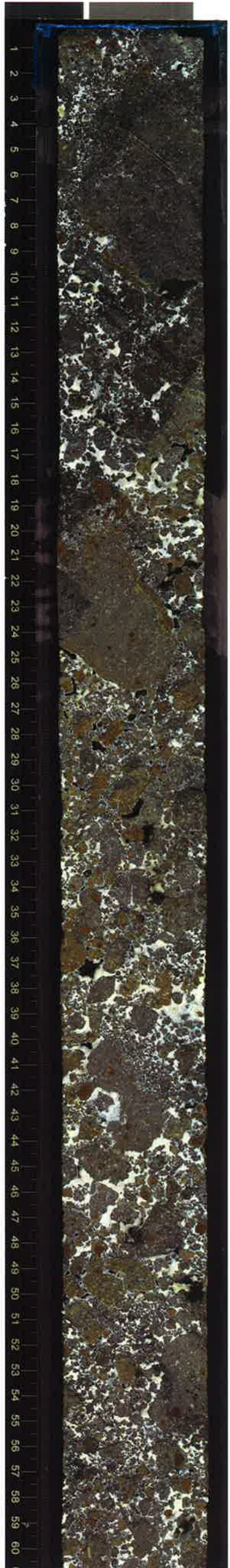
Vesicular clast:

8mm - max
0.9mm - modal.
moderate to elongate.
Subangular.
2% - vesicles.
Same composition
as others.
10% filled by calcite

Vesicular clast.

Vesicles: 102 - 108 cm.
8mm - max
3mm - mod.
Low to elongate sphericity
Subrounded roundness
40% - vesicle
Same composition
as others.
90% - filled by
20n/cm³ calcite.

Handwritten note:
M. ...
a. ...

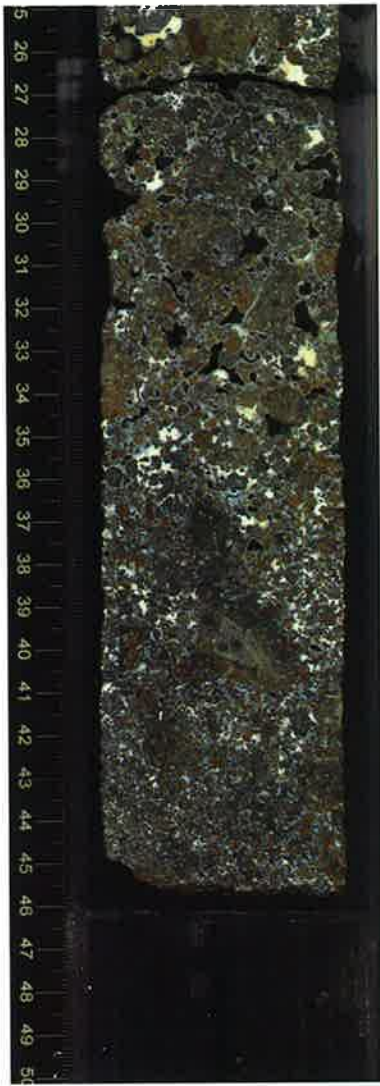
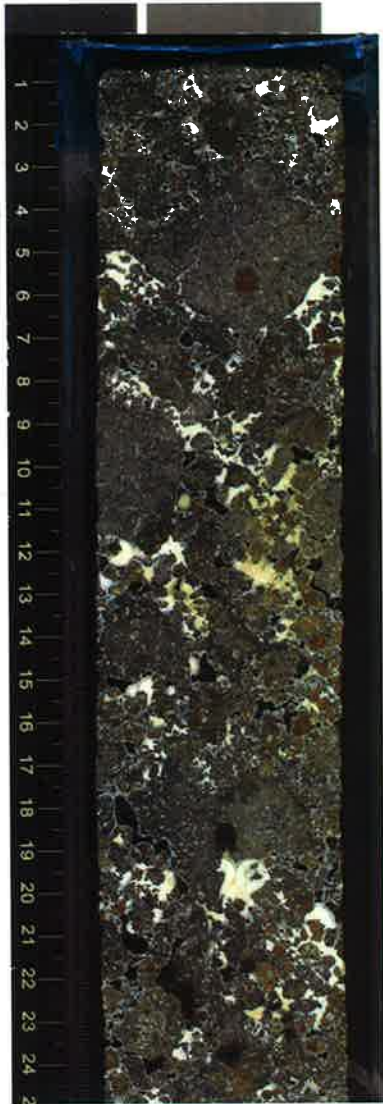


UNIT 31
(continued).
Basaltic breccia.

330-U1374A-28R-5-A_SHLF2765991_20110112070957

↓
0.5% vesicles in
patches down to the
end.

*Midway
of block
and 5 cm
fresh*



UNIT 31

Piece 1-2d.

Conk'd.

5% PLAS
SUBHEDRAL
FRESH

6MM MAX
2MM MOD.
ECONOMIC

30% Px

SUBHEDRAL
FRESH

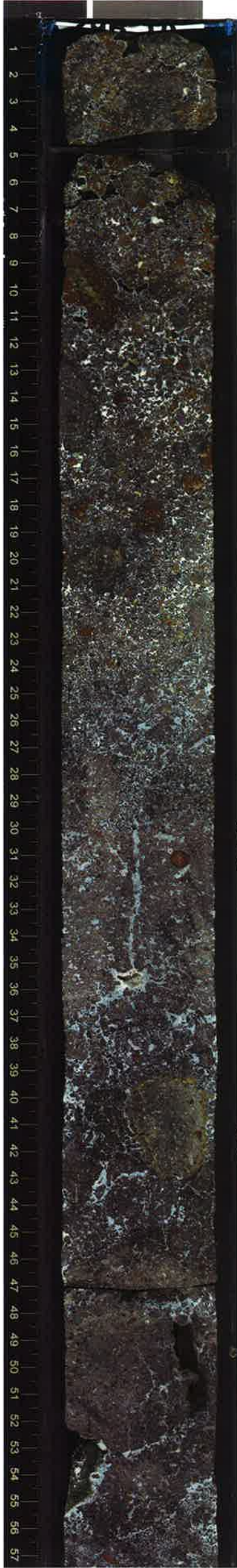
4MM MAX
1.5MM MOD.

4% OL

SUBHEDRAL
COMPLETELY ACIDED.

8MM MAX
2MM MOD.

330-U1374A-29R-1-A_SHLF2766211_20110112115559



highly
altered

moderately
altered

30-36
vein, straight, 3mm
Sub-horiz. → 26g
calcite

42-45
vein network, irreg.
non-oriented
calcite

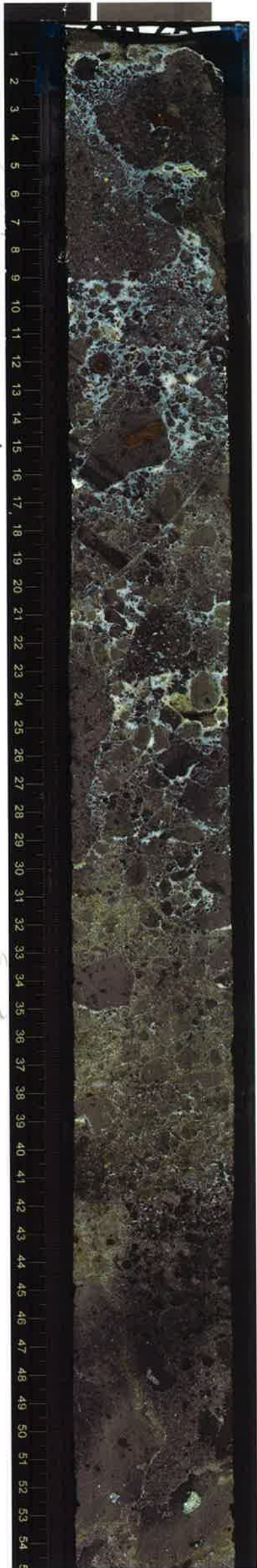
49-53
vein, irreg., non-
oriented



10% VESICLES
LOW
SUBROUNDED.
7.5MM MAX
3MM MOD.

UNIT 31 - Piece 1
32 - 1

330-U1374A-29R-2-A_SHLF2766241_20110112121104



mid-level at base

UNIT 32

15cm - 30cm on Core 29R2

VOLCANIC BRECCIA WITH SEDIMENT MATRIX.

1% OLIVINE
SUBHEDRAL
COMPLETELY ALT.
8MM MAX
2MM MOD.

0.5% PLAGIOCLASE
SUB-EUMERAL
FRESH
5MM MAX
0.5MM MOD.

mid-level at base

0% PX

SPARSELY-OLIVINE
PHYRIC BASALT
BRECCIA.

MOTTLED GRAY-
ORANGE-GREEN.

FINE GRAINED OIL
SPARSELY PHYRIC
BRECCIATED.



SEDIMENT.

48-52
vein network
u=12, irreg, hom -
orembro

52-54
vein network
irreg. coarse - orembro



60% VOLCANIC
CLASTS.

8MM MOD.

LOW
ANGULAR

V. POOR SORTED.

VESICLES

0.5%

MAX 2.5mm

MOD 0.5mm

LOW

SUB-R.

UNIT 2.
Piece 1

UNIT 33

Sediment disappears.
20cm - 86cm
Piece 1

0.5% PLAG
SUB-EUMERAL
FRESH
4mm max
0.5mm mod.

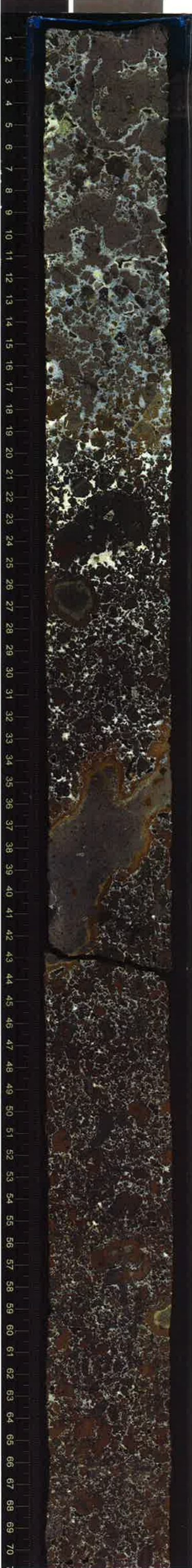
1% OLIVINE
SUBHEDRAL
COMPLETELY ALT.
5mm max
1mm mod.

SPARSELY
OLIVINE-PHYRIC
BASALT BRECCIA

MOTTLED BROWN-GRAY
FINE GRAINED
OIL
SPARSELY PHYRIC
BRECCIATED.

80% VOLCANIC CLASTS
7mm mod.
LOW
ANGULAR
POORLY-SORTED.

0.1% VESICLES.
1.5mm max
0.5mm mod
SUBANGULAR, LOW.



0-7
vein network
img., non-oriented

1% VES.
HIGH
ROUND,
1mm max
0.5mm mod

CORAL?

90-98
vein network, img
non-oriented

COMPLETELY ALTERED
GLASS.

highly altered
small
clasts

moderately
altered
mediums
of larger
clasts



Piece 2a.

UNIT 34. 86-99cm
If this is a coral -
could be significant.
So new unit delimited.
1% PX, 5% MAX, 2 MOD.
3% OL, 7 MAX, 2 MOD.
0% PLAG-OCCLUDE AS MICRO-P
MODERATELY OLIVINE-AUGITE-PHYRIC
LAVA FRAGMENT - LOSS OF
MEDIUM GRAY, FINEGRAINED. CLAST?

← CHILLED MARGIN.

UNIT 35

99cm - 70m Core 2924.
Piece 2b - 3
0% PX
1% OL
SUBHEDRAL
2mm max
1mm mod.

0.5% PLAG.
2mm mod
2mm max
SUBHEDRAL
MOD. ALTERED.

MOTTLED BROWN-GRAY
FINEGRAINED 0.1
SPARSELY PHYRIC.

80% VOLCANIC CLASTS.
4mm mod
LOW, ANGULAR
POOR, BRECCIATED.

1% VESICLE
1mm max
0.5mm mod.
MOD.
ROUNDED.

UNIT 35 - Piece 1a
UNIT 30
Piece 1a-1b



UNIT 35 - Piece 1a
 1% OLVINE
 2MM MAX
 SUBHEDRAL, FRESH
 0.5% PY
 2.5MM MAX 1.5MM MOD
 SUBHEDRAL, FRESH
 MODERATELY OL-PAS
 VESICULATED
 CORE & RADIAL CRACKS
 MEDIUM GRAY
 FINE GRAINED 0.1MM
 ALTERED GLASSY MARGIN
 UNIT 37
 27-104
 Piece 1b-3
 SAME AS PREVIOUS
 BRECCIA
 SPARSELY OLIVINE-PHYRIC
 0.1% PYROXENE
 7MM MAX
 2MM MOD
 SUBHEDRAL
 FRESH
 1% OL, 2MM, 1MM
 0.1% PAS 2MM, 1MM
 MOTTLED BROWN GRAY
 FINE GRAINED 0.1MM
 80% VOLCANIC CUSTS
 4MM MOD
 CUSTS UP TO 65MM
 LOW SPH,
 ANGIK,
 1% VESICLES
 2MM MAX
 0.5MM MOD
 MODERATE
 ROUND

22-86
 vein network, deep orange
 vein, iron, deep orange
 109-125
 vein, iron
 iron, iron
 non-orth
 calcite
 RADIAL
 CRACKS

vesicles - concentrated
 in core
 avg. 7%
 elongate
 subangular
 4mm max
 0.5mm mod
 13-22 vein network
 4=2, iron, deep orange
 moderately
 abundant
 of iron
 clasts
 highly
 abundant
 highly
 abundant
 clasts



67-70
 vein, iron, deep orange
 24-26
 vein network
 iron, iron - oriented
 24-28 vein network
 4=6, iron, iron - oriented
 104-129
 POSSIBLE LAVIC PILLOW
 MODERATELY
 OLIVINE - PLAG - PHYRIC
 ISASAT,
 MEDIUM GRAY
 FINE - 5.0-1 MOD. PHYRIC.
 3% OLIVINE, SUB, ALTERED,
 4MM, 1MM
 PLAG W/ INCLUSIONS 1%
 4.5MM MAX 1.5MM MOD,
 SUB, MOD AT CRES
 PYROXENE 0.5%
 1.5MM MOD
 SUB HEDRAL, FRESH
 1% VESICLES
 1.5MM MOD
 1.5MM MAX 1MM MOD
 ELONGATE, SUBANGULAR
 (SOME ALSO HIGH SPH & ROUND)
 ALTERED GLASSY MARGIN
 UNIT 38
 104-129
 POSSIBLE LAVIC PILLOW
 MODERATELY
 OLIVINE - PLAG - PHYRIC
 ISASAT,
 MEDIUM GRAY
 FINE - 5.0-1 MOD. PHYRIC.
 3% OLIVINE, SUB, ALTERED,
 4MM, 1MM
 PLAG W/ INCLUSIONS 1%
 4.5MM MAX 1.5MM MOD,
 SUB, MOD AT CRES
 PYROXENE 0.5%
 1.5MM MOD
 SUB HEDRAL, FRESH
 1% VESICLES
 1.5MM MOD
 1.5MM MAX 1MM MOD
 ELONGATE, SUBANGULAR
 (SOME ALSO HIGH SPH & ROUND)
 ALTERED GLASSY MARGIN

UNIT 9

BOUNDARY
NOT RECOVERED
0- end of Core 29
Piece 1a-3b.

1% PLAS
7MM MAX
1.5MM MOD

0.5% Px
2MM MAX
1.5MM MOD

3% OL
7.5MM MAX
1MM MOD

COMPLETELY ANNEALED.

MODERATELY
OLIVINE-PLAS-PHYRIC
BASALT BRECCIA.

VOLCANIC ATTRIBUTES:

80% CLAST v MATRIX
LARGEST 130mm
MODE 4mm
LOW, ANGULAR, POORLY
SORTED

moderately
at least
interior
of larger
clasts

highly
abundant
smaller
clasts

VESICLE S

1%
MAX: 1.2-
MOD: 1mm
Low - subrounded

9-11
vein network, irreg
non-oriented

27-28

vein network
branched, non-
oriented

42.5-44.5
vein sigmoidal,
sub-horiz.

43-47 vein network,
irreg., sub-horiz.

70-71

vein, irreg., non-oriented

111-115
vein network, sigmoidal,
non-oriented

139-143 vein, irreg.
sub horizontal

