

U1 T(55)

Basalt breccia  
with sandy  
matrix

angular  
clasts with  
low sphericity

clasts mostly  
sparsely ol-  
phyric basalt  
- some clasts  
reddened,  
some vesicular.

sandy matrix  
decreases



basalt  
breccia

SANDY SEDIMENT  
INFILTRATING THROUGH  
LAVA BRECCIA

1.5% OLIVINE  
5MM MAX, 2MM MOD  
COMPLETELY ALTERED.  
SUBHEDRAL

0.1% PLAG  
3MM MAX, 2MM MOD  
FRESH, SUBHEDRAL

0.1% Px  
3MM MAX, 2MM MOD  
SUBHEDRAL, FRESH.



UNIT 55  
Piece 1-9

sparsely  
ol-phyric  
basalt  
clasts  
identical to  
Unit (56)

122 cm

123-127  
vein netw,  
8mm,  
branched,  
steep dip

128-142  
vein network  
max 8mm,  
mode 4mm  
branched  
direct.

1/2-2/3°



moderately  
altered

APHANITIC  
MOTTLED ORANGE GRAY  
BRECCIATED  
60% VOLCANIC PARTICLES  
10MM MOD.  
V. POORLY SORTED  
LOW, ANGULAR.

TRANSITIONAL ZONE  
- LAVA TOP BREAKING UP.

103-115 vein, straight,  
70 → 114

110-116 vein network,  
straight, non-ortho

base of unit 55

UNIT (56) Piece 10-11b

Moderately  
olivine-phyric  
basalt

1.5% olivine  
7mm max  
2mm modal  
altered.

subhedral  
aphanitic

medium gray  
2% OLIVINE  
6MM, 2.5MM,  
0.1% Px 3MM, 2MM  
0.1% PLAG 2mm, 1mm

UNIT (56)  
(Continued)  
1a-8

MEDIUM GRAY  
APPHANITIC  
MOD. PHYRIC  
MASSIVE



6-10  
vein width  
meg.  
non-  
orient. 56 cm

ISCI (1)

29-30  
vein, straight, steep dip

conjugate veins  
steep dip → 251  
84 → 1013

moderate  
alteration

UNIT (57)  
Piece 9-13

← SAND INFILL

30% OL  
MOD. ALTERED  
5MM MAX  
2MM MIN

BRECCIA

MOTTLED GRAY WHITE ORANGE

MODERATELY PHYRIC  
BRECCIATED.

75% VOLCANIC  
CASTS.

MOD 8MM  
80MM MAX  
LOW  
ANGULAR

85-90  
vein, branched,  
steep dip



UNIT 57  
CONTD. TO SECTION 3  
PIECE 1-20

2% OLIVINE  
SUBHEDRAL  
MODERATELY ALT.  
7mm max  
3mm mod

0% PX  
0% PLAS

MODERATELY  
OLIVINE-PHYRIC  
BASALT BRECCIA.

VOLCANIC  
BASALT  
BRECCIA WITH  
SANDY MATRIX IN  
PLACES.

→ FRAGMENTED  
LAVA

MOTTLED ORANGE  
GRAY WHITE  
ADHANTIC

70% VOLCANIC  
CLASTS.

8mm mod.  
LOW  
ANGULAR  
VERY POOR  
SAND MATRIX  
BIGGEST CLAST 65mm

0% VESICLES.  
ON AVERAGE.  
SOME ISOLATED.  
HIGH SPH. ROUNDED.  
0.5mm size modal...

LARGE CLASTS  
ACTING AS SEDIMENT  
TRAPS.



← SAND INFILL  
TO BRECCIA.

4-5 vein, irreg,  
non-oriented

14-16 vein network,  
irreg, non-oriented

Slight alteration

THROUGHOUT:  
FRESHISH  
OLIVINES  
& GLASS!

33-34 vein, curved,  
non-oriented

39-41  
vein, stepped, non-  
oriented

← THIS PIECE  
SHIPPED  
FOR WORKING  
HALL DUE  
TO FRESHISH  
GLASS.

61-65  
vein network, irreg,  
non-oriented

67-70 vein network  
irreg non-oriented



23-24  
vein, irreg, steep dip

121-126  
vein network, stepped,  
steep dip

UNIT 57  
 Piece 1-14



0-1 vein, straight  
 steep dip

7-14 vein, steep dip  
 → 079

7-14 vein netw.,  
 u > 20, irreg., steep dip

16-18 vein network  
 u=11, irregular, non-  
 oriented

21-28 vein network,  
 u=11 irregular,  
 sub-horizontal

27-28 vein, straight  
 89 → 043

27-28 vein, steep dip  
 145

31-32 vein netw.  
 u=9, irreg., non-  
 oriented

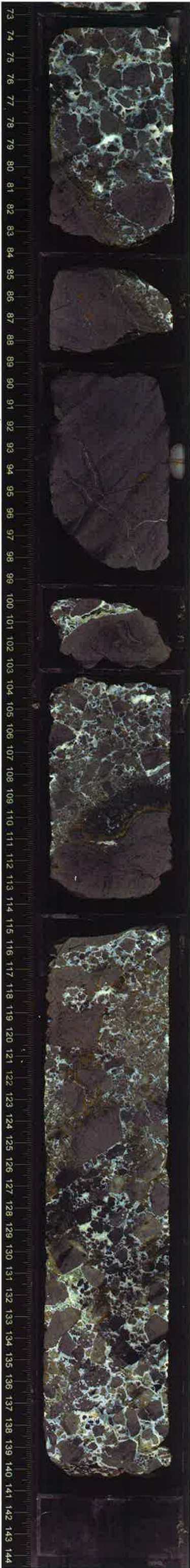
43-45 vein netw.,  
 u=8, irreg., non-  
 oriented

high alteration

53-55 vein netw.  
 steeped, steep dip

58-65 vein netw.,  
 irreg., steep dip

slip  
 oriented



82-85 chilled contact  
 79 → 046

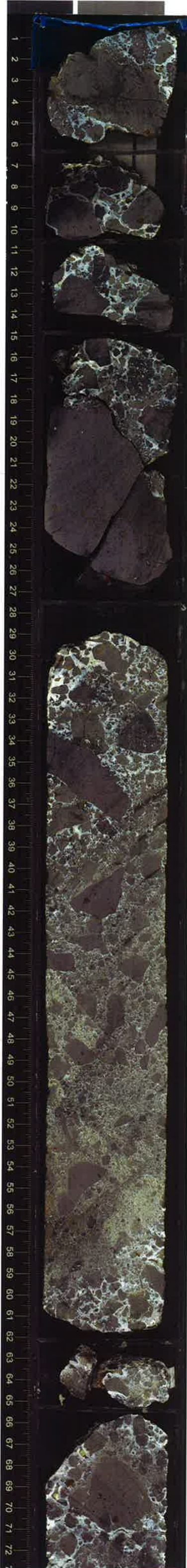
92-98  
 vein netw.  
 u=7, irreg., steep dip

110-113  
 vein netw., u=6, irreg.,  
 steep dip

UNIT 57  
PIECE 12

UNIT 58

Piece 13a-14



2-5 conjugate  
vein with no 6  
straight, sub-horiz.

slight  
alteration

23-25 vein, straight  
sub-horiz.

103-  
112  
vein, sub-  
horiz →  
105  
113-118  
vein, irreg.)  
slaps dip  
116-121  
vein,  
79 → 123  
124-127  
vein  
82 → 323  
127-88  
conjugate  
vein with  
60 → 225  
65 → 302  
139-141  
vein, 1  
86 → 068

medium  
alteration



79-82  
vein with no 7, slaps dip  
branded

96-101 vein with,  
irreg.) sub-horiz

BOUNDARY NOT  
RECOVERED.  
← 102cm

UNIT 58

MASSIVE LAVA  
LOBE FRAGMENT ?

1% OLIVINE  
SUBHEDRAL.  
MOD. ALTERED.  
5MM MAX  
2MM MOD.

50% PUC 50% Px

SPARSELY OLIVINE-  
PHYRIC BASALT

MEDIUM GRAY  
APPHANITIC  
MASSIVE

VESICLES  
0.1%

max 2mm  
mod 0.5mm

High Rounded

slight  
alteration

1-9  
K<sup>12</sup>  
magm. fol. →  
90 → 1P



3-8 conjugate fract.  
5-5 P<sub>6</sub>-266  
10-16 64-352  
12-12 70-289  
15-15 80-170  
18-21 vein, 60 → 177  
straight steep dip

25-28 vein, curved, steep dip

24-40 magnetic foliation 89 → 179

40-42 vein, straight steep dip

48-49 vein, straight steep dip

49-53 vein, straight 70 → 283

91  
VESICLES  
91-33 R1 6cm  
0.1%  
HIGH  
ROUNDED  
0.5mm, 0.2mm  
VESICULAR  
CLASTS 5%

VESICULAR  
CLASTS 5%



56-58 vein irreg. sub-conv.

73-76 conjugate vein 69 → 212  
75-84 conjugate vein 69 → 170  
78-80 conjugate fracture 84 → 189  
80-80 conjugate fracture 80 → 190

89-90 vein cut wall, irreg. loop - oriented BOUNDARY NOT RECOVERED.

91cm  
UNIT 59  
PIECE 10

UNIT 59  
91cm - 33 R 3, 77cm  
BASALT BRECCIA  
FRAGMENTED LAVA  
TOP NOT RECOVERED  
BOTTOM NOT RECOVERED

OLIVINE 2%  
SUBHEDRAL, COMPLETELY ALTERED  
4mm MAX, 2mm MODE  
▷ MODERATELY OLIVINE-PHYRIC  
BASALT BRECCIA  
MOTTLED GRAY, ORANGE, WHITE  
AQUANITIC  
VOLCANIC ATTRIBUTES:  
VOLCANIC CLASTS  
75% CLASTS/MATRIX  
5mm MODE  
MODERATE  
ANGULAR  
POORLY SORTED

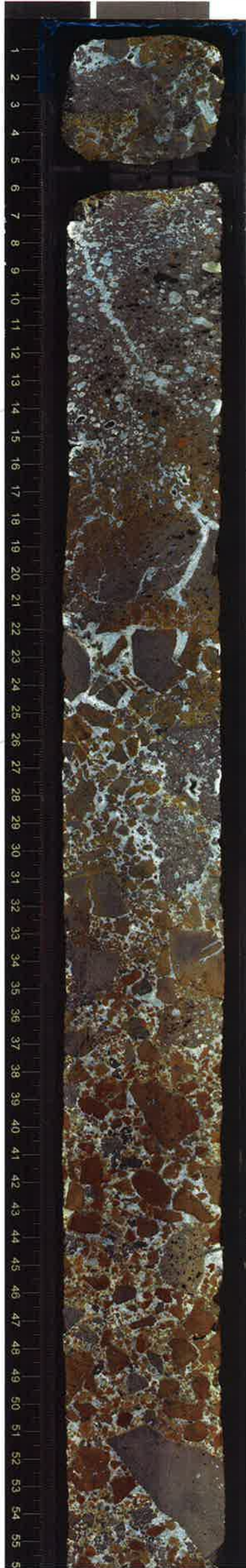
UNIT 53

CONTD.

1-6

6-12  
vesicle  
band  
aligned  
-3180  
moderate  
abundance

high  
abundance



6-13  
vein, sigmoidal,  
68-7252

6  
VESICLES  
6-22cm  
70%, ELONGATE,  
SUBROUNDED  
8mm MAX, 3mm MODE

17-21 vein, irregular,  
steeply dipping

22  
VESICLES 22-33 NB,  
0.1%, HIGH ROUNDED  
1.5mm MAX  
0.5mm MODE  
3-10% VESICULAR  
CLASTS AND PATCHES  
IN CLASTS

VESICULAR  
CLAST 51

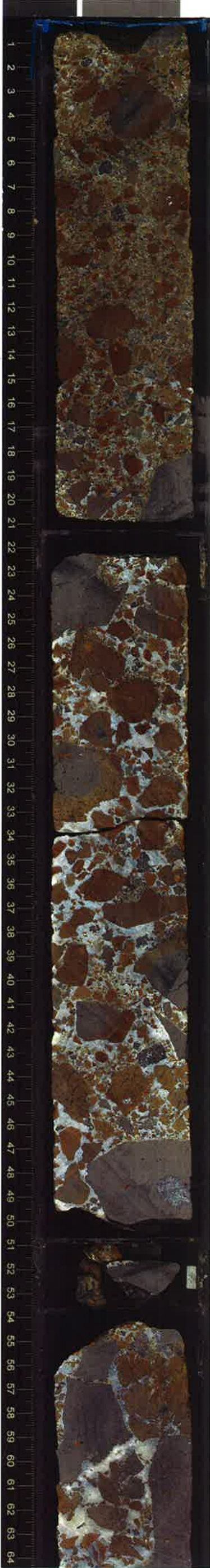


67-68  
vein, irregular,  
steep dip

69-73  
vein network, irreg.)  
vein-oriented  
slightly altered  
w/ mod altered olivine

UNIT (59)  
CONTD  
PIECE 1-7

highly altered



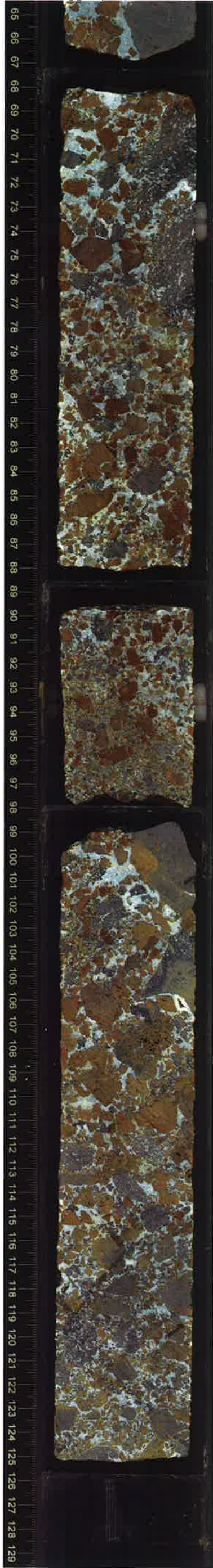
18-20  
vein straight, sub-  
horizontal

22-23 vein, straight  
sub-horizontal

39-40  
vein, irreg, steep dip

— VESICULAR  
PATCH IN  
CLAST, 10%.

— moderate  
alteration



69-77  
curved vesicle band  
~ 12%.

— VESICULAR  
CLAST 10%.

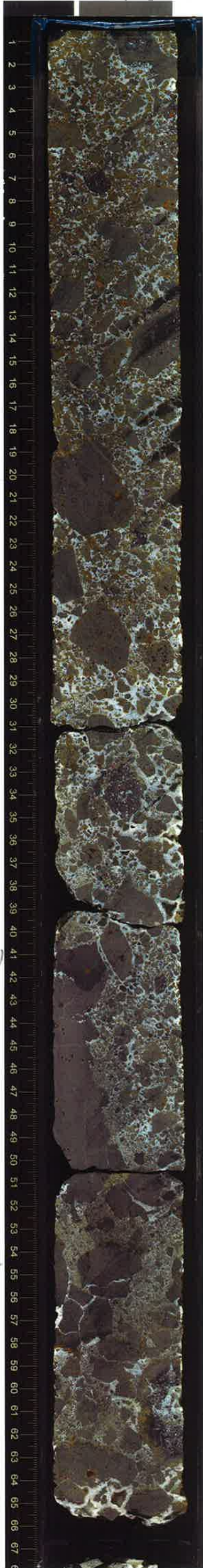
highly  
altered



UNIT 59

PIECE 1a-3

330-U1374A-33R-3-A\_SHLF2772341\_20110113141011



*moderate alteration*

*U1-45  
vein network,  
irreg., steep  
dip*

*55-58  
vein network,  
irreg., steep  
dip*

*63-65  
vein network,  
irreg., non-oriental*

VESICLES  
77-33 R4 6cm  
0.5%  
LOW, SUBROUNDED  
0.5mm, 0.5mm

*68-69  
vein network,  
irreg. wav, non-*



77cm  
BOUNDARY NOT  
RECOVERED

UNIT 60  
PIECE 4-6  
77-33 R4, 6cm  
BASALT BRECCIA  
FRAGMENTED LAVA

OLIVINE  
1% SUBHEDRAL, COMPLETELY  
2mm MAX, 0.5mm ALTERED  
PYROXENE

0.1% SUBHEDRAL, FRESH  
1mm MAX, 1mm MODE

▷ SPARSELY OLIVINE-  
PHYRIC BASALT  
BRECCIA

MOTTLED ORANGE, DARK  
GRAY, WHITE

ATLANTIC  
SPARSELY PHYRIC

VOLCANIC ATTRIBUTES:  
90% CLAST/MATRIX  
1mm MODE  
MODERATE, SUBANGULAR  
MODERATELY SORTED

*high %  
complete alteration*

— VESICULAR CLAST  
5-10%

UNIT (60)  
PIECE 1

high alteration

6cm



BOUNDARY:  
ALTERED GLASS  
MARGIN OF UNIT 61

UNIT (61)  
PIECE 1-5

6cm - 36cm

LAVA  
POSSIBLE FLOW OR  
FRAGMENT

ISC1=0

OLIVINE 2%  
SUBHEDRAL, COMPLETELY ALTERED  
3mm MAX, 2mm MODE  
PYROXENE 1%  
SUBHEDRAL, FRESH  
3mm MAX, 1mm MODE  
OL+PX CLOMEROCRYSTS  
DARK GRAY  
APHANITIC  
MODERATELY PHYRIC  
▷ MODERATELY  
OLIVINE-PYROXENE -  
PHYRIC BASALT

Slight alteration  
some mod altered  
olivine

36cm

7-10  
vein network, n=12  
irreg, non-orient.

VESICLES

6-36cm

0.1%  
HIGH, ROUNDED  
0.5mm, 0.5mm

17-20  
vein netw.  
irreg, non-orient. 6cm

VESICLES

36-61cm

0.1%  
MODERATE,  
SUBROUNDED  
0.7mm, 0.5mm  
VESICULAR CLAST 10%

21-28 vein network  
branched, steeply  
dip

31-36 vein network,  
conjugate

36

VESICULAR CLAST

UNIT (62)  
PIECE 6-10  
36cm - 82cm  
(until 4.5cm 34R1)  
BASALT BRECCIA  
FRAGMENTED LAVA

OLIVINE

2% SUBHEDRAL,  
COMPLETELY ALTERED  
6mm MAX, 2mm MODE

PYROXENE

0.5% SUBHEDRAL, FRESH  
1.5mm MAX, 1mm MODE

▷ MODERATELY  
OLIVINE-PHYRIC  
BASALT BRECCIA

MOTTLED GRAY WHITE  
ORANGE

APHANITIC  
VOLCANIC ATTRIBUTES  
80% CLAST/MATRIX  
10mm MODE  
LOW, SUBANGULAR  
POORLY SORTED

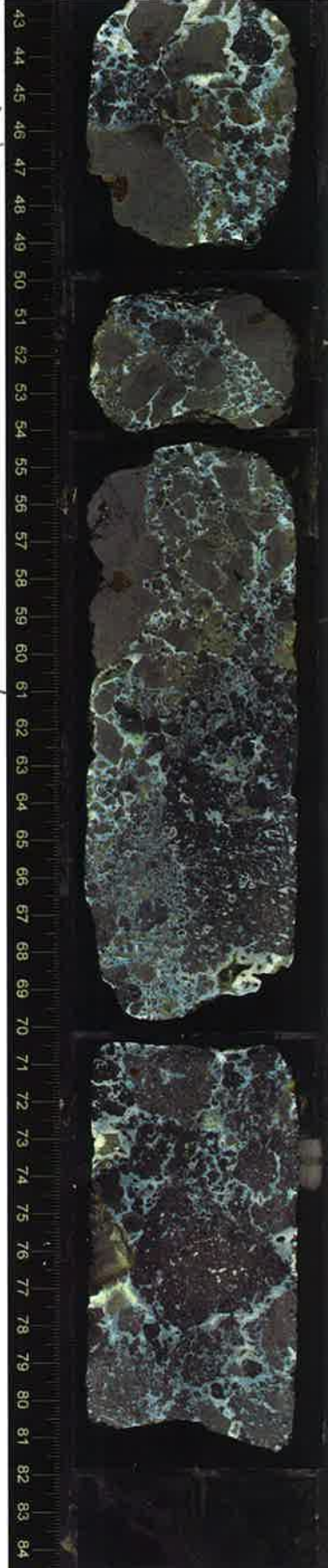
VESICLES

61-82cm

10%

ELONGATE, SUBANGULAR  
5mm, 1mm

moderate  
alteration



57-58  
vein netw.,  
irreg, non-orient

UNIT 62 CONTD.  
PIECE 1

UNIT 63  
PIECE 2-10

4.5-54cm  
TOP NOT RECOVERED  
LAVA LOBE OR FRAGMENT?

ISCI=1

OLIVINE 3%  
Euhedral,  
MODERATELY ALTERED  
6mm, 1mm

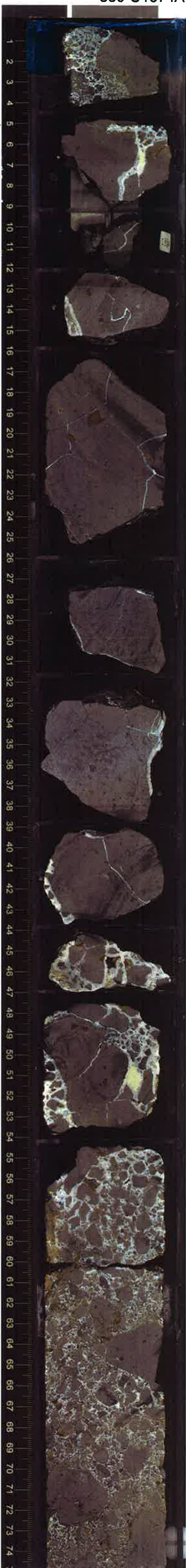
PLAGIOCLASE 0.5%  
SUBHEDRAL  
FRESH  
1mm MAX, 0.5mm MODE

▷ MODERATELY  
OLIVINE-PHYRIC  
BASALT

MEDIUM GRAY  
FINE GRAINED  
0.1mm  
MODERATELY PHYRIC

*slight  
attraction  
some  
moderately  
fresh  
olivine*

TRANSITIONAL  
INTO BRECCIA BELOW



0.5% VESI  
LOW, SUBANG  
2mm, 0.5mm

4.5-54  
VESICLES 0.2%  
HIGH, ROUNDED  
0.5mm/0.2mm

4-8 vein sigmoidal  
steep dip

10-11  
vein sigmoidal,  
non-oriented

13-15 vein sigmoidal  
sub-horizontal

13-15 vein straight  
non-oriented

17-23 vein network,  
irregular, steep dip

26-30 vein network  
n=3 irregular,  
steep dip

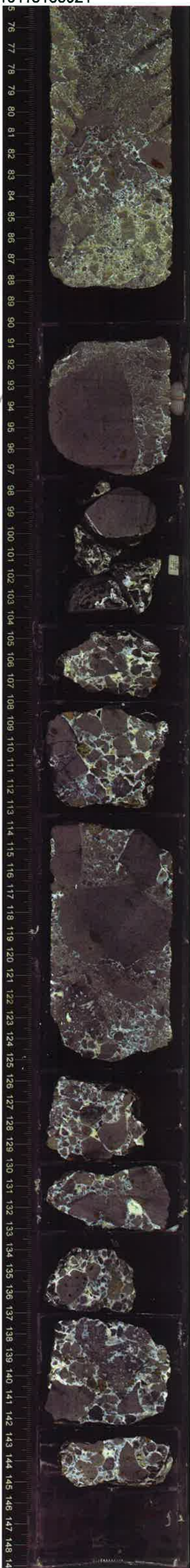
33-38 vein network  
n=6, irreg., steep dip

39-43 vein network  
n=9 straight, steep  
dip

49-53 vein network  
n=6 straight, non-  
oriented

54- End Core

0.5% VES.  
HIGH, ROUNDED  
2mm/0.2mm



UNIT 64  
PIECE 11-21

54cm -  
BASALT BRECCIA  
FRAGMENTED LAVA WITH  
SANDY INPUT

OLIVINE  
2%  
SUBHEDRAL COMPLETELY  
ALTERED

8mm MAX, 3mm MODE  
PHYRIC  
0.5%  
SUBHEDRAL, FRESH  
3mm MAX, 1mm MODE

▷ MODERATELY  
OLIVINE-PHYRIC  
BASALT BRECCIA

MOTTLED GRAY, WHITE,  
ORANGE

FINE-GRAINED  
0.1mm, MODERATELY  
PHYRIC

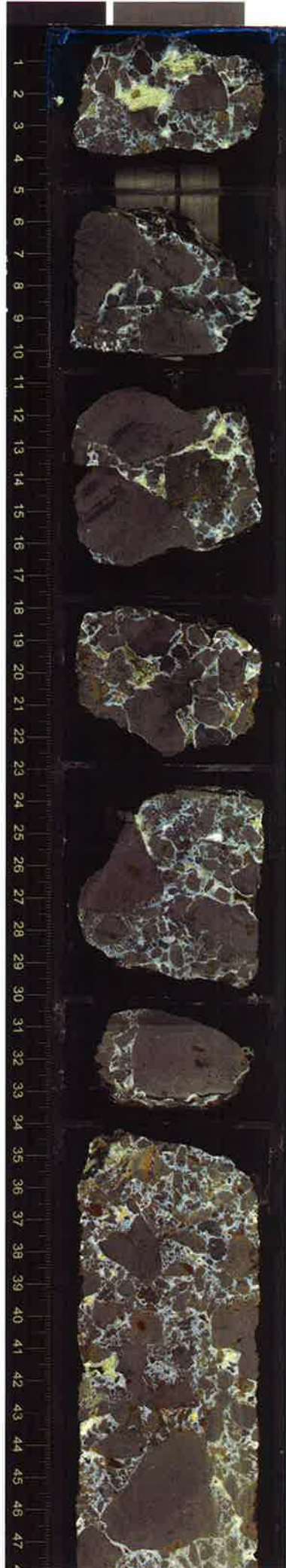
VOLCANIC  
ATTRIBUTES  
70% CLASTS/MATRIX  
10mm MODE  
MODERATE SPHERICITY  
SUBANGULAR  
POORLY SORTED  
SOME SANDY MATRIX

92-96  
vein network, n=7  
straight, non-oriented

VESICULAR  
CAST,  
10% VES

UNIT 64 CONTD.  
PIECE 1-116

Slight  
alteration  
Some  
moderately  
fresh  
olivine



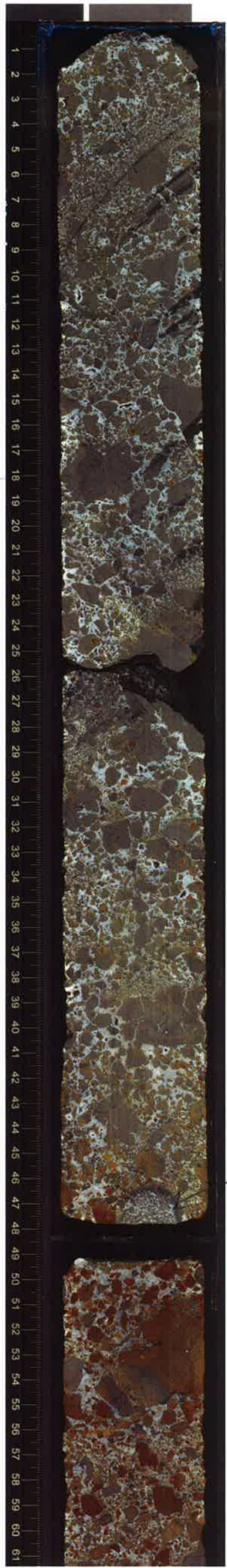
— VESICULAR CREST  
10% VES.

6568  
veter network, n.p  
straight, non-oriented

— VESICULAR  
CREST  
10% VES

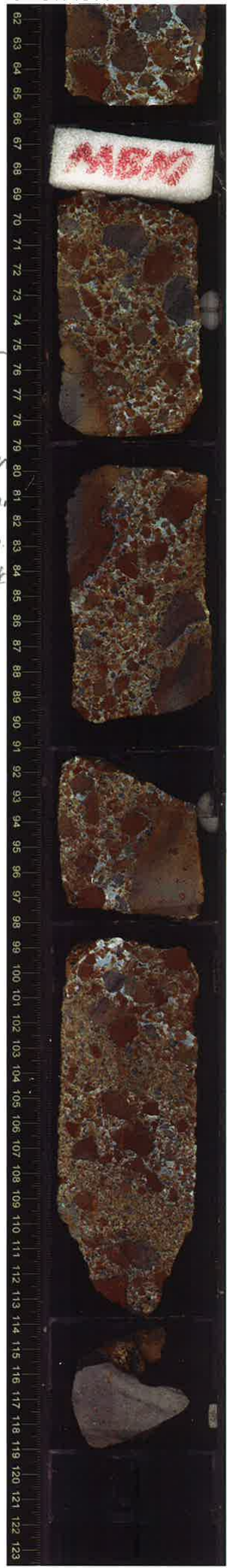
UNIT 69 CONTD  
PIECE 1a-7

slight  
alteration



75-80  
vein w/ no  
w: 6, mag  
non-ox

vesicular  
clast  
20% ves



high to  
complete  
alteration