

UNIT 57

Piece 1 2  
 Same as in Core 2183A  
 BUT THAT IS DESCRIBED  
 DIFFERENTLY  
 0-8 cm.  
 50% PLAGIOCLASE FRESH  
 1mm max, 0.5mm mod.  
 PLUMBOCLASTS.  
 MED. GRAY, FINE-GRAINED.

UNIT 58 8-14cm  
 Piece 4 aphyric Basalt  
 Groundmass: light Gray  
 Fine Grained  
 (0.1mm)  
 massive.

UNIT 59  
 Piece 5-12  
 14-89 cm  
 Volcanic breccia  
 possible hyaloclastite.

Phenocrysts (inside of volcanic  
 clasts)  
 5% plagioclase  
 subhedral, fresh  
 max: 2mm mod: 1mm  
 Texture & Color.  
 Color mottled black  
 green gray brown  
 FINE GRAINED 0.1mm  
 PHYRIC  
 CLASTS ARE MASSIVE

VOLCANIC ATT.  
 Volcanic clasts  
 matrix 50%  
 particle size: 3mm  
 low sphericity  
 angular  
 poor sorting.  
 Possible cross-bedding  
 altered glass in matrix  
 around clasts



Moderate  
 vesicles  
 VESICLES  
 10% elongate  
 rounded  
 max 9mm  
 mod 2mm

VESICLES  
 (only for clasts)  
 5% moderate  
 rounded  
 Max: 1mm  
 Mod: 0.5mm  
 15-18  
 vesicle band → 142

black glass  
 matrix  
 30-34  
 vein netw, nr. non-  
 oriented

110-114  
 contact, steep dip, 22°

49-54  
 nr. vein, non-oriented

55-56 single vein, nr  
 non-oriented  
 54-55 drilled contact,  
 non-oriented

66-72  
 vein network,  
 nr. steep dip



77.5-81  
 2 irregular isolated veins

86-88  
 2 veins, irreg. isol

UNIT 69  
 Piece 13-21  
 lava flow  
 (possible pillow fragment)  
 BOUNDARY upper: not  
 lower: not  
 Phenocrysts  
 pl 3%. Max 3mm Fresh  
 Mod 1mm  
 aggregates

Texture  
 Medium Gray  
 Fine Grained 0.1mm  
 massive.

109-110  
 straight vein, isolated blobs!

119-120.5 vein, nr. 2183

125-127 branched network  
 non-oriented

moderately  
 altered

141-138 vein  
 straight, steep dip  
 → 142

140-144  
 vein → 143



UNIT 60  
Piece 1-12

330-U1372A-22R-2-A\_SHLF2709871\_20101227135536



1-4 vein, straight steep dip  
→ 113  
2-5 vein netw; steep dip

12-20 vein, steep dip → 254

21-28 vein, steep dip  
269

38.5-39.5 fracture, steep dip  
→ 2129

49-49 vein, steep dip → 100

pl & green

Midwest  
at Lincoln



62-63 vein, straight, steep dip. 85 → 023

64-68 vein network steep dip 147

71-72 vein netw, broad & horizontal steep dip → 210

tiny light green

80-81 thin vein, rotated block

105-110 thin vein  
0.01 in steep dip → 212

1-3 vein netw. irreg., non-orient.  
 4-6 veins, irreg. - isolated non-orient.  
 Volcanic breccia (possible hyaloclastite)  
 BOUNDARY Upper & Lower: not  
 Phenocrysts  
 40% plagioclase subhedral, fresh  
 Max 8mm  
 Mod 2mm

Texture  
 mottled green-gray  
 black  
 fine grained 0.1mm  
 Pyrox.

27-28 - vein network irreg., non-orient.  
 Volcanic Attributes  
 Volcanic clasts 80% mod. size 5mm  
 Particle Sphericity → moderate  
 Roundness → angular  
 Sorting → poor

Some possible sedimentary feature  
 45-48 - vein netw. irreg., non-orient.  
 49-51 - vein irreg. netw. steeply dip. → 45°

58-59 - vein netw., rotated  
 62-63 - fracture, rotated, blood  
 65-72 - fracture network, irreg., non-orient.



moderately altered

77-79 - fracture network, rotated?  
 80-88 - fracture network  
 84-88 - vein netw. blood rot?

92-93 - vein, steeply dipping  
 94-97 - vein, steep dip, 80°

Black glass matrix

large clasts moderate to high abundance  
 small clast some as matrix  
 large clasts

veins w/ caliche

112-115 - vein, irreg., non-orient.

139-142 - 2A-22  
 3% high rounded  
 max 3mm  
 mod 0.3mm  
 calcite filled





UNIT 61 P: 10-5

330-U1372A-23R-2-A\_SHLF2710951\_20101227130723

2.5-4  
fracture,  
step dip  $\rightarrow$   
105°



VESICLES  
22-3A-10  
0.1%  
High  
Rounded  
max: 2 mm  
mod: 0.5 mm  
31-35  
3 vesicles, irregular  
isolated



midway  
of field

UNIT 61 P1-9

330-U1372A-24R-1-A\_SHLF2711891\_20101227180329

5-9  
vein netw.  
irreg. 0.2mm  
rounded blob

14-17  
vein netw.  
irreg. 0.1mm

29-30  
vein netw.  
irreg. 0.1mm

34.5-40  
vein netw.  
CHERT,  
0.1mm

42-45  
vein network  
curved 0.1mm

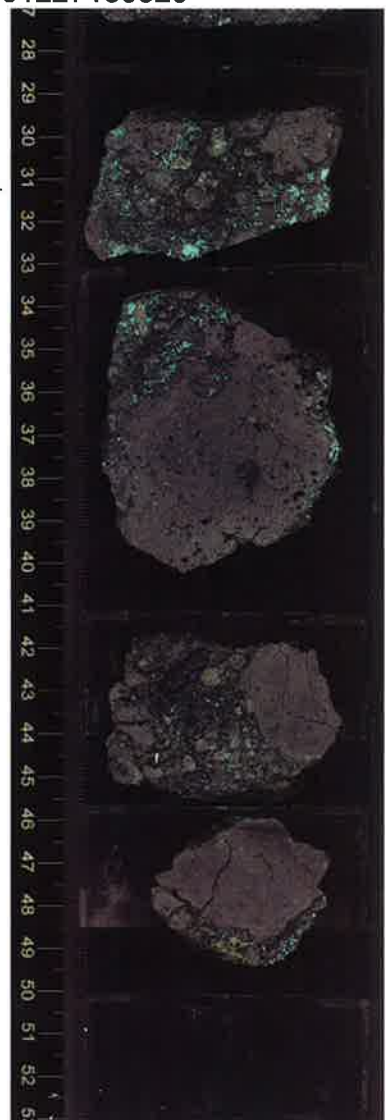
48-49  
vein network, 1mm  
branched, rounded blob

VESICLES  
10-50  
10%

Low Subrounded

Max: 3mm

Mod: 0.5mm



UNIT 61 P:1 - 12

330-U1372A-25R-1-A\_SHLF2712201\_20101227181735

VESICLES

1/4  
Moderate  
Subrounded  
Max: 2.5mm  
Mod: 0.5mm

12-13  
vein web  
sig. deep dip.

24-26  
vein network  
mg, non-oxid

49-51  
vein mg  
non-oxid  
looked  
black?

67-68  
network of  
veins  
looked black?





UNIT (61)

Continued

Volcanic breccia  
clasts 70mm max

Dark green matrix

Medium gray clasts

aphyric basalt

Fine grained

1% glomerocrysts  
(2mm)

[0.7% plagioclase  
0.2% augite  
0.1% olivine]

alter.

0.5% vesicles  
in clasts

2mm max  
0.5mm modal  
highly elongate  
very angular.  
0.5/cm<sup>2</sup>  
100% filled



rotated piece  
no display  
diam

2.5-5.5cm  
vein  
1mm  
straight

5.5-6cm  
vein 4mm  
straight

8-13cm  
vein  
0.5mm  
straight

75-80cm  
vein  
2mm  
irregular  
steeply  
dipping

80.5-89cm  
vein  
3mm  
network  
irregular  
steeply  
dipping

93-93.5  
vein  
1mm  
70-2012

101.5cm  
vein 1mm thick

88-784

102-127  
cm

vein  
network  
Max 4mm  
avg 2mm  
branched

vein 109-112  
78-246  
3mm straight

vein 112-116.5  
75-295  
3mm  
straight

vein 121.5  
-126cm  
60-280  
4mm  
straight

Unit (61) breccia.

UNIT (62)

aphyric basalt

0.1% olivine  
(alter.)  
2mm.

1% glomerocrysts  
as for Unit 61

medium gray  
fine grained  
No vesicles



99.5-101.5cm vein straight 1mm  
30° → 308

← pieces not quite joined  
+ cut correctly. lower  
piece is rotated 9° clock-  
wise relative to upper

104-106cm  
vein  
80-250  
1mm straight piece

104.5-108cm  
vein 45-250  
3mm straight

116-120cm vein straight 0.5mm  
70-2050

119-121.5cm vein  
70-240 straight 2mm



UNIT 62  
(continued)

Vein 7.5-8cm  
0.5mm wide  
straight  
80 → 010

Vein 9.5-13cm  
1mm wide  
straight  
60 → 064

Vein 13-16.5cm  
1mm wide  
straight  
80 → 058

17.5-22.5cm  
vein 3mm  
85 → 275

22.5-23.5cm  
vein, stepped  
2mm  
75 → 005

23-33cm  
vein, straight  
81 → 095

33-41cm  
vein 1mm  
curved  
steeply  
dipping

48.5-51.5cm  
vein, straight  
1mm wide  
68 → 026

57.8-59.5  
fracture  
straight  
subvertical 020°

61-62.5cm  
vein, straight  
0.5mm  
60 → 022

63-64cm  
vein straight  
0.5mm  
60 → 022°

0-2.5cm  
vein straight  
1mm  
80 → 315

50-51cm  
fracture  
curved  
steeply  
dipping

55-55.5cm  
fracture,  
steeply dipping

59-64cm  
vein, straight  
6mm wide  
75 → 294

UNIT 63

Volcanic  
breccia

angular clasts  
50mm max  
10mm rounded

aphysic basalt

1% glomerophyrit  
in clasts (2mm)  
0.7% plagi.  
0.3% augite

dark green  
matrix  
medium gray  
clasts

Vesicles

2% in clasts  
low spherulitic  
angular.  
5mm max  
0.5mm rounded  
5/cm<sup>2</sup>  
100% filled



BASE  
OF UNIT (63)

UNIT (64)

13-14 cm  
vein network  
0.5mm  
85-182  
branching  
combining

UNIT  
(65)



vitric -  
githic  
volcanic sand  
2-18 cm.

Volcanic  
breccia  
aphyric  
basalt  
NO phenocrysts



Volcanic  
breccia

Vesicles  
10% in clasts  
moderate spherulitic  
rounded  
max. 1mm,  
modal 0.5mm.  
40/cm<sup>2</sup>  
80% filled

UNIT (65)

(continued)

0cm - Section 5.2cm

Volcanic  
breccia

(hyaloclastite)

moderately  
altered glass

Some totally  
fresh

Clasts

aphyric  
(no phenos.)  
zeolites

*glass  
moderately  
altered  
clast not  
to highly  
altered*

dark greenish  
gray matrix  
yellowish gray  
clasts.

clasts up to  
60 mm.  
nodal 5mm.

unsorted.

0cm - Section 5.  
Vesicles in 2cm  
clasts

15%  
elongate  
subrounded  
4 mm max  
1 mm nodal.

piece 1-4



*zeolites*



UNIT (65)  
(Continued)

pieces 1-8

13-13.5 cm  
ven  
4 mm  
skip dip 188

glass  
matrix  
altered

clasts  
matrix  
with  
altered



122-123 cm  
fracture  
75-7 162°

UNIT (65)  
(continued)

glass  
material  
attached

Pieces 1-4

clash  
mid to high  
attached





UNIT (65)  
(Continued)

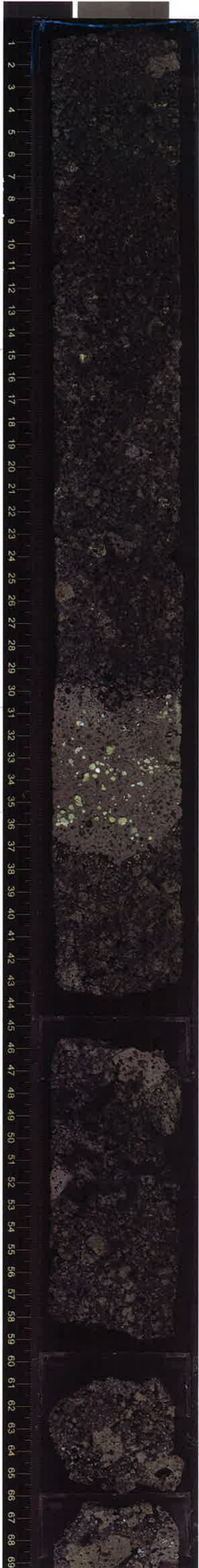
Pieces 1-8

glass  
mudstone  
abundant

hard to  
see  
at base

zeolite  
concretions

zeolite +  
concretions



330-U1372A-27R-5-A\_SHLF2713861\_20101228091033

UNIT (65)

UNIT (66)

Aphyric  
basalt  
(no phenos.)

Medium gray

Fine grained

Vesicles 15%

elongate

subrounded

15 mm max

2 mm modal

10/cm<sup>2</sup>

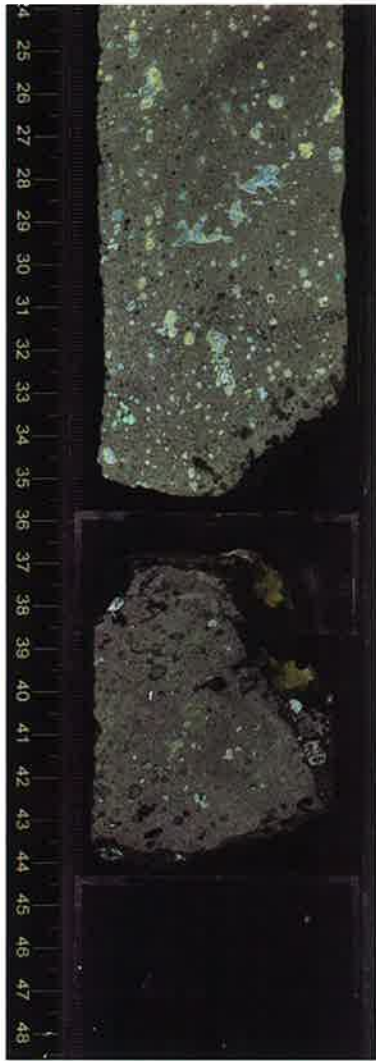
100% filled.



moderately  
abundant  
glass

3 cm

most to  
highly abundant



moderately  
abundant