

UN 1
PIECE 1-18

BASALT
LAVA BODY OR
INTRUSIVE SHEET
→ NO CONTACTS
RECOVERED.

VESICLE TRAILS
MAY INDICATE THAT
THIS IS A DIKE
BUT EVIDENCE WEAK

ISCI 2

SUBVERTICAL
VESICLE
TRAIL

0.5% FELDSPAR

(MICROPHENOCRYSTS
OF FELDSPAR?)

SUBIGORAL
FRESH
1MM MAX
0.5MM MOD.

APHYRIC
BASALT

INCLINED
VESICLE
TRAIL

BEIGE
FINE GRAINED
0.2

APHYRIC

50% VESICLES
13mm max
0.5mm mod
moderate
subangular.

VERTICAL
VESICLE
TRAIL.

67-81 vesicle
band
50-100°



1-8 vein network n=10
1-0.5mm straight, block
non-orient

8-11 vein network n=8
1-0.5mm non-orient

13-14 v 0.2mm str 62-7360
13-15 v 0.2mm str 78-7220

13-23 vesicle band str 90-7120
14-20 v n=3 0.1mm block
82-7126

19-23 v 0.1mm str 74-7130

22-23 v 1mm str 80-7204

24-26 v 0.4mm str 70-7024

25-33 v 0.2mm str 85-7295

25-34 vein network n=5 irregul 0.1mm

28-33 v 0.2mm str 80-7060

33-35 v 0.1mm str 60-7202

37-39 v n=3 0.2mm str
non-orient

41 v n=3 0.2mm str 90-7180

41-46 v n=2 0.2mm str 70-7360
(88-7236)

43-45 v n=2 0.2mm str

46-56 vein network n=20
straight, streakwork

46-49 vesicle 50-215
band

56 v n=1 0.1mm str 68-7350

58-61 v n=5 0.1mm str
irregul

61 v n=1 0.4mm str

62-66 v n=5 str 0.1mm

67-69 v n=1 0.1mm curved 85-7205
68-80 v n=1 0.2mm str 80-7292

68-81 vein network n=4
0.2mm irregul
20-7098



81 v 0.2mm str 80-7222

80-81 v 0.3mm str 78-7334

83-85 v 0.5mm str 70-7346

85-87 v 0.2mm n=3 90-7320

84-88 v 0.4mm str 86-7050

85-93 v 1mm str

86-93 vesicle band 66-7254
90-7300

88-90 v 0.3mm str 82-7202

91-93 v 0.5mm str 78-7370

95 v n=1 1mm str

95-98 v n=1 0.5mm str

non-orient

105-111 v n=1 0.4mm str 86-7292

109-112 v n=1 0.2mm str 72-7150

112 v n=1 0.4mm str 84-7050

113-117 v n=3 0.1mm str
non-orient

119-121 v n=2 0.1mm str

119-122 vesicle band

124-130 vesicle band non-orient

125-130 v n=2 0.1mm str

139-142 vesicle band

135-136 vein 0.1mm str

139-141 vein 0.1mm str

141 v 0.1mm str

142-148 vesicle band

144-148 v n=3 0.1mm str

non-orient

UNIT 2

PIECE 1-2c

BASALT

LAVA BODY.

CONTACTS NOT
RECOVERED.

0.5% PYROXENE
Euhedral, fresh
1mm/1mm

5% OLIVINE

SUBHEDRAL

COMPLETELY ALTERED.

2mm MAX

1mm MOD.

330-U1377A-3R-2-A_SHLF2917711_20110205211445

ISCIO



VESICLES

1% 1-5 Grained

2mm/1mm

LOW SPH.

ROUNDED.

6-17 Grained



MODERATELY OLIVINE-PHYRIC BASALT.

SPECKLED GRAY WHITE

FINE GRAINED 0.1

MODERATELY PHYRIC

UNIT 3

VESICULAR
APHYRIC BASALT

LIGHT GRAY

PIECE 1-19

- OLIVINE,
0.02%
MAX: 2mm, MOD: 1.5mm
SUBHEDRAL
- PYROXENE,
0.01%
MAX: 2mm,
MOD: 1mm,
SUBHEDRAL.

VESICLE - 3 - 20%

- LOW TO ELONGATED
SPHERICITY.
- ROUNDNESS: SUBROUNDED
TO SUBANGULAR.
- SIZE;
MAX: 6mm
MOD: 1mm

49-66 cm INTERVAL

VESICLE SIZE:
MAX: 25mm
MOD: 3mm.

- DENSITY: 15 n/cm³

SOME SECONDARY
PHYRITE CRYSTALS.

DRILLING
RUBBLE

Coated by goethite + MnO₂

UPPER BOUNDARY IS
NOT RECOVERED.

7-9 vein n=4 0.5-0.2mm
str

14-18 vein n=3 0.3mm
curved, branch

18-21 vein network n=7
0.1mm str branch

22-26 vein n=6 0.3mm
curved, branch

27-28 v n=1 4mm 55-2006

28-36 vein network n=9
0.3-0.1mm irregular, branch

39 v 0.2mm 25-7050 str

39-46 vein n=1 2-1mm 86-7128
str

40 v 0.5mm str 25-7212

42-43 v 0.5mm str

38-48 vein network n=10 0.1mm
irregul

45 vesicle band 50-7174
str

47-48 vein n=1 9mm 90-7358
str

n=30
50-68 vein network n=10 0.5mm
irregul, branch + relict

60-65 vesicle band 40-7315

74 vein network n=10

0.1mm
str, branch + relict

82-85 v n=2 1mm str

86-89 fracture 90-7235

85-2052

87-93 vein network n=8 1-0.5mm
str, branch

88-97 v n=1 0.5mm curved
88-7248

86-99 vesicle bands 40-7020

96-98 fracture 66-7130

97-99 v n=1 2mm str 60-7212

103 v n=1 0.5mm str 34-7188

106-109 v n=1 0.5mm str 40-7205

106-110 fracture 85-7230

115 v 0.1mm str

129-132 vein network n=6
0.1mm irregul

134-142 vesicle bands 60-7180

135-137 v 0.1 str 80-7090

136-140 v 0.1 step 82-7122

136-138 v n=2 0.1mm 60-7184

UNIT ③
(CONTINUED)
PIECE; 1-19



13v 0.1 mm sh

15-17v n=2 0.1 sh

22-24 v n=2 0.1mm sh

26-30 vein net n=6
0.2-0.1mm sh brack
vein

31-34 vein net n=6 2-1mm
curd

OLIVINE RICH
PART. 0.8%
35-37cm

35-44 vesicle band 60-7210

36-48 vein network n=20
1-0.5mm irreg

44-48 vesicle band curd

56-62 vein net n=11
0.3-0.1mm irreg



63-65 v n=1 0.5mm sh 66-7026

63-76 vesicle band 70-030

64-74 vein net n=6 0.1mm
irreg

72-74 v n=1 0.5mm sh 84-204

72-75 v n=1 0.2mm sh 70-040

82v 0.2 sh 78-7352

83v 0.2 sh 75-7016

83-89v 0.2 sh 86-7294

89-90v 0.1 sh 90-7030

92-96 vein net n=6 0.1mm
stragg

97 to 100 vein n=2 0.3mm

98-100 vein n=1 5mm curd

UNIT (3)

(CONTINUED).
Piece; 1-23

LAVA

- PILLOW OR LAVA LOBE.

- APHYRIC TO HIGHLY OLIVINE-PHYRIC BASALT

- PHENOCRYSTS:
OLIVINE; 0-15%
IN WHOLE UNIT.

PYROXENE: 0-0.5
IN WHOLE UNIT.

- VESICLE: 3-10%.
MAX: 2mm
MOD: 1mm.



2-12 vein n=10
3-2mm 76-7096
15% OF OLIVINE
PHENOCRYSTS IN
0-13 cm. 3-12 vein
MAX: 5mm 0.5mm
MOD: 3mm irreg
SUBHEDRAL
HIGHLY OLIVINE-
PHYRIC BASALT

13-15 vesicle band
17-20 vesicle band
APHYRIC PART

23-27 vesicle band
23-26 vein n=1 1.5mm str
VESICLE: 3%
12-63; 88-122cm
MAX: 1mm
MOD: 0.5mm
LOW
SUBANGULAR
DENSITY: 10 n/cm³
28-36 vein network n=10 0.5mm
29-36 vesicle band branch
non-orient

38.5-39 v n=1 0.5mm str 88-7192
40-41 v n=1 1mm str 65-756
41-48 vein n=5 str 90-7315
0.5mm

POSSIBLE PILLOW RIM.

50-54 vesicle band
53-57 vein n=3 1mm str
non-orient

MODERATELY
OLIVINE-PHYRIC
PART. 63-88 cm
OLIVINE: 2-10%
MAX: 3mm
MOD: 1.5mm.
EQUANT.
PK = 0.5%



80-89 v 1mm str 86-7302
VESICLE: 10%
(63-88 cm)
LOW TO ELONGATED
SPHERICITY.
SUBANGULAR
DENSITY: 5 n/cm³
100% - FILLED
85-89 v 0.1mm str 90-7296

APHYRIC PART
93 v 1mm str non-orient
93-95 vesicle band - non orient
97-101
POSSIBLE PILLOW LAVA RIM.

106 v n=1 str 0.2mm
117-120 v n=5 0.2mm str
non-orient

123-129 vein network 3-0.5mm
irreg, branch

133-138 v n=8 0.1mm str, branch
non-orient
139-142 vein network 0.2mm str, branch

144-146 v 0.5mm str

64 vesicle band 70-7350
64-67 vein n=3 irreg 0.1mm
66-72 v 0.2mm str 88-7054
69-70 v 0.1mm str 50-7322
71-75 v 0.2mm str 88-7060

UNIT (3)
(CONTINUED)

PIECE 1-10

VESICLE: 8%

122 (SR1) - 29 cm.

LOW TO ELONGATE
SUBANGULAR

MAX: 21 mm.

MOD: 3 mm.

DENSITY: 3 n/cm³

VESICLE: 5%

29 - 131 cm.

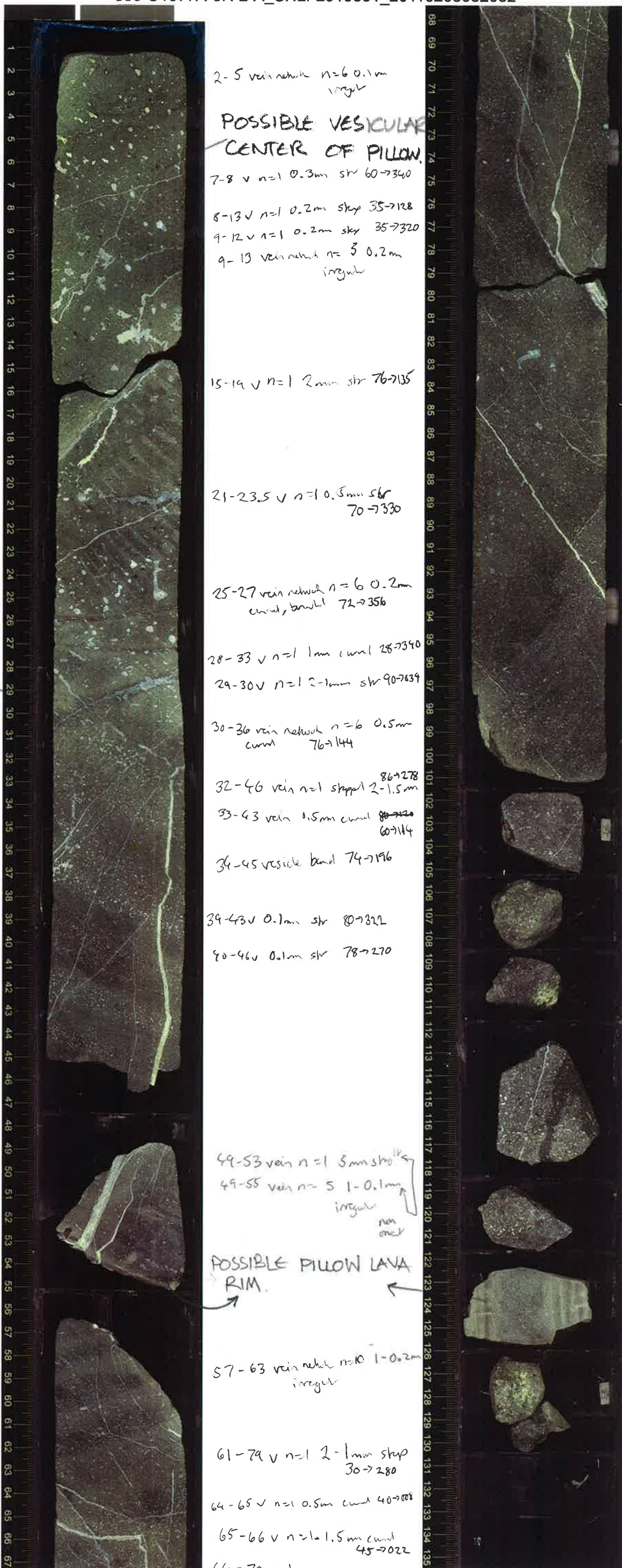
MAX: 15 mm

MOD: 0.8 mm

LOW SPHERICITY.

ANGULAR

DENSITY: 15 n/cm³



2-5 vein network n=6 0.1mm
irreg

POSSIBLE VESICULAR
CENTER OF PILLOW.

7-8 v n=1 0.3mm str 60-340

8-13 v n=1 0.2mm skip 35-128

9-12 v n=1 0.2mm skip 35-320

9-13 vein network n=3 0.2mm
irreg

15-19 v n=1 2mm str 76-735

21-23.5 v n=1 0.5mm str
70-7330

25-27 vein network n=6 0.2mm
curved, banded 72-356

28-33 v n=1 1mm curv 28-390

29-30 v n=1 2-1mm str 90-7439

30-36 vein network n=6 0.5mm
curv 76-144

32-46 vein n=1 stepped 2-1.5mm 86-278

33-43 vein 0.5mm curv 80-120
60-114

34-45 vesicle band 74-796

39-43 v 0.1mm str 80-322

40-46 v 0.1mm str 78-270

49-53 vein n=1 5mm str

49-55 vein n=5 1-0.1mm
irreg
non
met

POSSIBLE PILLOW LAVA
RIM.

57-63 vein network n=10 1-0.2mm
irreg

61-79 v n=1 2-1mm skip
30-280

64-65 v n=1 0.5mm curv 40-008

65-66 v n=1 1.5mm curv
45-022

64-79 v 1mm curv 72-264

67-79 v n=1 1mm str 70-7066

~15° rotation between pieces

76-87 vein n=3 0.2mm str
80-7069

89-91 v 0.2mm str 58-7310

85-93 v 1mm str 75-7054

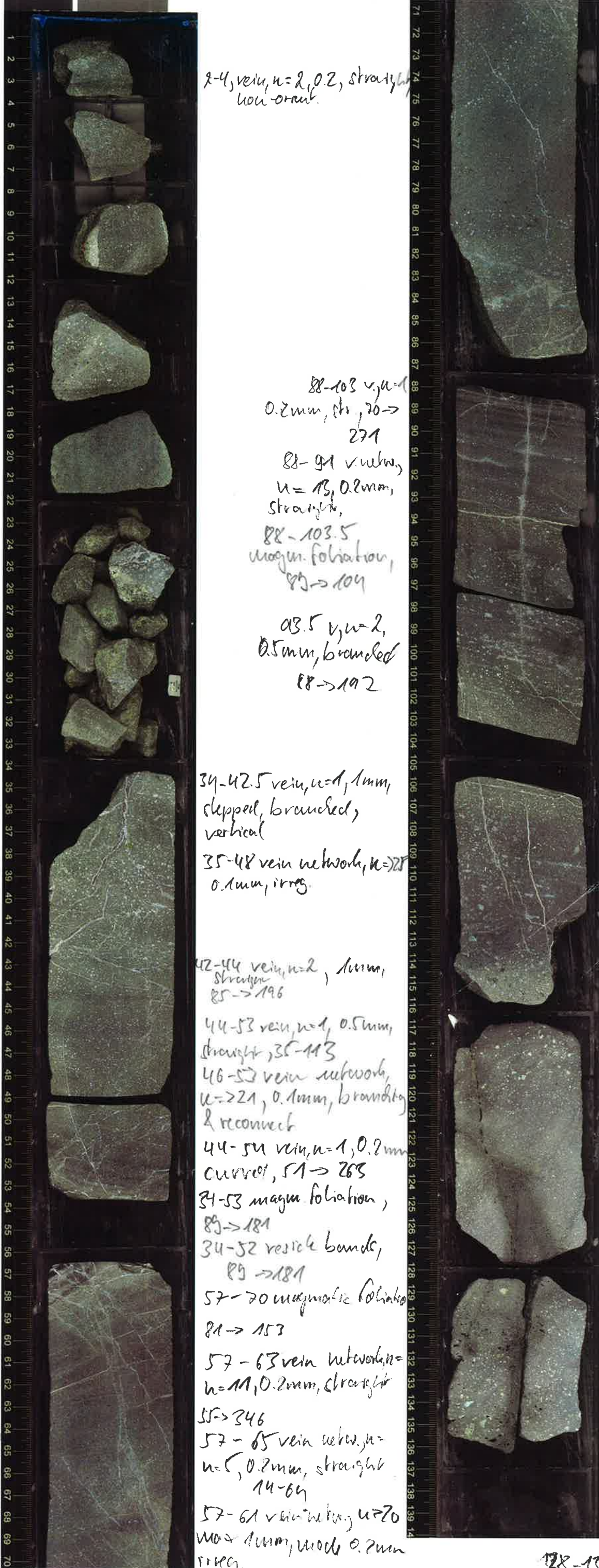
96-101 v 0.1mm str 86-7046

101 v 5mm str 30-7184

102-104 v 0.2mm str

113-118 v n=1 1mm str
non-orient

123-126 vesicle band



UNIT 3

0-116

Piece 1-10

APHANITIC BASALT

LAVA LOBES

ISC 3

0% PHENOCRYSTS.

LIGHT GRAY
FINE GRAINED O.I.
APHANITIC BANDS,
GRAINSIZE BANDS
VESICLE BANDS
→ FLOW BANDING?

AVERAGE VESICLES

10%
6mm max
0.1mm mod
Low
Subrounded.

25% IN BANDS
to 0%
(down to 2mm bands)

52-69
vein netw., n=4,
3mm, branched
79 → 259

65-92 v. netw.,
n=12, 0.1mm
straight, branched
sub-vertical

2-4, vein, n=2, 0.2, straight,
non-orient.

88-103 v. netw.,
0.2mm, str., 70 →
271

88-91 v. netw.,
n=13, 0.2mm,
straight,

88-103.5
magm. foliation,
89 → 109

93.5 v, n=2,
0.5mm, branched
88 → 192

34-42.5 vein, n=1, 1mm,
stepped, branched,
vertical

35-48 vein network, n=21
0.1mm, irreg.

42-44 vein, n=2, 1mm,
straight
85 → 196

44-53 vein, n=1, 0.5mm,
straight, 35-113

46-53 vein network,
n=221, 0.1mm, branched
& reconnect

44-54 vein, n=1, 0.2mm
curved, 51 → 263

34-53 magm. foliation,
89 → 181

34-52 vesicle bands,
89 → 181

57-70 magmatic foliation
81 → 153

57-63 vein network, n=
n=11, 0.2mm, straight

55 → 346

57-65 vein netw., n=
n=5, 0.2mm, straight
14-64

57-61 vein netw., n=20
max 1mm, mod 0.2mm
irreg.

72-83 v, n=1, 0.4mm,
stepped → 250

80-85 vesicle bands, 88 → 172

84-87 v network, n=7, 0.3mm
irreg.

APHANITIC
BAND

2mm-scale
BANDS OF GRAINSIZE
& VESICLES.

↓ INCREASING SIZE
OF BANDS

88-103.5 vesicle bands
90 → 182

100-103 v netw., n=9, 0.1
str.,

101 v, n=1, 0.2mm, 89 →
str. 182

100-103 v netw., n=5, 0.4mm
max, 70 → 250

106-114 magm. fol., 90 → 120

106 v, n=2, 0.1, str., 89 → 182

106-114 v, n=2, str., 0.5, 60 →
252

112-114 v netw., n=3, 0.1mm
irreg.

NOT
RECOVERED.

UNIT 4

116 - end
- 15cm on 1622

Piece 11-12b

ISC 1
118-128 v netw.
branched, n=3,
1.2mm, 71 →
260

0% PLUG

0% PYROXENE

1% OLIVINE

4mm MAX

1.5mm MOD

BASALT
LAVA LOBE

128-135 v, 0.1mm, str., 83 → 272

UNIT 4

Piece 1-2
0-15 cm

LIGHT GRAY
FINE GRAINED 0.1
SPARSELY-PHYRIC
10% VESICLES
7mm max
1mm mod
LOW, subrounded

NOT RECOVERED. →

UNIT 5

Piece 3-8
15-end
-92 on 6R3

ISC13

0% PLAGIOCLASE

0.5% PYROXENE FRESH
5mm MAX
2mm MOD

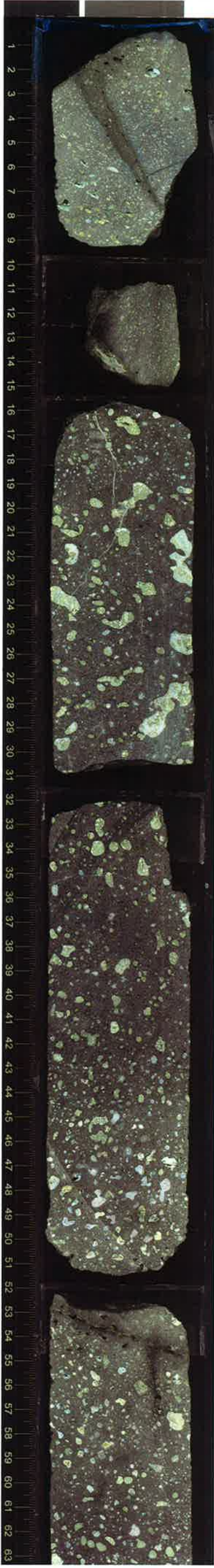
3% OLIVINE
COMP. ALT.
6mm MAX
1.5mm MOD

MODERATELY
OL-PHYRIC

AMYGDALOIDAL
BASALT

LAVA LOBE

GRAY WITH
WHITE SPODES,
FINE GRAINED 0.1
MODERATELY -
PHYRIC



PYRITE
VEIN?

2-9 v, 0.1mm, str., rounded
5-9 vesicle band, 60 → 213

13-15 v, 2mm, str.,
non-ortho.

16-31 v, netw., branched
w=9, 0.8mm, vertical

35 v, 0.15 str., 84 → 178

42-50 v, w=d, 0.1, irreg.

53-55 v, 1mm, str.,
81 → 022

54-63 v, 0.1mm, str.,
88 → 005



63-68 v, netw., w=5, 0.2mm
irreg., 47 → 341

67-73 v, 0.3, curved,

71-85 v, w=5, 0.1mm,
irregular, 72 → 285

25% VESICLES

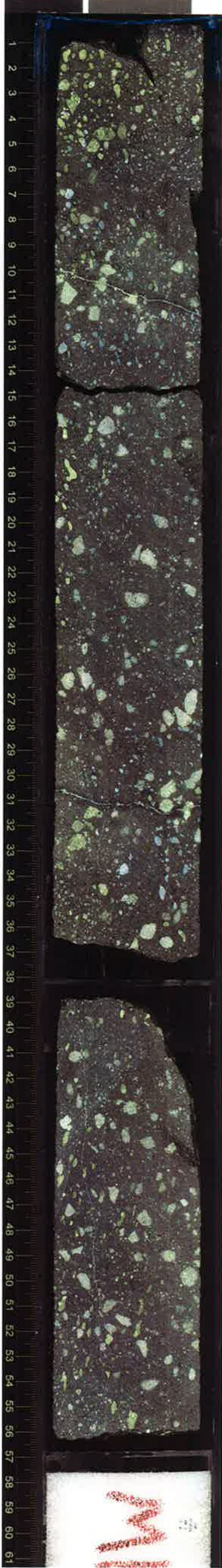
LOW
ROUNDED

30mm max
3mm mod

82-91 (elongated)
vesicle band, 48 → 042

108-122
elongated vesicle band
90 → 274

UNIT 5
Pecela-5
0-92



10-12 v, 0.4 mm,
str. 71-2016

31 v, 0.6, irreg., 72-200
34-35 v, 0.4 mm, str,
274

93-96 v, 1mm
str, use over

39-56 v, 1, 0.2mm,
branched, 80-265



67-79 v, 0.2 mm,
branched, 68-2090
67-78 vesicle bands/
90-2084

← NOT RECEIVED

UNIT 6
92 - end.

PIECE
6-8
0% PHENOCRYSTS
APHYRIC

BASALT
LAVA LOBE

GREENISH GRAY
FINE GRAINED
0.1

← RUBBLY

10% VESICLES
2mm max
1mm mod
moderate
rounded

UNIT ①

Aphyric basalt
yellowish gray
to pinkish
gray

0.1% olivine
phenocrysts
1 mm max,
0.5 mm modal
altered

0.1% augite
phenocrysts
1 mm max
0.5 mm modal
fresh

Vesicles

0-20%
in bands.

5 mm max
1 mm modal

0-100/cm²

low sphericity
rounded

Fine-grained
groundmass
0.1 mm.

low lobes or
pillows



1-5 v 0.2 str n=3
mm-modal

8-10 vesicle band

11-14 vesicle band

18-23 vesicle band

mm-modal

24-31 vesicle band

33-38 v 0.5 mm str 80-160

36-41 v 1 mm modal 38-212

38 v 0.1 mm irregular 70-160

40-42 v 1.5 mm str 40-212

43-47 v n=3 1 mm str

49-68 vesicle band 72-148

48-51 v n=1 3 mm str 60-206

51-55 v n=1 1-0.5 mm cum 75-224

49-54 v n=1 1-0.5 mm irreg

55-63 v n=1 3 mm cum 86-256

60-66 v n=1 2-1 mm str 90-230

62-66 v n=1 2 mm str 72-310

65-67 v n=1 0.3 mm str 48-228



70-71 vesicle band

75-79 vesicle band

88-90 v 0.5 mm irreg, brown
50-160

83-96 vesicle band 50-210

96-98 v 1 mm brown 55-200

97-102 v 1 mm cum 60-140

103 v 1 mm str

106-111 vein neck n=10 1 mm

112-117 vein neck n=8 0.5 mm
str

118-127 vein neck n=12
1 mm irreg

Unit ①
(Continued)

as in section 1



2-5 vein network = 6
1mm irregular
non-orient

8-10 n=5 0.5mm
irregular

13-19 vein network n=7
sh non-orient
13-18 vesicle band

25-28 vesicle band

31-34 vesicle band
33-34 vein 0.5mm sh

36-43 vesicle band

42-44 vein net 0.2mm
sh

51-55 vein n=2 0.1mm
irregular
non-orient

61 v n=1 0.2mm sh

63-66 v, 0.1mm irregular

68-69 vein network n=6 0.5mm
branch



77-86 vesicle band 50-020

81-86 vein n=2 0.1mm 90-078

85-89 v n=1 1mm curv 90-241

77-94 v n=3 2-3mm irregular
70-270

94 v 1mm sh 80-778

95-102 vein n=6 0.1mm
sh

106 v n=3 0.5mm sh

110 v n=1 2mm sh

115-122 v n=1 0.1mm irregular

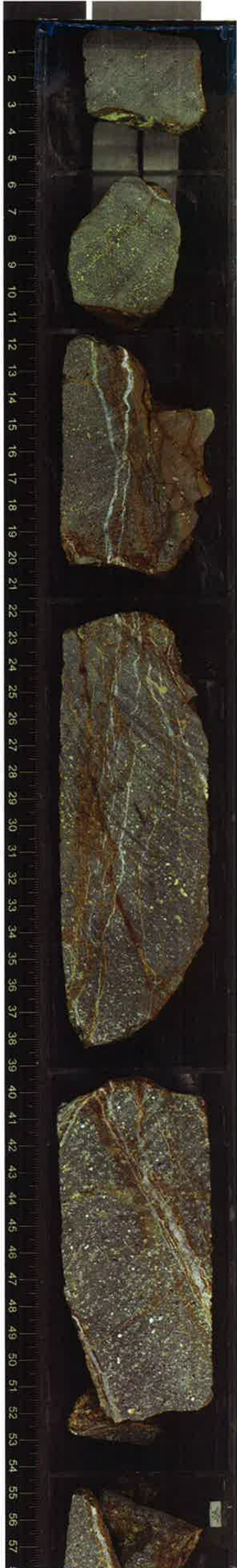
125-129 vein network n=6
0.5mm irregular

130-132 vein network n=4 2-0.5mm
irregular

132-136 v n=1 4mm sh

136-137 v n=1 1mm curv

Unit ①
(Continued)
as in section 1



1-3 v n=2 0.2m irregul

7-11 vesicle band

11cm vein 1mm

12-20 vein network n=6 2mm ⁷⁰⁻⁸⁸

13-20 vesicle band ⁷⁰⁻⁸⁰

n=18
vein network \approx 2mm
⁷⁰⁻⁸⁹

40-42 v n=1 1mm sh ⁴⁰⁻⁸⁰

40-48 vein 6mm sh ⁸⁵⁻¹¹⁴

48-52 v 5mm sh ⁸⁶⁻¹¹²

55-64 vein network
n=4 2-1mm non-conn



65-71 vein network n=6 0.2m irregul

69-72 vein n=1 2mm ³⁸⁻¹⁹⁶

vein network n=4 0.5mm irregul

99-111 vein n=1 1.5mm sh ⁷⁶⁻²⁵⁸

101-111 vein network n=4 0.5mm irregul ³⁹⁻⁷¹⁵⁴

102-111 vein network n=3 0.5mm ⁶⁰⁻⁷¹⁸

See sedimentary description



APHYRIC BASALT
completely altered
(yellowish gray)

Yellowish to pinkish
gray.

THERE IS SOME VERY
FINE GRAINED BANDING
PART WHICH IS POSSIBLE
PILLOW MARGIN.

PILLOW
MARGIN. →

Vesicles
in bands

veins filled
with goethite
and Fe oxyhydroxides

Sparsely plagioclase
-phyric basalt
~2% Plag
highly altered

vesicular aphyric
basalt
(fine grained)
10% vesicles
5mm max
2mm mod
filled with white clay (10%)
and Fe-oxyhydroxides (coating)

veins filled with noddy
Fe-oxyhydroxides and
few carbonates

Vesicle bands
PROBABLY PILLOW
MARGIN. →



HIGHLY OUVINE-
AUGITE - PHYRIC
BASALT,
highly altered

VESICULAR
filled with green and
white clay

Vesicle bands

PILLOW MARGIN

vein with
Carbonates and
Fe-oxides

Vesicle bands



Carbonat and Fe-oxides
intense vein network
through piece (possible
breccia)

12mm wide vein

PILLOW RIMS

Aphyric basalt
reddish gray
2% vesicles (white clay)
1mm max
0.5mm mod
fine grained
with some aphanitic
part
highly to completely
altered

Vesicle bands

light gray
Aphyric basalt
(less altered)
with small
glomerocrysts
moderately to highly
altered