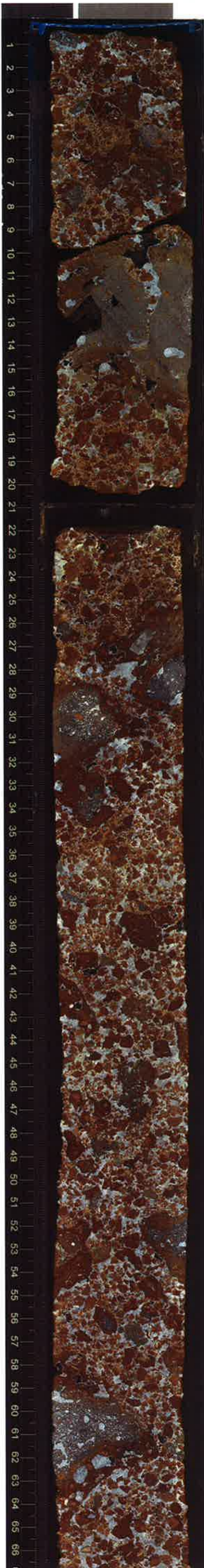


UNIT 8  
CONTINUED  
PIECE 1A-6



-10  
CLAST  
VESICULARITY  
TYPE 2  
10-17cm

-17

-22  
CLAST  
VESICULARITY  
TYPE 1  
22-34cm

-34

-57  
CLAST  
VESICULARITY  
TYPE 1 57-63cm

-63



-73  
CLAST  
VESICULARITY  
TYPE 1  
73-81cm

-81

-72.5  
CLAST VESICULARITY  
TYPE 2 72.5-96cm

-76

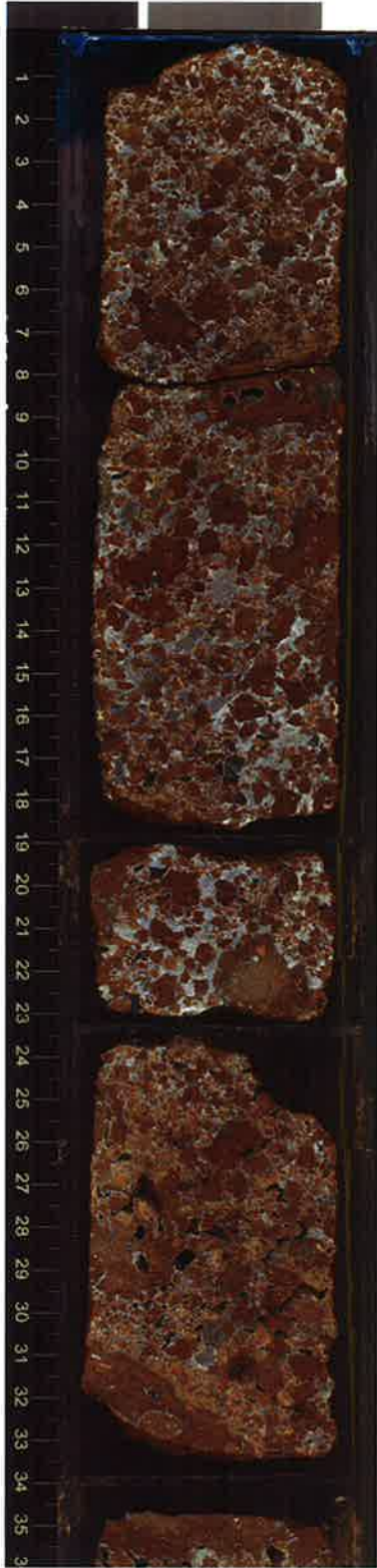
-123.5  
CLAST VESICULARITY  
TYPE 1, 123.5-131cm

-131



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UNIT 8  
CONTINUED  
PIECE 1a-5



53  
CLAST VESICULARITY  
TYPE 2  
53-58cm

58

63  
CLAST  
VESICULARITY  
TYPE 1

69



UNIT cont'd  
1-18

MODERATELY OLIVINE-PHYRIC BASALT BRECCIA

1% PLAGIOCLASE

MODERATELY ALTERED  
SOME AREAS FRESH, SOME AREAS COMPLETELY ALTERED  
7mm MAX, 2mm MIN SUBHEDRAL

0.1% PYROXENE

FRESH  
SUBHEDRAL  
2mm MAX, 1mm MOD

5% OLIVINE  
Euhedral  
COMPLETELY ALTERED

4mm MAX  
3mm MOD.

TEXTURE:  
MOTTLED ORANGE-BROWN-GRAY

FINE-GRAINED 0.1mm  
GLASS - COMPLETELY ALTERED

FELDSPAR LATHS IN  
GROUNDMASS

VOLCANIC ATTRIBUTES:  
VOLCANIC GLASS

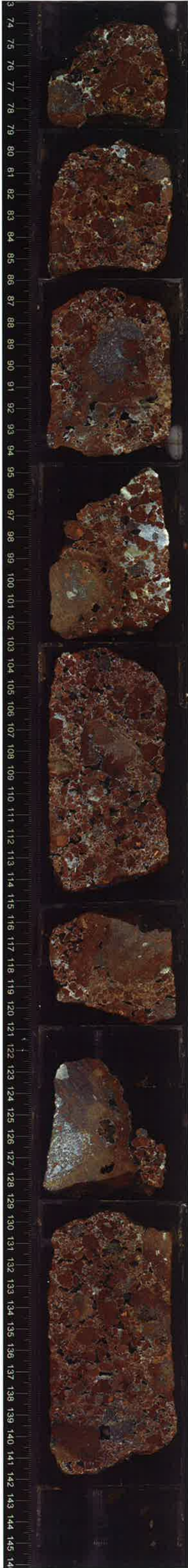
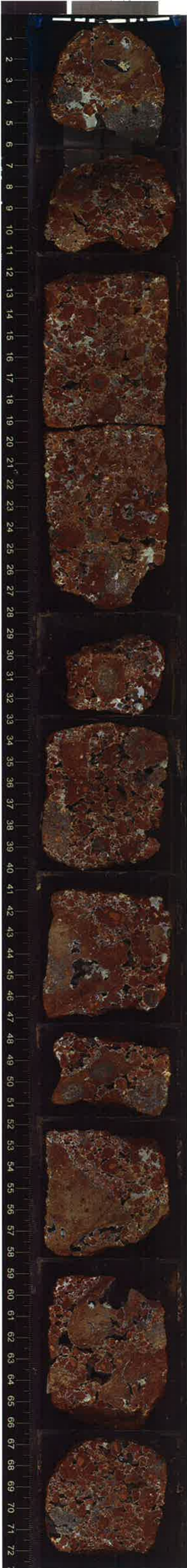
0-11R 2-49cm

80% CLASTS.

10MM MOD.

LOW, ANGULAR  
POORLY SORTED

VESICLES  
0-88cm  
3%  
MODERATE, SUBANGULAR  
2mm MAX, 1mm MOD  
MODERATE  
SUBROUNDED



88cm

VESICLES  
88-103cm  
10%  
LOW, ANGULAR  
4mm MAX, 1mm MOD

103cm

122  
VESICLES  
122-130cm  
10%  
LOW, SUBANGULAR  
1.2mm MAX  
0.1mm MOD

130



UNIT 8 cont'd

1-7

VESICLES  
0-19cm  
2%  
10mm MAX 2mm MODE  
LOW, SUBROUNDED

19cm

11R-2 49-123cm  
VOLCANIC ATTRIBUTES  
60% CLASTS v MATRIX  
10mm MODAL SIZE  
LOW, ANGULAR,  
POORLY SORTED



109  
VESICLES 109-113cm  
30%  
LOW, SUBROUNDED  
20mm MAX, 0.5mm MODE

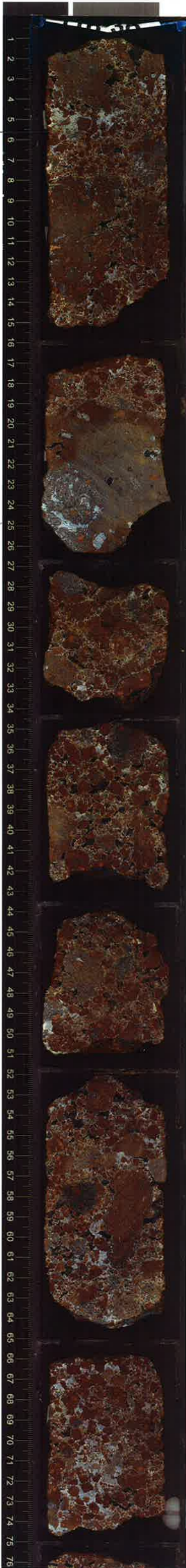
113  
VESICLES 113-120cm  
1%  
MODERATE, SUBROUNDED  
9mm MAX, 3mm MODE

120  
123cm - 80.5cm  
VOLCANIC ATTRIBUTES  
75% CLASTS v MATRIX  
8mm MAX  
LOW, ANGULAR,  
POORLY SORTED  
127-129cm, VESICLES  
16%  
MODERATE, SUBROUNDED  
3mm MAX, 0.5mm MODE  
129-140cm, VESICLES  
1%  
MODERATE, SUBROUNDED  
0.5mm MAX, 0.5mm MODE



UNIT 8  
1-14 cont'd

5.5 cm  
geopetal  
180°



VESICLES  
0-15 um  
1%  
LOW, SUBANGULAR  
6mm, 0.2mm

VESICLES  
15-26mm  
2%  
LOW SUBANGULAR  
9mm, 5mm MOD

VESICULAR  
PATCH  
10%

VESICULAR  
PATCH  
~50%

VESICULAR  
PATCH  
~10%



VESICLES  
106-118um  
1%  
3mm MAX, 1mm MIN  
MODERATE,  
SUBROUNDED

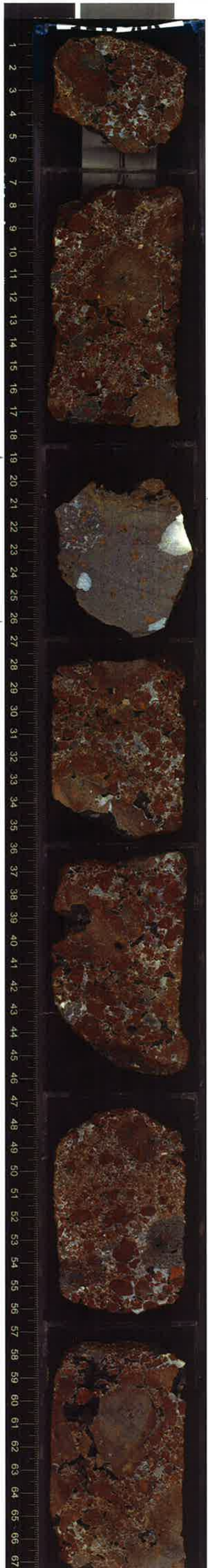
138  
VESICLES  
2%  
LOW, SUBANGULAR  
23mm MAX  
0.5um MOD

149



UNIT 8 cont'd  
1-11

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19  
VESICLES  
3%  
15mm MAX  
2mm MODE  
MODERATE, SUBROUNDED

26

81  
VESICLES  
15%  
MODERATE,  
SUBANGULAR  
4mm MAX  
0.5mm MODE

91  
VESICULAR  
PATCH  
=20%



VESICULAR PATCH  
=20%  
3%  
MODERATE, SUBROUNDED  
17mm MAX, 0.5mm MODE

80.5cm (VOLCANIC ATTRIBUTES)  
VOLCANIC ATTRIBUTES:  
VOLCANIC CLASTS  
60% CLASTS v MATRIX  
LOW, ANGULAR, POORLY  
SORTED  
5mm MODAL SIZE



UNIT 8

(Continued)

Volcaniclastic breccia

clasts: 150 mm max  
8 mm modal

orange gray

mod. ol - phyric basalt

15 cm basalt clast

mod. ol - phyric.

5% ol. phenos.

5 mm max.

2 mm modal  
equant euhedral

0.5% plag. phenos

3 mm max.

0.5 mm modal  
elongate, euhedral.

0.5% vesicles

mod. sphericity  
rounded.

5% fides 1 mm max  
0.3 mode

0.1/cm<sup>2</sup>

0.1% augite phenos

2 mm max.

2 mm modal

equant, subhedral

13-24 cm  
vein n=4  
in clast  
irregular  
1 mm wide

Large clast is  
typical of  
general clast  
population

but...

VESICULAR CLASTS

5%

low sphericity  
subangular

5 mm max

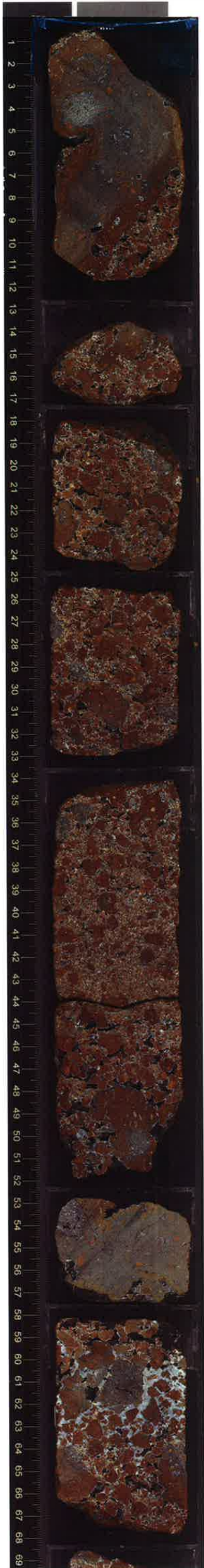
0.5 mm modal

50/cm<sup>2</sup>





UNIT (8)  
(Continued)  
as for  
12R-1A



90-96 cm  
vein 1mm wide  
single, straight  
80 → 276

12 cm class

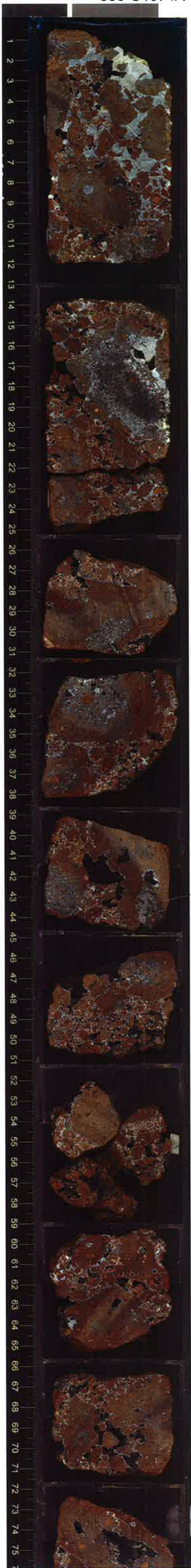
124-133 cm vein x2 in class  
2mm max, lam. avg. irregular

13 cm class



UNIT (8)  
(Continued)

as for  
12R-1A.



single megacryst  
16 mm long



UNIT (8)  
(Continued)

as far  
12R-1A  
to 100 cm.



8-10.5cm  
ven n=2  
0.5mm  
in clst

UNIT (9)

1% of  
phenos

equant  
embedal

3 mm max  
1.5 mm mode

100% altered

PIECES  
11-17

are separate  
clasts in  
breccia  
(mostly not recovered)

because:

1. traces  
adhering to  
top and/or  
bottom of  
pieces.

2. fragments  
of breccia  
matrix in  
pieces 16 & 17



100-103.5cm ven n=1  
Straight 0.5mm rounded piece

end of UNIT (8)

SEDIMENTOLOGY  
UNIT IX

Sparsely  
ol-phyric basalt

100-120 cm

5% vesicles

18 mm max

0.5 mm mode

mod. sphericity

subrounded

1/cm<sup>2</sup>

99% filled

120-135 cm

20% vesicles

10mm max

0.1 mm mode

mod. sphericity

rounded

20/cm<sup>2</sup>

60% filled

135-150 cm

3% vesicles

elongate, subangular

2 mm max

0.5 mm mode

10/cm<sup>2</sup>

2% filled



UNIT (9)

(continued)

Aphyre basalt  
(0.5% olivine phenos.)

2 mm max  
1 mm mode

Light reddish gray

15% vesicles  
2 mm max  
0.5 mode  
100/cm<sup>2</sup>  
elongate, subangular.

LARGE CLAST  
IN UNIT (8)

SEDIMENTARY  
UNIT IX

Poly lithic breccia

Composed of angular  
clasts of various  
basalt types  
in matrix of sand  
and calcite  
cement

Abundant (5%)

TYPE 6

Small (5 mm mode)

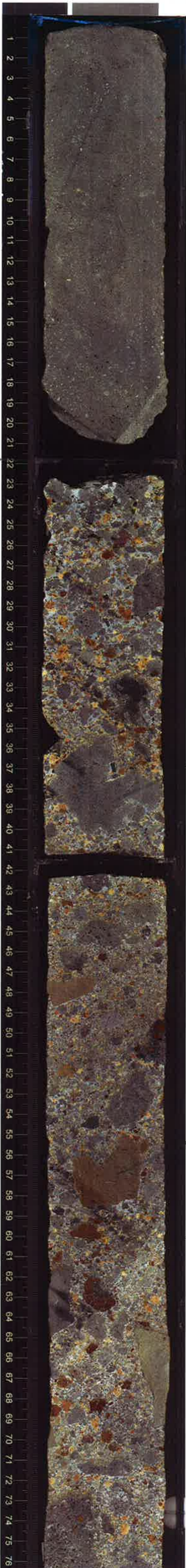
pale yellow  
angular clasts  
of basaltic froth  
with sparse  
altered ol  
phenos.

4-9.5cm  
fracture  
straight  
80-120°

TYPE 4  
sparsely ol-phyric  
basalt  
0.5% ol phenos  
3 mm max  
1 mm mode  
10% vesicles  
1 mm max  
0.2 mm mode  
elongate, subang.

TYPE 3

← @ 60cm have  
1x5mm long  
amphibole phenocryst  
in brown vesicular clast



TYPE 3

TYPE 3

Abundant  
TYPE 6  
throughout  
section.

131cm geopetal 180°

TYPE 3

143cm geopetal 180°





TYPE 5  
highly altered

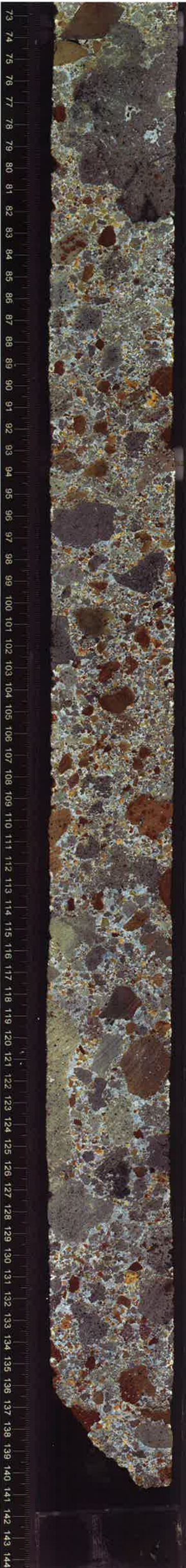
TYPE 3  
highly altered

TYPE 1  
highly altered  
Chlorite  
epidote

TYPE 4  
highly altered  
Chlorite epidote

TYPE 3  
49cm gap at 180"

TYPE 5



TYPE 5

@119cm have 1x1mm amphibole crystal in highly vesicular yellow clast.





TYPE 3

TYPE 3

TYPE 3

TYPE 5  
 Aphyric basalt  
 (vesicular)  
 0.2% al phen  
 20% vesicles  
 low sphericity  
 subangular  
 Medium gray



TYPE 3

TYPE 3

TYPE 3

TYPE 5

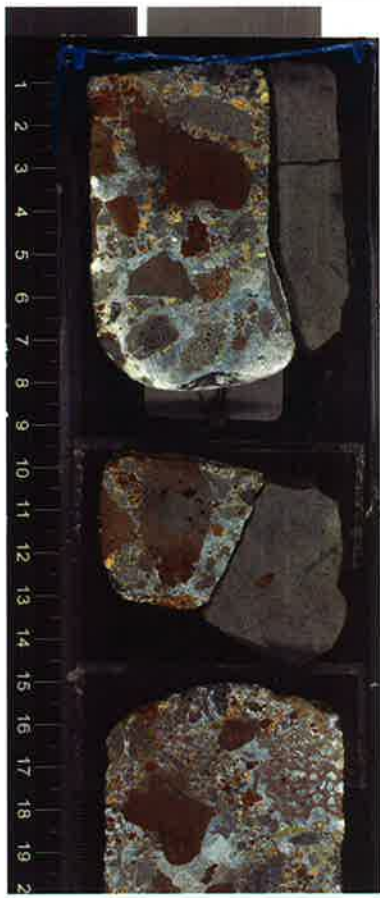
TYPE 5

TYPE 1

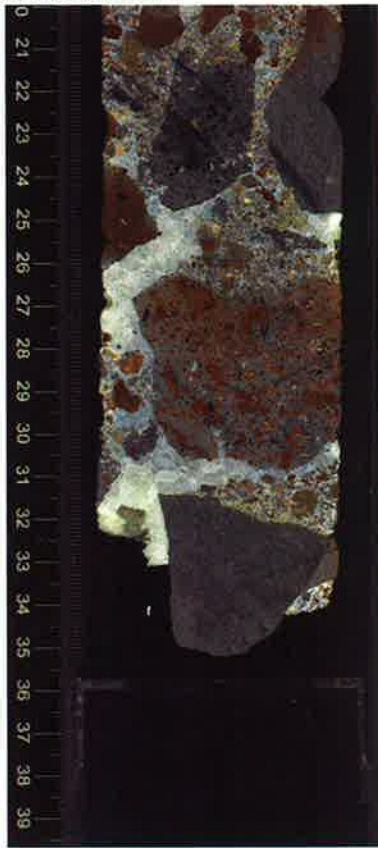
121-136cm  
 veins n~15  
 max 4mm  
 avg 1mm  
 in clust



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TYPE 3



TYPE 7 27-31

TYPE 3