SCIENTIFIC OBSERVATION HOLE PROJECT

SOH 4 Well

VISUAL CORE DESCRIPTIONS
Volume 2B

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EXPLANATORY NOTES

The enclosed visual core descriptions (sheet B) were compiled by the core logging staff at the Puna Research Center, Hawaii. Members of the staff who descibed drillcore from the Scientific Observation Hole #4 are Rene Evans, Elizabeth Novak and Frank Trusdell.

Volume 2B of the core descriptions contains descriptions for the core obtained from 3499 to 6562 feet of the Scientific Observation Hole #4. Each page of this volume corresponds to a box of core and a page in volume 2A. When possible, boxes were filled with ten feet of drillcore. Each large fragment of core was marked with an up arrow. Wood blocks noted by the drillers mark the footage at the end of each core run.

Visual descriptions of the cores are based on observations of hand specimens. We would appreciate being informed of any errors or inconsistencies in these descriptions.

Rene S. Evans
January 1992

CORE LOG

BOX # 355 HOLE # 4 Sheet 8

Depth range 1067'35 to 1070'40 meters Depth range 3499.5 to 3509.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh 1 Transitional ____ Rubble ____

Intrusive Dike ____ Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 52 Top Rbl Clk Bx 354 Core 52 Bottom Rbl Clk Core

Dip of Unit: Top ____ Bottom 28 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: 253 Top Rbl Clk 39.5 Core 113.5 Bottom Rbl Clk Bx 356

Dip of Unit: Top 28 Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 9 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 10 Bottom 10

Shape: S ____ R ✓ SR ✓ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ✓ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 7 Middle 10 Bottom 20

Shape: S ____ R ____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Shear Planes: Dip 38° Depth(%) 90 Spacing: Max. 10 Min. 1

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present 2 Continuous ✓ Discontinuous ____

Length 30mm Dip 38°

Voids Present 1,2 Size(max vs min.) 15x10mm 12x8mm

Degree of vesicle filling(%): Units: 1 100 2 60 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 70 2 15 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 5 Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 0.66 = 200.5/305 = 66%

CORE LOG

BOX # 356 HOLE # 4 Sheet B

Depth range 1070.09 to 1072.99 meters Depth range 3508.5 to 3518 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 270 Top Rbl Clk BX355 Core 270 Bottom Rbl Clk BX357

Dip of Unit: Top BX355 Bottom BX357 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

51
53
55
54
56

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VESICLES:

UNIT 1 Size(mm): Max. 18 Min. 1 Ave. 2 # of Vesiculation Units —

Density(%): Top 25 Middle 5 Bottom —

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 1 Shear Planes: Dip 70-70 Depth(%) 80 Spacing: Max. .5cm Min. .5cm

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 5x2 cm

Degree of vesicle filling(%): Units: 1 20 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 90 2____ 3____ 4____ 5____

==========

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 270/270 = 100%

CORE LOG

BOX # 357 HOLE # 4 Sheet B

Depth range 1072.99 to 1075.73 meters Depth range 3518 to 3527 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 198 Top Rbl Clk BX356 Core 198 Bottom Rbl (Clk) unit 2

Dip of Unit: Top BX356 Bottom ? Glass/___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 76 Top Rbl Clk — Core — Bottom Rbl (Clk) 76

Dip of Unit: Top ? Bottom BX358 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 15 Min. 1 Ave. 5 # of Vesiculation Units —

Density(%): Top — Middle 5 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant.____ Horiz. ✓ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3 Min. .25 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S____ R____ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 1 Shear Planes: Dip 70° Depth(%) 10% Spacing: Max. 1cm Min. 1cm

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 20 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 50 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density 20 Dip 90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 145/274 = 53%

29
24
57
33

CORE LOG

BOX # 358 HOLE # 4 Sheet B

Depth range 1075.73 to 1078.48 meters Depth range 3527 to 3536 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh____ Transitional____ Rubble____

Intrusive Dike 3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 10 Top Rbl Clk — Core — Bottom Rbl Clk 10

Dip of Unit: Top BX357 Bottom 50° Glass____ Alt1____ Alt2____ 0 ✓

22 cm overlap 2A3

UNIT 2 Thickness: 144 Top Rbl Clk no Core 144 Bottom Rbl Clk no

Dip of Unit: Top 50° Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 142 Top Rbl Clk no Core 142 Bottom Rbl Clk BX 359

Dip of Unit: Top 70° Bottom BX359 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

contact not vitreous, not bottled

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 15 Min. 1 Ave. 5 # of Vesiculation Units —

Density(%): Top 10 Middle 10 Bottom 10

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 148/274 = 54%

CORE LOG

BOX # 359 HOLE # 4 Sheet B

Depth range 1078.48 to 1080.92 meters Depth range 3536 to 3544 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX358 Core 244 Bottom Rbl Clk BX360

Dip of Unit: Top BX358 Bottom BX360 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

23
16
13
15
14
18
22

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 121/244 = 50%

CORE LOG

BOX # 360 HOLE # 4 Sheet B

Depth range 1080.92 to 1083.66 meters Depth range 3544 to 3553 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX359 Core 274 Bottom Rbl Clk BX361

Dip of Unit: Top BX359 Bottom BX361 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 183/274 = 67%

13
20
34
26
15
24
12
18
12

CORE LOG

BOX # 361 HOLE # 11 Sheet B

Depth range 1053.66 to 1086.26 meters Depth range 3553 to 3561 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 107 Top Rbl Clk BX360 Core 107 Bottom Rbl Clk no

Dip of Unit: Top BX360 Bottom 75° Glass____ Alt1____ Alt2____ 0 ✓

14 cm overlap 1/2

UNIT 2 Thickness: 152 Top Rbl Clk no Core 152 Bottom Rbl Clk BX362

Dip of Unit: Top 75° Bottom BX362 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

contact intact, not bottled

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 10 Middle 10 Bottom 10

Shape: S____ R____ SR____ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 2 Size(max.vs.min.) 3x2 cm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 160/258 = 62%

CORE LOG

BOX # 362 HOLE # 4 Sheet B

Depth range 1086.26 to 1089.15 meters Depth range 3561.5 to 3571 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

100% overlap 1A2

UNIT 1 Thickness: 30 Top Rbl Clk no Core 30 Bottom Rbl Clk no

Dip of Unit: Top 90° Bottom 90° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 290 Top Rbl Clk BX361 Core 260 Bottom Rbl Clk BX363

Dip of Unit: Top BX361 Bottom BX363 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

contact intact, not bottled

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 5 Min. 1 Ave. 2mm # of Vesiculation Units 1

Density(%): Top 20 Middle 15 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 275/290 = 95%

CORE LOG

BOX # 363 HOLE # 4 Sheet 8

Depth range 1089.15 to 1092.20 meters Depth range 3571 to 3581 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 135 Top Rbl Clk 135 Core — Bottom Rbl Clk —

Dip of Unit: Top BX362 Bottom 25° Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 170 Top Rbl Clk no Core 170 Bottom Rbl Clk BX 364

Dip of Unit: Top 25° Bottom BX 364 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. 1 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 12 Min. 1 Ave. 5 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant.____ Horiz. ✓ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 2 Size(max.vs.min.) 3 x 1.5 cm

Degree of vesicle filling(%): Units: 1____ 2 20% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2 50% 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 249/ = 82%

CORE LOG

BOX # 3&4 HOLE # 1 Sheet 8

Depth range 1092.2 to 1094.05 meters Depth range 3581 to 3590 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 : Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,3 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Asn 2 Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 20cm Top Rbl Clk Bx363 Core 20cm Bottom Rbl Clk nowhere

Dip of Unit: Top Bx363 Bottom 25° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 5cm Top Rbl Clk — Core 5 Bottom Rbl Clk —

Dip of Unit: Top 25° Bottom 35° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 150 Top Rbl Clk — Core 150 Bottom Rbl Clk Bx365

Dip of Unit: Top 35° Bottom Bx365 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures tp3 ____ ____ ____ ____

Degree of Alteration or Comments:

Olivine altering to Iron oxides

VESICLES:

UNIT 1 Size(mm): Max. 3mm Min. <1mm Ave. <1mm # of Vesiculation Units just 20cm of bottom here.

Density(%): Top Bx263 Middle Bx263 Bottom 15%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

none

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 3mm Min. <1mm Ave. 1mm # of Vesiculation Units____

Density(%): Top 25% Middle 5% Bottom 15%

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1,3 Size(max.vs.min.) 20×12 mm, 12×8mm

Degree of vesicle filling(%): Units: 1 10% 2 10% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 40% 2 20% 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 3 Density low Dip s.vert.

Slikenslides: Yes____ No ✓ Unit ✓ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 85% 233/275

CORE LOG

BOX # 365 HOLE # 4 Sheet 8

Depth range 1094.95 to 1097.85 meters Depth range 3590 to 3599.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 92.75 Top Rbl Clk Bx364 Core 12.75 Bottom Rbl Clk 80

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 197 Top Rbl Clk 153 Core 44 Bottom Rbl Clk Bx366

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9.5' of Core

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 7 Bottom 5

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 5

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Shear Planes: Dip 75 Depth(%) 90 Spacing: Max. 10 Min. 2

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.97 =

280.5 / 289.75 = 97%

CORE LOG

BOX # 366 HOLE # 4 Sheet 8

Depth range 1097.85 to 1100.74 meters Depth range 3599.5 to 3609 feet

Logger's Name CN Page 2 of 2

Numcer of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 2 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 192 Top Rbl Clk BX 365 Core 192 Bottom Rbl Clk no

Dip of Unit: Top BX 365 Bottom 75° Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: 98 Top Rbl Clk no Core 98 Bottom Rbl Clk BX 367

Dip of Unit: Top 75° Bottom BX 367 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

- contact not achieved, not bottled

VESICLES:

UNIT 1 Size(mm): Max. 7 Min. 1 Ave. 2 # of Vesiculation Units 2

Density(%): Top 20 Middle 5 Bottom 20

Shape: S ____ R ____ SR ____ SA ✓ A ✓

Aspect ratio Equant. ____ Horiz. ____ Vert. ✓ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present 1 Continuous ____ Discontinuous ✓

Length 8cm Dip 90°

Voids Present 1 Size(max.vs.min.) 2x.5 cm

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ____ No ✓ Unit ____ Density ____ Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 218/290 = 75%

CORE LOG

BOX # 367 HOLE # 4 Sheet B

Depth range 1103.74 to 1102.88 meters Depth range 3609 to 3616 feet

Logger's Name EH Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 213 Top Rbl Clk BX 366 Core 212 Bottom Rbl Clk BX 368

Dip of Unit: Top BX 366 Bottom BX 368 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

WD UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 0-90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 67/213 = 31%

31
22
11

CORE LOG

BOX # 368 HOLE # 4 Sheet 8

Depth range 1102.88 to 1105.62 meters Depth range 3616 to 3625 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX367 Core 274 Bottom Rbl Clk BX367

Dip of Unit: Top BX367 Bottom BX369 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 0-90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 24/274 = 9%

CORE LOG

BOX # 369 HOLE # 4 Sheet 8

Depth range 1105.6 to 1108.7 meters Depth range 3625 to 3635 feet

Logger's Name RZ Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk — Core 305 Bottom Rbl Clk —

Dip of Unit: Top Bx 368 Bottom Bx 370 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

groundmass → sericite

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 3% Middle 3% Bottom 3%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density highest ~70% Dip 25°, 50°, s. vert.

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 30% 92/305

CORE LOG

BOX # 370 HOLE # 4 Sheet 8

Depth range 1108.7 to 1110.8 meters Depth range 3635 to 3642 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 : Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 160cm Top Rbl Clk____ Core 160cm Bottom Rbl Clk____

Dip of Unit: Top Box 369 Bottom 50° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 50cm Top Rbl Clk____ Core 50cm Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom Box 371 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

Smectite replacing groundmass

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units____

Density(%): Top 7% Middle 7% Bottom 7%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3mm Min. <1mm Ave. <1mm # of Vesiculation Units just upper part

Density(%): Top 30% Middle 20% Bottom Box 371

Shape: S ✓ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present R Size(max.vs.min.) 28x14mm

Degree of vesicle filling(%): Units: 1____ 2 2% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 <1% 2 5% 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density high Dip 25°, 40°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 36%

75/210

CORE LOG

BOX # 371 HOLE # 4 Sheet 8

Depth range 1110.8 to 1113.6 meters Depth range 3642 to 3651 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 2 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 94 Top Rbl Clk ~~Bx370~~ Core 94 Bottom Rbl Clk —

Dip of Unit: Top Bx 370 Bottom 35° Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: 190 Top Rbl Clk — Core 190 Bottom Rbl Clk —

Dip of Unit: Top 35° Bottom Bx 372 Glass ✓ Alt1 ____ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

Olivine → iddingsite

VESICLES:

UNIT 1 Size(mm): Max. 3mm Min. <1mm Ave. <1mm # of Vesiculation Units 1/2

Density(%): Top 16 Bx 370 Middle 16 Bottom 15%

Shape: S ____ R ✓ SR ✓ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR ____ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present 1,2 Size(max.vs.min.) 12x2mm, 11x6mm

Degree of vesicle filling(%): Units: 1 <1% 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 <1% 2 <1% vesicles? ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit 2 Density Aligned ~40% Dip 30°, 40°, 60°

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 77%

219/284

CORE LOG

BOX # 342 HOLE # 4 Sheet 8

Depth range 1113.6 to 1116.1 meters Depth range 3651 to 3659.9 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2,3,4 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 136 Top Rbl Clk — Core 136 Bottom Rbl Clk —

Dip of Unit: Top Bx371 Bottom 85° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 65 Top Rbl Clk — Core____ Bottom Rbl Clk — 41

Dip of Unit: Top 85° Bottom 40° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 35 Top Rbl Clk — Core 35 Bottom Rbl Clk —

Dip of Unit: Top 40° Bottom 15° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness: 42 Top Rbl Clk — Core 42 Bottom Rbl Clk —

Dip of Unit: Top 15° Bottom Bx373 Glass ✓ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olivine -> iddingsite 2° miner: (chlorite?) feathery white zeolite, agate, smectite, blue-gray [illegible] fractures

==========

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max. 2.5mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 4 Size(max.vs.min.) 9x 2mm

Degree of vesicle filling(%): Units: 1 0% 2 " 3 " 4 " 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

==========

FRACTURES: Yes ✓ No____ Unit 1,2,3,4 Density low ~20% Dip 1: 20°+35°

Slikenslides: Yes____ No ✓ Unit____ Dip____ 2,3,4: variable but few fractures

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 87%

241/278

CORE LOG

BOX # 373 HOLE # 4 Sheet 8

Depth range 1116.15 to 1118.89 meters Depth range 3659.5 to 3668.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 209 Top Rbl Clk BX372 Core 209 Bottom Rbl Clk no

Dip of Unit: Top BX372 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

51 cm over-lap 1&2 UNIT 2 Thickness: 65 Top Rbl Clk no Core 65 Bottom Rbl Clk BX374

Dip of Unit: Top 70° Bottom BX374 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

contact intact, not bottled

VESICLES:

UNIT 1 Size(mm): Max.— Min.— Ave.— # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.— Min.— Ave.— # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 1x1cm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slickensides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 243/274 = 89%

CORE LOG

BOX # 344 HOLE # 4 Sheet 8

Depth range 1118.9 to 1121.6 meters Depth range 3662.5 to 3671.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2,3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 10cm Top Rbl Clk — Core 10cm Bottom Rbl Clk —

Dip of Unit: Top Bx 373 Bottom 40° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 193cm Top Rbl Clk — Core 193 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom 75° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 60cm Top Rbl Clk — Core 60 Bottom Rbl Clk —

Dip of Unit: Top 75° Bottom Bx 375 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olivine -> iddingsite

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined 3 Dip____

UNIT 2 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present 2 Continuous____ Discontinuous ✓

Length 12mm Dip 25°

Voids Present 2 Size(max.vs.min.) 4x3mm

Degree of vesicle filling(%): Units: 1 0% 2 0% 3 0% 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2,3 Density <10%, <10% Dip 2: 25°, 40-43° 3: 20°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality (# of pieces >4in. long/Total Box length) 83% 224/270

CORE LOG

BOX # 375 HOLE # 4 Sheet 8

Depth range 1121.64 to 1124.23 meters Depth range 3677.5 to 3686 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 51 Top Rbl Clk____ Core 51 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 72 Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 226.25 Top Rbl Clk None Core 226.25 Bottom Rbl Clk Bx 376

Dip of Unit: Top 72 Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

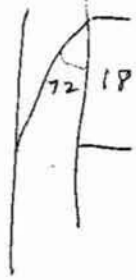
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Only 8.5' of Core present



VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined 2 Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 1 Shear Planes: Dip 45° Depth(%) 15 Spacing: Max.____ Min.____

UNIT 1 Shear Planes: Dip 64° Depth(%) 15 Spacing: Max.____ Min.____

UNIT 1 Shear Planes: Dip 65° Depth(%) 15 Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

See Graph Sheet 2 of 10 Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2 Density 60 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality (# of pieces >4in. long/Total Box length) 0.54 = 141/259.25 = 54%

CORE LOG

BOX # 376 HOLE # 4 Sheet B

Depth range 1124.23 to 1126.97 meters Depth range 3686 to 3695 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 42 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

100% over IAP 1A2

UNIT 1 Thickness: 120 Top Rbl Clk BX375 Core 120 Bottom Rbl Clk no

Dip of Unit: Top BX375 Bottom 75° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 274 Top Rbl Clk no Core 274 Bottom Rbl Clk BX377

Dip of Unit: Top 75° Bottom BX377 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

contacts not continuous, not bolted

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined — Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 197/274 = 72%

24
14
35
15
58
28
31

CORE LOG

BOX # 377 HOLE # 4 Sheet B

Depth range 1127.14 to 1129.57 meters Depth range 3695 to 3703.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2,3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 44.5 Top Rbl Clk 376 Core 44.5 Bottom Rbl Clk here

Dip of Unit: Top____ Bottom 79 Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 240.25 Top Rbl Clk here Core 240.25 Bottom Rbl Clk Bx 378

Dip of Unit: Top 79 Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

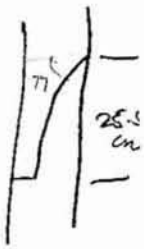
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Only 8.5' Present



VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 0 Min. 0 Ave. 0 # of Vesiculation Units 1

Density(%): Top 0 Middle 0 Bottom 0

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2 Density 30 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.48 = 123.5 / 259.25 = 48%

CORE LOG

BOX # 378 HOLE # 4 Sheet B

Depth range 1129.57 to 1136.85 meters Depth range 3703.5 to 3711 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 215 Top Rbl Clk BX377 Core 215 Bottom Rbl Clk no

Dip of Unit: Top BX377 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 14 Top Rbl Clk no Core 14 Bottom Rbl Clk BX379

Dip of Unit: Top 70° Bottom BX379 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

contact not bottled

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density 100 Dip 0°, 60°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 37/229 = 16%

CORE LOG

BOX # 379 HOLE # 4 Sheet 8

Depth range 1131.9 to 1134.9 meters Depth range 3711 to 3721 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 3 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1,2,4 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 31 Top Rbl Clk — Core ✓ Bottom Rbl Clk —

Dip of Unit: Top Bx 378 Bottom 60° Glass ✓ Alt1 ✓ Alt2 ___ 0 ___

UNIT 2 Thickness: 130 Top Rbl Clk — Core ___ Bottom Rbl Clk —

Dip of Unit: Top 60° Bottom 70° Glass ✓ Alt1 ___ Alt2 ___ 0 ___

UNIT 3 Thickness: 120 Top Rbl Clk — Core ___ Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom 70° Glass ___ Alt1 ___ Alt2 ___ 0 ✓

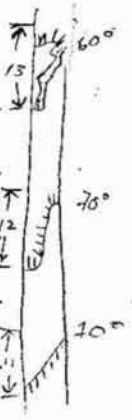
UNIT 4 Thickness: 14 Top Rbl Clk — Core ___ Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom Bx 380 Glass ✓ Alt1 ___ Alt2 ___ 0 ___

UNIT 5 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ 0 ___

Primary textures — ___ ___ ___ ___



Degree of Alteration or Comments:

olivine → iddingsite

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VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 3% Middle 3% Bottom 3%

Shape: S ___ R ✓ SR ___ SA ___ A ___

Aspect ratio Equant. ✓ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ___ R ✓ SR ___ SA ___ A ___

Aspect ratio Equant. ✓ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 3 Size(mm): Max. 4mm Min. <1mm Ave. 1mm # of Vesiculation Units 1

Density(%): Top 30% Middle 10% Bottom 25%

Shape: S ___ R ✓ SR ✓ SA ✓ A ___

Aspect ratio Equant. ✓ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 4 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units —

Density(%): Top ___ Middle ___ Bottom ___

no Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 5 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

Bubble Entrails Present ___ Continuous ___ Discontinuous ___

Length ___ Dip ___

Voids Present 3 Size(max.vs.min.) 9x4mm

Degree of vesicle filling(%): Units: 1 ___ 2 ___ 3 5% 4 ___ 5 ___

Total amt. of vesicles with filling(%): 1 ___ 2 ___ 3 10% 4 ___ 5 ___

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FRACTURES: Yes ✓ No ___ Unit 1,2,3,4 Density high, med, l Dip 1: 20°; 2: 25°, 40°, s. vert + s. horz. 3: 20°, 55° 4: 15°

Slikenslides: Yes ___ No ___ Unit ___ Dip low, med

Presence of Plant Molds: Yes ___ No ___ Type ___

Rock Quality (# of pieces >4in. long/Total Box length) 50% 151/305

72
69
10
151

CORE LOG

BOX # 380 HOLE # 4 Sheet 8

Depth range 1134.95 to 1137.34 meters Depth range 3721 to 3729 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX 379 Core 244 Bottom Rbl Clk BX 381

Dip of Unit: Top BX 379 Bottom BX 381 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined 3 Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 70% Dip 0-90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 120/244 = 49%

CORE LOG

BOX # 381 HOLE # 4 Sheet 8

Depth range 1137.35 to 1139.79 meters Depth range 3729 to 3737 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 244 Top Rbl Clk Bx 380 Core 244 Bottom Rbl Clk Bx 382

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ✓ Alt2 ____ 0 ____

UNIT 2 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S ____ R ✓ SR ____ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 7

Density(%): Top 3 Middle 5 Bottom 3

Shape: S ____ R ____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ____ Horiz. ✓ Vert. ____ Inclined ✓ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 1 Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit 1 Density 60 Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) ____

0.57 = 138/244 = 57%

CORE LOG

BOX # 382 HOLE # 4 Sheet 8

Depth range 1137.78 to 1142.22 meters Depth range 3737 to 3745 feet

Logger's Name CH Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX381 Core 244 Bottom Rbl Clk BX383

Dip of Unit: Top BX381 Bottom BX383 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 0-90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 80/244 = 33%

CORE LOG

BOX # 383 HOLE # 4 Sheet 8

Depth range 1142.23 to ____ meters Depth range 3745 to 3753 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

Dike, UNIT 1 Thickness: 98 Top Rbl Clk ____ Core 77.5 Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

25 a'a UNIT 2 Thickness: 134 Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Dike 1 Contd — UNIT 3 Thickness: 80 Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top 65° Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

3 UNIT 4 Thickness: 3 Top Rbl Clk rare Core 3 Bottom Rbl Clk 384

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 8' Dike meanders throughout core v. difficult to get good Thickness

---

VESICLES: Safe to say entire Box.

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S ____ R ✓ SR ____ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. 15 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 7 Middle 15 Bottom 10

Shape: S ____ R ____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ____ Horiz. ✓ Vert. ____ Inclined ✓ Dip 60

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Shear Planes: Dip 65 Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 5% Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality (# of pieces >4in. long/Total Box length) 059 = 115/244 = 59%

CORE LOG

BOX # 384 HOLE # 4 Sheet 8

Depth range 1144.66 to 1147.41 meters Depth range 3753 to 3762 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 2 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 136 Top Rbl Clk BX 383 Core 136 Bottom Rbl Clk no

Dip of Unit: Top BX 383 Bottom 75° Glass ____ Alt1 ____ Alt2 ____ 0 ✓

18 cm overlap 1&2 UNIT 2 Thickness: 156 Top Rbl Clk no Core 156 Bottom Rbl Clk BX 385

Dip of Unit: Top 75° Bottom BX 385 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units 1

Density(%): Top 20 Middle 15 Bottom 20

Shape: S ____ R ✓ SR ✓ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

10 11 10 12 31 20

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

WP UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present no Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present no Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 100 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 100 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit 2 Density 100 Dip 0-90°

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality (# of pieces >4in. long/Total Box length) 88/274 = 32%

CORE LOG

BOX # 385 HOLE # 4 Sheet 8

Depth range 1147.41 to 1150.55 meters Depth range 3762 to 3771 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 384 Core 274 Bottom Rbl Clk BX 386

Dip of Unit: Top BX 384 Bottom BX 386 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 0-90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 141/274 = 51%

33
14
38
20
19

CORE LOG

BOX # 386 HOLE # 4 Sheet 8

Depth range 1150.2 to 1152.4 meters Depth range 3771 to 3778.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 230 cm Top Rbl Clk — Core 230cm Bottom Rbl Clk —

Dip of Unit: Top Bx 385 Bottom Bx 387 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 10% Middle 10% Bottom 10%

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Sucble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density high 80-90% Dip 10°, 35°, 60°, s. vertical

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 16% 34/230

CORE LOG

BOX # 387 HOLE # 4 Sheet 8

Depth range 1152.4 to 1154.9 meters Depth range 3778.5 to 3786.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk — Core 244 Bottom Rbl Clk —

Dip of Unit: Top Bx 386 Bottom Bx 387 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

Ol → clay

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units____

Density(%): Top 1% Middle 10% Bottom 10%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined ? Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density high med 60%-65% Dip v. low 0, 10°, 50°, 60°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality (# of pieces >4in. long/Total Box length) 55% 135/244

CORE LOG

BOX # 388 HOLE # 4 Sheet 8

Depth range 1184.88 to 1157.47 meters Depth range 3886.5 to 3795 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259 Top Rbl Clk BX 387 Core 259 Bottom Rbl Clk BX 389

Dip of Unit: Top BX 387 Bottom BX 389 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined 3 Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

10
17
16
21
47
24
46

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No____ Unit____ Density 80% Dip 0-90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 181/259 = 70%

CORE LOG

BOX # 389 HOLE # 4 Sheet 8

Depth range 1157.47 to 1160.22 meters Depth range 3795 to 3804 feet

Logger's Name CN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phn____ Transitional ✓ Rubble____

Intrusive Dike 1,3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 116 Top Rbl Clk BX 388 Core 116 Bottom Rbl Clk no

Dip of Unit: Top BX 388 Bottom 50° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 5 Top Rbl Clk no Core 5 Bottom Rbl Clk no

Dip of Unit: Top 50° Bottom 50° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 153 Top Rbl Clk no Core 153 Bottom Rbl Clk BX 390

Dip of Unit: Top 50° Bottom BX 390 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant. — Horiz. — Vert. — Inclined — Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No____ Unit 1 Density 20 Dip 60°

Slickensides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 224/274 = 82%

CORE LOG

BOX # 390 HOLE # 4 Sheet 8

Depth range 1160.2 to 1162.97 meters Depth range 3804 to 3813 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 277 Top Rbl Clk — Core 277 Bottom Rbl Clk —

Dip of Unit: Top Bx 329 Bottom Bx 391 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

alt -> iddingsite

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle 1% Bottom 1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined ? Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density med 40-50% Dip 30°, 50°, 60°, & vert.

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality (# of pieces >4in. long/Total Box length) 75%

2/4
7/4

CORE LOG

BOX # 391 HOLE # 4 Sheet B

Depth range 1162.96 to 1165.71 meters Depth range 3813 to 3822 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 390 Core 274 Bottom Rbl Clk 120

Dip of Unit: Top BX 390 Bottom 5° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

contact at bottom of box

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality (# of pieces >4in. long/Total Box length) 249/274 = 91%

CORE LOG

BOX # 392 HOLE # 4 Sheet 8

Depth range 1165.71 to 1168.76 meters Depth range 3822 to 3832 feet

Logger's Name EN Page 2 of 2

Numcer of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,3 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia 2 Conglomerate____ Carbonate____

UNIT 1 Thickness: 96 Top Rbl Clk no Core 96 Bottom Rbl Clk unit 2

Dip of Unit: Top 5° Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 100 Top Rbl Clk 100 Core — Bottom Rbl Clk —

Dip of Unit: Top ? Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 97 Top Rbl Clk unit 2 Core 97 Bottom Rbl Clk BX 393

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 20 Min. 1 Ave. 5 # of Vesiculation Units —

Density(%): Top 5 Middle 5 Bottom 15

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant.____ Horiz. ✓ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3 Min. 1 Ave. 1 # of Vesiculation Units —

Density(%): Top 30 Middle 30 Bottom 30

Shape: S____ R____ SR____ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 15 Min. 1 Ave. 5 # of Vesiculation Units —

Density(%): Top 15 Middle 15 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant.____ Horiz. ✓ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 3 Size(max.vs.min.) 5x3cm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 293/293 = 100%

CORE LOG

BOX # 393 HOLE # 4 Sheet 8

Depth range 1168.76 to 1171.51 meters Depth range 3832 to 3841 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ✓ Transitional ____ Rubble ____

Intrusive Dike ____ Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 157 Top Rbl Clk Bx 392 Core 157 Bottom Rbl Clk here

Dip of Unit: Top ____ Bottom 15 Glass ____ Alt1 ✓ Alt2 ____ 0 ____

UNIT 2 Thickness: 117.5 Top Rbl Clk here Core 117.5 Bottom Rbl Clk Bx 394

Dip of Unit: Top 15 Bottom ____ Glass ____ Alt1 ✓ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' present

VESICLES:

UNIT 1 Size(mm): Max. 12 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 5 Middle 5 Bottom 3

Shape: S ____ R ____ SR ✓ SA ✓ A ____

Aspect ratio Equant. ____ Horiz. ✓ Vert. ____ Inclined ✓ Dip 22

UNIT 2 Size(mm): Max. 18 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 10 Middle 3 Bottom 3

Shape: S ____ R ✓ SR ✓ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip 45°

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 1 Shear Planes: Dip 40 Depth(%) 20 Spacing: Max. 10 Min. 3

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT __ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present 2 Continuous ✓ Discontinuous ✓

Length 30 Dip 36

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 25 Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 0.84 = 2305/2745 = 84%

CORE LOG

BOX # 394 HOLE # 4 Sheet 8

Depth range 1171.50 to 1174.25 meters Depth range 3841. to 3850 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 5 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,3 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 5 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia 2,4 Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 38 Top Rbl Clk BX 393 Core 38 Bottom Rbl Clk unit 2

Dip of Unit: Top BX 393 Bottom 5° Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: 6 Top Rbl Clk — Core — Bottom Rbl Clk 6

Dip of Unit: Top 5 Bottom 5 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 3 Thickness: 8 Top Rbl Clk no Core 8 Bottom Rbl Clk unit 4

Dip of Unit: Top 5 Bottom 5 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 4 Thickness: 7 Top Rbl Clk — Core — Bottom Rbl Clk 7

Dip of Unit: Top 5 Bottom 5 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 5 Thickness: 215 Top Rbl Clk no Core 215 Bottom Rbl Clk BX 395

Dip of Unit: Top 5 Bottom BX 395 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. .5 Min. 1 Ave. 3 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S ____ R ____ SR ____ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. 1 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S ____ R ____ SR ____ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. 5 Min. 1 Ave. 3 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S ____ R ____ SR ____ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. 1 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S ____ R ____ SR ____ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

14
24
21
28
19

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

no UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present no Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present no Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit 5 Density 100 Dip 0-90°

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality (# of pieces >4in. long/Total Box length) 106/274 = 39%

CORE LOG

BOX # 395 HOLE # 4 Sheet 8

Depth range 1174.25 to 1176.84 meters Depth range 3850 to 3858 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 256.25 Top Rbl Clk____ Core 256.25 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 11 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 3 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 11 Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Only 8.5' here

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 30 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality (# of pieces >4in. long/Total Box length) 0.33 84.5/259.25 = 33%

CORE LOG

BOX # 396 HOLE # 4 Sheet 8

Depth range 1176.84 to 1179.43 meters Depth range 3858.5 to 3867 feet

Logger's Name FT Page 2 of 2

Numcer of Units in Box _____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a _____ Phh _____ Transitional _____ Rubble _____

Intrusive Dike 1,2 Sill _____ Other _____

Other Hyaloclastite _____ Volcaniclastic _____ Pillow _____

Ash _____ Breccia _____ Conglomerate _____ Carconate _____

Dike 1 Sec 1 UNIT 1 Thickness: 44 Top Rbl Clk Bx 396 Core 44 Bottom Rbl Clk here

Dip of Unit: Top _____ Bottom 70 Glass _____ Alt1 _____ Alt2 _____ 0 _____

Sec 2 Sec 3 UNIT 2 Thickness: 31 Top Rbl Clk here Core 31 Bottom Rbl Clk here

Dip of Unit: Top 70 Bottom _____ Glass _____ Alt1 _____ Alt2 _____ 0 _____

Dike 2 sec UNIT 3 Thickness: 8 Top Rbl Clk here Core 8 Bottom Rbl Clk here

Dip of Unit: Top _____ Bottom _____ Glass _____ Alt1 _____ Alt2 _____ 0 _____

/ UNIT 4 Thickness: 32 Top Rbl Clk _____ Core 32 Bottom Rbl Clk _____

Dip of Unit: Top _____ Bottom _____ Glass _____ Alt1 _____ Alt2 _____ 0 _____

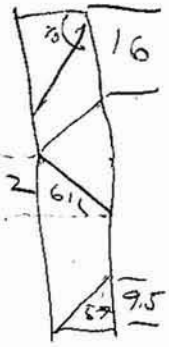
Dike 3 2 UNIT 5 Thickness: 109 Top Rbl Clk _____ Core 109 Bottom Rbl Clk _____

Dip of Unit: Top 45 Bottom _____ Glass _____ Alt1 _____ Alt2 _____ 0 _____

Primary textures _____ _____ _____ _____

Degree of Alteration or Comments: only 8.5' of core

Dike 3 4.5cm Thick Dip 57°



VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S _____ R ✓ SR _____ SA _____ A _____

Aspect ratio Equant. ✓ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 2 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S _____ R ✓ SR _____ SA _____ A _____

Aspect ratio Equant. ✓ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 3 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S _____ R ✓ SR _____ SA _____ A _____

Aspect ratio Equant. ✓ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 4 Size(mm): Max. _____ Min. _____ Ave. _____ # of Vesiculation Units _____

Density(%): Top _____ Middle _____ Bottom _____

Shape: S _____ R _____ SR _____ SA _____ A _____

Aspect ratio Equant. _____ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 5 Size(mm): Max. _____ Min. _____ Ave. _____ # of Vesiculation Units _____

Density(%): Top _____ Middle _____ Bottom _____

Shape: S _____ R _____ SR _____ SA _____ A _____

Aspect ratio Equant. _____ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT__ Shear Planes: Dip _____ Depth(%) _____ Spacing: Max. _____ Min. _____

UNIT__ Shear Planes: Dip _____ Depth(%) _____ Spacing: Max. _____ Min. _____

UNIT__ Shear Planes: Dip _____ Depth(%) _____ Spacing: Max. _____ Min. _____

Bubble Entrails Present _____ Continuous _____ Discontinuous _____

Length _____ Dip _____

Voids Present _____ Size(max.vs.min.) _____

Degree of vesicle filling(%): Units: 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

Total amt. of vesicles with filling(%): 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

FRACTURES: Yes ✓ No _____ Unit _____ Density 2 Dip _____

Slikenslides: Yes _____ No ✓ Unit _____ Dip _____

Presence of Plant Molds: Yes _____ No ✓ Type _____

Rock Quality(# of pieces >4in. long/Total Box length) 0.81 = 210.5 / 259.25 = 81%

CORE LOG

BOX # 397 HOLE # 4 Sheet B

Depth range 1179.43 to 1182.18 meters Depth range 3867 to 3876 feet

Logger's Name EAI Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Rubble____

Intrusive Dike 2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 11 Top Rbl Clk BX396 Core 11 Bottom Rbl Clk no

Dip of Unit: Top BX396 Bottom 50° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 263 Top Rbl Clk no Core 263 Bottom Rbl Clk BX 398

Dip of Unit: Top 50° Bottom BX398 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top — Middle — Bottom 5

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined — Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 20% Dip 90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 257/274 = 94%

CORE LOG

BOX # 398 HOLE # 4 Sheet 8

Depth range 1182.18 to 1184.77 meters Depth range 3876 to 3884.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259.25 Top Rbl Clk Bx 398 Core 259.25 Bottom Rbl Clk Bx 399

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____

Degree of Alteration or Comments: only 8.5' of core

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. 4 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.66 =

171/259.25 = 66%

CORE LOG

BOX # 399 HOLE # 4 Sheet 8

Depth range 1184.77 to 1187.87 meters Depth range 3884.5 to 3893 feet

Logger's Name FT Page 2 of 2

Number of Units in Box _____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a _____ Phh _____ Transitional _____ Rubble _____

Intrusive Dike 47 Sill _____ Other _____

Other Hyaloclastite _____ Volcaniclastic _____ Pillow _____

Ash _____ Breccia _____ Conglomerate _____ Carbonate _____

UNIT 1 Thickness: 151.25 Top Rbl Clk Bx 398 Core 151.25 Bottom Rbl Clk none

Dip of Unit: Top _____ Bottom 80 Glass _____ Alt1 _____ Alt2 _____ 0 _____

UNIT 2 Thickness: 108 Top Rbl Clk _____ Core 108 Bottom Rbl Clk _____

Dip of Unit: Top 80 Bottom _____ Glass _____ Alt1 ✓ Alt2 _____ 0 _____

UNIT 3 Thickness: _____ Top Rbl Clk _____ Core _____ Bottom Rbl Clk _____

Dip of Unit: Top _____ Bottom _____ Glass _____ Alt1 _____ Alt2 _____ 0 _____

UNIT 4 Thickness: _____ Top Rbl Clk _____ Core _____ Bottom Rbl Clk _____

Dip of Unit: Top _____ Bottom _____ Glass _____ Alt1 _____ Alt2 _____ 0 _____

UNIT 5 Thickness: _____ Top Rbl Clk _____ Core _____ Bottom Rbl Clk _____

Dip of Unit: Top _____ Bottom _____ Glass _____ Alt1 _____ Alt2 _____ 0 _____

Primary textures _____ _____ _____ _____

Degree of Alteration or Comments: 8.5' present

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S _____ R ✓ SR _____ SA _____ A _____

Aspect ratio Equant. ✓ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S _____ R ✓ SR _____ SA _____ A _____

Aspect ratio Equant. ✓ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 3 Size(mm): Max. _____ Min. _____ Ave. _____ # of Vesiculation Units _____

Density(%): Top _____ Middle _____ Bottom _____

Shape: S _____ R _____ SR _____ SA _____ A _____

Aspect ratio Equant. _____ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 4 Size(mm): Max. _____ Min. _____ Ave. _____ # of Vesiculation Units _____

Density(%): Top _____ Middle _____ Bottom _____

Shape: S _____ R _____ SR _____ SA _____ A _____

Aspect ratio Equant. _____ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT 5 Size(mm): Max. _____ Min. _____ Ave. _____ # of Vesiculation Units _____

Density(%): Top _____ Middle _____ Bottom _____

Shape: S _____ R _____ SR _____ SA _____ A _____

Aspect ratio Equant. _____ Horiz. _____ Vert. _____ Inclined _____ Dip _____

UNIT__ Shear Planes: Dip _____ Depth(%) _____ Spacing: Max. _____ Min. _____

UNIT__ Shear Planes: Dip _____ Depth(%) _____ Spacing: Max. _____ Min. _____

UNIT__ Shear Planes: Dip _____ Depth(%) _____ Spacing: Max. _____ Min. _____

Sucble Entrails Present _____ Continuous _____ Discontinuous _____

Length _____ Dip _____

Voids Present _____ Size(max.vs.min.) _____

Degree of vesicle filling(%): Units: 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

Total amt. of vesicles with filling(%): 1 _____ 2 _____ 3 _____ 4 _____ 5 _____

FRACTURES: Yes ✓ No _____ Unit _____ Density 35 Dip _____

Slikenslides: Yes _____ No ✓ Unit _____ Dip _____

Presence of Plant Molds: Yes _____ No ✓ Type _____

Rock Quality (# of pieces >4in. long/Total Box length 0.74

192 / 259.25 = .74

CORE LOG

BOX # 400 HOLE # 4 Sheet 8

Depth range 1187.36 to 1189.80 meters Depth range 3893 to 3901 feet

Logger's Name EM Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX399 Core 244 Bottom Rbl Clk BX401

Dip of Unit: Top BX399 Bottom BX401 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 90°-60°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 59/244 = 24%

17
14
14
14

CORE LOG

BOX # 401 HOLE # 4 Sheet 8

Depth range 1189.81 to 1192.55 meters Depth range 3901 to 3910 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk Bx 400 Core 274.5 Bottom Rbl Clk Bx 402

Dip of Unit: Top____ Bottom 75 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 16 Top Rbl Clk here Core 16 Bottom Rbl Clk Bx 402

Dip of Unit: Top 75 Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

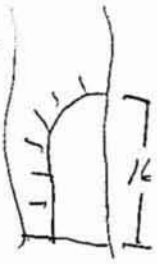
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 65 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.33 = 91 / 274.5 = 33%

CORE LOG

BOX # 402 55 99 HOLE # 4 Sheet 8
Depth range 1192. to 1194. meters Depth range 3910 to 3918 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Rubble____
Intrusive Dike 1 Sill____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 282 Top Rbl Clk BX 401 Core 282 Bottom Rbl Clk BX 403
Dip of Unit: Top BX 401 Bottom BX 403 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined ✓ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No____ Unit 1 Density 80 Dip 0-90°
Slikenslides: Yes____ No ✓ Unit____ Dip____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 182/282 = 65%

87
61
60
23
33
23
33

37
17
34
17
23
14
23
17

CORE LOG

BOX # 403 HOLE # 4 Sheet 8

Depth range 1195.09 to 1197.58 meters Depth range 3918 to 3926.5 feet

Logger's Name FT Page 2 of 2

Numcer of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259.25 Top Rbl Clk BX402 Core 259.25 Bottom Rbl Clk 404

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 8.5'

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 20 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.52=

135.5 / 259.25 = 52%

CORE LOG

BOX # 404 HOLE # 4 Sheet 8

Depth range 1197.58 to 1200.02 meters Depth range 3926.5 to 3934.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX 403 Core 244 Bottom Rbl Clk BX 405

Dip of Unit: Top BX 403 Bottom BX 405 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined 3 Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No____ Unit 1 Density 60 Dip 90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 104/244 = 43%

CORE LOG

BOX # 405 HOLE # 4 Sheet 8

Depth range 1200.02 to 1202.31 meters Depth range 3934.5 to 3942 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 228.75 Top Rbl Clk Bx 404 Core 228.75 Bottom Rbl Clk 406 Bx

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 7.5'

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined 5 Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 80 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.31

= 71.5 / 228.75 = 31%

CORE LOG

BOX # 4/06 HOLE # 4 Sheet 8

Depth range 1202.31 to 1205.51 meters Depth range 3942 to 3951 feet

Logger's Name EN Page 2 of 2

Numcer of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 405 Core 274 Bottom Rbl Clk BX 407

Dip of Unit: Top BX 405 Bottom BX 407 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 60°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 49/274 = 18%

CORE LOG

BOX # 407 HOLE # 4 Sheet 8

Depth range 1205.06 to 1207.65 meters Depth range 3951 to 3959.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 64.5 Top Rbl Clk Bx 406 Core 64.5 Bottom Rbl Clk here

Dip of Unit: Top____ Bottom 47 Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 188.75 Top Rbl Clk____ Core 188.75 Bottom Rbl Clk Bx 408

Dip of Unit: Top 47 Bottom 64 Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 6 Top Rbl Clk here Core 6 Bottom Rbl Clk here

Dip of Unit: Top 64 Bottom 54 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

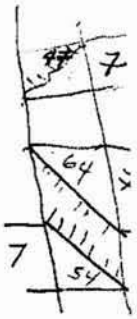
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 8.5'



VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 40 X 6 - Fracture - open

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 40 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.75

193.5 / 259.25 = 75%

CORE LOG

BOX # 408 HOLE # 4 Sheet 8

Depth range 1207.65 to 1210.24 meters Depth range 3959.5 to 3968 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 230 Top Rbl Clk BX 407 Core 230 Bottom Rbl Clk no

Dip of Unit: Top BX 407 Bottom 55° Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: 30 Top Rbl Clk no Core 30 Bottom Rbl Clk BX 409

Dip of Unit: Top 55° Bottom BX 409 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Shear Planes: Dip 35% Depth(%) 90% Spacing: Max. 1cm Min. .5cm

UNIT ____ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT ____ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present no Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present no Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ____ No ____ Unit 1 Density 100 Dip 60-90°

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 130/260 = 50%

15
10
25
10
15
48

CORE LOG

BOX # 409 HOLE # 4 Sheet B

Depth range 1210.24 to 1213.29 meters Depth range 3968 to 3978 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh 2 Transitional ____ Rubble ____

Intrusive Dike ____ Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 122 Top Rbl Clk Bx 308 Core 102 Bottom Rbl Clk 19

Dip of Unit: Top ____ Bottom Ø Glass ____ Alt1 ____ Alt2 ____ Ø ____

UNIT 2 Thickness: 183 Top Rbl Clk ____ Core 183 Bottom Rbl Clk ____

Dip of Unit: Top Ø Bottom ____ Glass ____ Alt1 ____ Alt2 ____ Ø ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ Ø ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ Ø ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ Ø ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 10'

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 5 Bottom 5

Shape: S ____ R ____ SR ✓ SA ✓ A ____

Aspect ratio Equant. ____ Horiz. ✓ Vert. ____ Inclined ✓ Dip 46

UNIT 2 Size(mm): Max. 8 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 30 Middle 25 Bottom 20

Shape: S ____ R ✓ SR ✓ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 1 Shear Planes: Dip 46 Depth(%) 90 Spacing: Max. 8 Min. 2

UNIT ____ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT ____ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present 1 Continuous ✓ Discontinuous ____

Length 30 Dip 40

Voids Present 1 Size(max.vs.min.) 15x6

Degree of vesicle filling(%): Units: 1 90 2 100 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 60 2 100 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 2 Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 0.74

= 225/305 = 74%

CORE LOG

BOX # 410 HOLE # 4 Sheet 8

Depth range 1213.29 to 1215.73 meters Depth range 3978 to 3986 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 148 Top Rbl Clk BX409 Core 148 Bottom Rbl Clk no

Dip of Unit: Top BX409 Bottom 30° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 152 Top Rbl Clk 55 Core 97 Bottom Rbl Clk BX411

Dip of Unit: Top 30° Bottom BX411 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 8 Min. 1 Ave. 3 # of Vesiculation Units 3

Density(%): Top 15 Middle 0 Bottom 15

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 7 Min. 1 Ave. 1 # of Vesiculation Units 2

Density(%): Top 15 Middle 0 Bottom 15

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 273/300 = 91%

CORE LOG

BOX # 411 73 47 HOLE # 4 Sheet 8
Depth range 1215. to 1218. meters Depth range 3986 to 3995 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1 Phh ____ Transitional ____ Rubble ____
Intrusive Dike ____ Sill ____ Other ____
Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____
Ash ____ Breccia 2 Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 177 Top Rbl Clk BX 410 Core 177 Bottom Rbl Clk unit 2
Dip of Unit: Top BX 410 Bottom ? Glass ____ Alt1 ____ Alt2 ____ 0 ✓
UNIT 2 Thickness: 97 Top Rbl Clk — Core — Bottom Rbl Clk 97
Dip of Unit: Top ? Bottom BX 412 Glass ____ Alt1 ____ Alt2 ____ 0 ✓
UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____
Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____
UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____
Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____
UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____
Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____
Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 8 Min. 1 Ave. 3 # of Vesiculation Units 1
Density(%): Top 0 Middle 10 Bottom 0
Shape: S ____ R ____ SR ✓ SA ✓ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 2 Size(mm): Max. 5 Min. .5 Ave. 1 # of Vesiculation Units —
Density(%): Top 30 Middle 30 Bottom 30
Shape: S ____ R ____ SR ____ SA ✓ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____
Density(%): Top ____ Middle ____ Bottom ____
Shape: S ____ R ____ SR ____ SA ____ A ____
Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____
Density(%): Top ____ Middle ____ Bottom ____
Shape: S ____ R ____ SR ____ SA ____ A ____
Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____
Density(%): Top ____ Middle ____ Bottom ____
Shape: S ____ R ____ SR ____ SA ____ A ____
Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
Bubble Entrails Present no Continuous ____ Discontinuous ____
Length ____ Dip ____
Voids Present no Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 50 2 — 3 ____ 4 ____ 5 ____
Total amt. of vesicles with filling(%): 1 100 2 — 3 ____ 4 ____ 5 ____

FRACTURES: Yes ____ No ✓ Unit ____ Density ____ Dip ____
Slikenslides: Yes ____ No ✓ Unit ____ Dip ____
Presence of Plant Molds: Yes ____ No ✓ Type ____
Rock Quality(# of pieces >4in. long/Total Box length) 167/274 = 61%

CORE LOG

BOX # 412 HOLE # 4 Sheet 8

Depth range 1218.5 to 1221.3 meters Depth range 3995 to 4004 feet

Logger's Name RE Page 2 of 2

Numcer of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Rubble____

Intrusive Dike 2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 2½cm Top Rbl Clk — Core 2½cm Bottom Rbl Clk —

Dip of Unit: Top Bx411 Bottom Bx413 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 1½+2 Top Rbl Clk — Core 1½+2 Bottom Rbl Clk —

Dip of Unit: Top 30° Bottom 30° Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

Olv → clays 2° minus: calcite, pyrite, zeolite

VESICLES:

UNIT 1 Size(mm): Max. 5mm Min. 4mm Ave. 4mm # of Vesiculation Units 3

Density(%): Top 5% Middle 20% Bottom 10%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 4mm Min. 4mm Ave. 4mm # of Vesiculation Units —

Density(%): Top — Middle 10% Bottom —

Shape: S____ R____ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 20 x 4 mm

Degree of vesicle filling(%): Units: 1 30-50% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 <1% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density low, med Dip 1) 15°-50° 2) vertical

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 75% 205/275

CORE LOG

BOX # 413 HOLE # 4 Sheet 8

Depth range 1221.22 to 1223.81 meters Depth range 4004 to 4012 feet

Logger's Name EN Page 2 of 2

Numcer of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1,2 Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 236 Top Rbl Clk BX 412 Core 236 Bottom Rbl Clk no

Dip of Unit: Top BX 236 Bottom 15° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 27 Top Rbl Clk no Core 27 Bottom Rbl Clk BX 414

Dip of Unit: Top 15° Bottom BX 414 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ks ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units 2

Density(%): Top 20 Middle 0 Bottom 10

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined 2 Dip____

UNIT 2 Size(mm): Max. 8 Min. 1 Ave. 3 # of Vesiculation Units —

Density(%): Top 25 Middle — Bottom —

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present ✓ Continuous____ Discontinuous ✓

Length 5.5cm Dip 25°

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No no Unit____ Density____ Dip____

Slickenslides: Yes____ No no Unit____ Dip____

Presence of Plant Molds: Yes____ No no Type____

Rock Quality(# of pieces >4in. long/Total Box length) 189/263 = 72%

CORE LOG

BOX # 414 HOLE # 4 Sheet 8

Depth range 1223.81 to 1226.40 meters Depth range 4012.5 to 4021 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia 2 Conglomerate____ Carbonate____

UNIT 1 Thickness: 124 Top Rbl Clk BX 413 Core 124 Bottom Rbl Clk unit 2

Dip of Unit: Top BX 413 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 135 Top Rbl Clk — Core — Bottom Rbl Clk 135

Dip of Unit: Top ? Bottom BX 415 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 8 Min. 1 Ave. 3 # of Vesiculation Units 1

Density(%): Top 20 Middle 5 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined 5 Dip____

UNIT 2 Size(mm): Max. 5 Min. .5 Ave. 2 # of Vesiculation Units —

Density(%): Top 30 Middle 30 Bottom 30

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present ✓ Continuous ✓ Discontinuous ✓

Length 2cm Dip 35°

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No no Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 189/259 = 73%

54 30 22 23 59

CORE LOG

BOX # 415 HOLE # 4 Sheet 8

Depth range 1226.11 to 1229 meters Depth range 4021 to 4030 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 270 cm Top Rbl Clk — Core 270 cm Bottom Rbl Clk —

Dip of Unit: Top Bx 414 Bottom Bx 416 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olv → idd.

VESICLES:

UNIT 1 Size(mm): Max.____ Min. <1mm Ave. <1mm # of Vesiculation Units 3

Density(%): Top 15% Middle 3% Bottom 10%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined 5 Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 15 x 4mm

Degree of vesicle filling(%): Units: 1 5-10% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 50% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density Irregular 20-30% Dip 70°, 80°, 85°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 96% 259/270

154/155 157

CORE LOG

BOX # 416 HOLE # 4 Sheet 8

Depth range 1229.15 to 1231.89 meters Depth range 4030 to 4039 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Rubble____

Intrusive Dike 2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

23cm over lap 1/2

UNIT 1 Thickness: 200 Top Rbl Clk BX 415 Core 200 Bottom Rbl Clk no

Dip of Unit: Top BX 415 Bottom 80° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 108 Top Rbl Clk no Core 108 Bottom Rbl Clk no

Dip of Unit: Top 80° Bottom 50° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 5 Min. 1 Ave. 1 # of Vesiculation Units —

Density(%): Top 0 Middle 1 Bottom 0

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 1 Middle 1 Bottom 1

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

WP UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 174/274 = 63%

CORE LOG

BOX # 417 HOLE # 4 Sheet 8

Depth range 1231.9 to 1234.6 meters Depth range 4039 to 4048 feet

Logger's Name RE Page___ of___

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 2 Rubble____

Intrusive Dike 1,3,4 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 9cm Top Rbl Clk — Core 9 Bottom Rbl Clk —

Dip of Unit: Top — Bx 416 Bottom 55° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 2 Thickness: 150 cm Top Rbl Clk Bx 416 Core 150 Bottom Rbl Clk —

Dip of Unit: Top Bx 416 Bottom 25° Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness: 53 Top Rbl Clk — Core 53 Bottom Rbl Clk —

Dip of Unit: Top 90° Bottom 90° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 4 Thickness: 92 Top Rbl Clk — Core 92 Bottom Rbl Clk —

Dip of Unit: Top 25° Bottom Bx 418 Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

Olivene → Iddingsite

VESICLES:

UNIT 1 Size(mm): Max. 2cm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top — Middle — Bx 416 Bottom 3%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined ✓ Dip parallel to chill margin

UNIT 2 Size(mm): Max. 4mm Min. <1mm Ave. <1mm # of Vesiculation Units 1

Density(%): Top 5% Middle 25% Bottom 10%

Shape: S ✓ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 3 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle 1% Bottom 1%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined ✓ Dip parallel to chill margin

UNIT 4 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units top 1/2

Density(%): Top 1% Middle 5% Bottom —

Shape: S ✓ R ✓ SR ✓ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined ✓ Dip parallel to chill margin

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 22 x 4 mm

Degree of vesicle filling(%): Units: 1 70-80% 2 clays 20-25% 3 70-85% 4 70-80% 5____

Total amt. of vesicles with filling(%): 1 5% 2 50% 3 5% 4 5% 5____

FRACTURES: Yes ✓ No____ Unit 2, 3, 4 Density low Dip 2: 25°, 65°-65°, s. vert. 3: 60° 4: 70° s. vert

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box Length) 87% 234/240

80
100
54
234

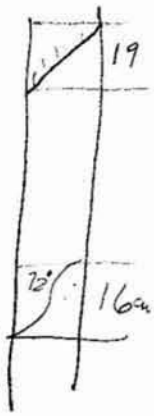
CORE LOG

BOX # 418 Depth range 1234.64 to 1237.39 meters
Logger's Name FT

HOLE # X Sheet 8
Depth range 4048 to 4057 feet
Page 2 of 2

Number of Units in Box 5 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 3 Phh ____ Transitional ____ Rubble ____
Intrusive Dike 1,2,4,5 Sill ____ Other ____
Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____
Ash ____ Breccia ____ Conglomerate ____ Carbonate ____



UNIT 1 Thickness: 88.5 Top Rbl Clk Bx 47 Core 88.5 Bottom Rbl Clk here
Dip of Unit: Top ____ Bottom 73 Glass ____ Alt1 ✓ Alt2 ____ 0 ____
UNIT 2 Thickness: 139 Top Rbl Clk ____ Core 139 Bottom Rbl Clk ____
Dip of Unit: Top 73 Bottom 72 Glass ____ Alt1 ✓ Alt2 ____ 0 ____
UNIT 3 Thickness: 63 Top Rbl Clk ____ Core 63 Bottom Rbl Clk ____
Dip of Unit: Top 72 Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____
UNIT 4 Thickness: 19 Top Rbl Clk here Core 19 Bottom Rbl Clk ____
Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ✓ Alt2 ____ 0 ____
UNIT 5 Thickness: 19 Top Rbl Clk here Core 19 Bottom Rbl Clk ____
Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ✓ Alt2 ____ 0 ____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments: 9' of Core

VESICLES:
UNIT 1 Size(mm): Max. 3 Min. <1 Ave. 1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S ____ R ✓ SR ____ SA ____ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S ____ R ✓ SR ____ SA ____ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 3 Size(mm): Max. 6 Min. <1 Ave. <1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S ____ R ✓ SR ____ SA ____ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 4 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S ____ R ✓ SR ____ SA ____ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 5 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S ____ R ✓ SR ____ SA ____ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
Bubble Entrails Present ____ Continuous ____ Discontinuous ____
Length ____ Dip ____
Voids Present ____ Size(max.vs.min.) ____
Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____
Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ✓ Density 45 Dip ____
Silkenslices: Yes ____ No ____ Unit ✓ Dip ____
Presence of Plant Molds: Yes ____ No ✓ Type ____
Rock Quality(# of pieces >4in. long/Total Box length) 0.88 = 240.5/274.5

CORE LOG

BOX # 419 HOLE # 4 Sheet 8

Depth range 1237.38 to 1239.67 meters Depth range 4057 to 4064.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 3 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 42 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

100% over top 112

UNIT 1 Thickness: 78 Top Rbl Clk BX 418 Core 78 Bottom Rbl Clk no

Dip of Unit: Top BX418 Bottom 90° Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: 123 Top Rbl Clk BX418 Core 123 Bottom Rbl Clk no

Dip of Unit: Top BX418 Bottom 45 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 3 Thickness: 106 Top Rbl Clk 106 Core — Bottom Rbl Clk —

Dip of Unit: Top 45° Bottom BX420 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. 7 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S ____ R ____ SR ✓ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

no UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present no Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present 3 Size(max.vs.min.) 2.5 x .5 cm

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 100 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 20 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit 2 Density 100 Dip 0-90°

Slickenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 138/229 = 60%

CORE LOG

BOX # 420 HOLE # 4 Sheet B

Depth range 1239.67 to 1242.42 meters Depth range 4064.5 to 4073.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 2-4 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

100% over lap 1∧2

UNIT 1 Thickness: 118 Top Rbl Clk BX419 Core — Bottom Rbl Clk 118

Dip of Unit: Top BX419 Bottom 60 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: 58 Top Rbl Clk no Core 58 Bottom Rbl Clk no

Dip of Unit: Top 60 Bottom 60 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

100% overlap 3∧4

UNIT 3 Thickness: 164 Top Rbl Clk no Core 164 Bottom Rbl Clk BX421

Dip of Unit: Top 85 Bottom 85 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 4 Thickness: 67 Top Rbl Clk no Core 67 Bottom Rbl Clk no

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

==========

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S ____ R ____ SR ____ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

no UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present no Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present no Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

==========

FRACTURES: Yes ____ No ✓ Unit ____ Density ____ Dip ____

Slickenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 238/274 = 87%

CORE LOG

BOX # 421 HOLE # 4 Sheet B

Depth range 1242.42 to 1243.9 meters Depth range 4073.5 to 4088.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2,3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk Bx 420 Core 305 Bottom Rbl Clk Bx 422

Dip of Unit: Top____ Bottom____ Glass____ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 305 Top Rbl Clk Bx 420 Core 305 Bottom Rbl Clk Bx 422

Dip of Unit: Top____ Bottom____ Glass____ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness: 41 Top Rbl Clk Core Core 41 Bottom Rbl Clk Core

Dip of Unit: Top____ Bottom____ Glass____ Alt1 ✓ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 40 Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.79 = 240/305 = 79%

CORE LOG

BOX # 422 HOLE # 4 Sheet 8

Depth range 1245.31 to 1248.36 meters Depth range 4083.5 to 4093 feet

Logger's Name CN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk BX421 Core 290 Bottom Rbl Clk BX423

Dip of Unit: Top BX421 Bottom BX423 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. .25 Ave. .25 # of Vesiculation Units —

Density(%): Top 1% Middle 1% Bottom 1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 4cm x .25cm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 247/290 = 85%

CORE LOG

BOX # 423 HOLE # 4 Sheet 8

Depth range 1248.37 to 1251.11 meters Depth range 4093 to 4102 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk Bx 422 Core 274.5 Bottom Rbl Clk Bx 424

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9% of core

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density <1 Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

265/274.5 = 97%

CORE LOG

BOX # 424 HOLE # 4 Sheet 8

Depth range 1251" to 1258.86 meters Depth range 4102 to 4111 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk B/423 Core 274.5 Bottom Rbl Clk B/425

Dip of Unit: Top____ Bottom 57 Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 57 Bottom 71 Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 71 Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Only 9' present

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 2

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 17 Dip____

Slikensides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.85

2335/2745 = 85%

CORE LOG

BOX # 425 HOLE # 4 Sheet 8

Depth range 1253.86 to 1256.45 meters Depth range 4111 to 4119.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2,5 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 150.5 Top Rbl Clk Bx424 Core 150.5 Bottom Rbl Clk Bx426

Dip of Unit: Top____ Bottom 68 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 249 Top Rbl Clk Bx425 Core 249 Bottom Rbl Clk Bx426

Dip of Unit: Top 68 Bottom 90 Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 7.5 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Only 8.5' here

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 2 Dip____ Vert. Fracture for entire core!

Slickenslices: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 100 = 259.25/259.25 = 100

CORE LOG

BOX # 426 HOLE # 4 Sheet 8

Depth range 1256.45 to 1259.34 meters Depth range 4119.5 to 4129 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2,3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 65 Top Rbl Clk BX 425 Core 65 Bottom Rbl Clk no

Dip of Unit: Top BX 425 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

100% rec lap 2 1 3 UNIT 2 Thickness: 225 Top Rbl Clk no Core 225 Bottom Rbl Clk BX 427

Dip of Unit: Top 90° Bottom BX 427 Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 132 Top Rbl Clk no Core 132 Bottom Rbl Clk BX 427

Dip of Unit: Top 80° Bottom BX 427 Glass ✓ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

vitreous contacts intact, not pitted

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 2 Min. 1 Ave. 1 # of Vesiculation Units —

Density(%): Top 1 Middle 1 Bottom 1

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant.____ Horiz.____ Vert. ✓ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 42 Size(max.vs.min.) 10 cm x 2 mm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density 66 Dip 0-90°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 160/290 = 55%

CORE LOG

BOX # 427 34 HOLE # 4 Sheet 8
Depth range 1259. to 1262.09 meters Depth range 4129 to 4138 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 : Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Rubble____
Intrusive Dike 42 Sill____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

100% overlap 1A2

UNIT 1 Thickness: 1cm Top Rbl Clk BX 427 Core 1 Bottom Rbl Clk no
Dip of Unit: Top BX 427 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 274 Top Rbl Clk no Core 274 Bottom Rbl Clk BX 428
Dip of Unit: Top BX 426 Bottom BX 428 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

==========

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —
Density(%): Top 0 Middle 2 Bottom 3
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

==========

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Slickenslides: Yes____ No ✓ Unit____ Dip____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 150/274 = 55%

CORE LOG

BOX # 428 HOLE # 11 Sheet 8

Depth range 1262.09 to 1264.68 meters Depth range 4138 to 4146 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

15cm over lap 1&2

UNIT 1 Thickness: 131 Top Rbl Clk BX427 Core 131 Bottom Rbl Clk NO

Dip of Unit: Top BX427 Bottom 70° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 144 Top Rbl Clk NO Core 144 Bottom Rbl Clk BX429

Dip of Unit: Top 70° Bottom BX429 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 3 Middle 3 Bottom 0

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 2 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 0 Middle 3 Bottom 3

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Sugar Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 201/275 = 73%

CORE LOG

BOX # 429 HOLE # 4 Sheet 8

Depth range 1264.68 to 1267.43 meters Depth range 4145.5 to 4155.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Pahoehoe____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 279 Top Rbl Clk BX 428 Core 279 Bottom Rbl Clk BX 430

Dip of Unit: Top BX 428 Bottom BX 430 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 1 Middle 1 Bottom 1

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 1 X 1 cm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 40% Dip 60–90°

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 259/279 = 93%

CORE LOG

BOX # 430 HOLE # X Sheet 8

Depth range 1269.43 to 1270.17 meters Depth range 4155.5 to 4164.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk Bx 429 Core 274.5 Bottom Rbl Clk 431

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of Core

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 20 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 100 = 274.5/274.5 = 100%

CORE LOG

BOX # 431 HOLE # 4 Sheet 8
Depth range 1290.17 to 1292.92 meters Depth range 4164.9 to 4173 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Rubble____
Intrusive Dike 1-4 Sill____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 9cm Top Rbl Clk BX430 Core 9 Bottom Rbl Clk no
Dip of Unit: Top BX430 Bottom 50° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 172 Top Rbl Clk no Core 172 Bottom Rbl Clk no
Dip of Unit: Top 50° Bottom 55° Glass____ Alt1____ Alt2____ 0 ✓
100% overlap 3&4
UNIT 3 Thickness: 84 Top Rbl Clk 55° Core 84 Bottom Rbl Clk no
Dip of Unit: Top 55° Bottom 80° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 4 Thickness: 42 Top Rbl Clk no Core 42 Bottom Rbl Clk BX432
Dip of Unit: Top 80° Bottom BX432 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 2mm Min. .5 Ave. 1 # of Vesiculation Units —
Density(%): Top 1 Middle 1 Bottom 1
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max. .25 Min. .25 Ave. .25 # of Vesiculation Units —
Density(%): Top 5 Middle 5 Bottom 5
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1-3 Density 100 Dip 0-90°
Slickensides: Yes____ No ✓ Unit____ Dip____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 71/254 = 28%

CORE LOG

BOX # 432 HOLE # 4 Sheet 8

Depth range 1272.92 to 1275.35 meters Depth range 4173.5 to 4181.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 64.5 Top Rbl Clk____ Core 64.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 61 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 244 Top Rbl Clk Bx 431 Core 244* Bottom Rbl Clk Bx 433

Dip of Unit: Top 61 Bottom____ Glass____ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 8' of core

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 10 Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.70

172/244 = 70%

CORE LOG

BOX # 433 HOLE # 4 Sheet 8

Depth range 1275.36 to 1278.26 meters Depth range 4181.5 to 4191 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Pahh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 289.75 Top Rbl Clk 432 Core 289.75 Bottom Rbl Clk BX434

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 9.5'

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 35 Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.36 = 104/289.75 = 36%

CORE LOG

BOX # 434 HOLE # 4 Sheet 8

Depth range 1278.3 to 1281.3 meters Depth range 4191 to 4201 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 8 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 265cm Top Rbl Clk — Core 265cm Bottom Rbl Clk —

Dip of Unit: Top Box 433 Bottom 70° Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 24 Top Rbl Clk — Core 24 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom Box 435 Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____ 70°

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle 1% Bottom 0%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle just see Bottom —

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 3x2 mm

Degree of vesicle filling(%): Units: 1 20% 2 [illegible] 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 10% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density 1: variable from high 80% to 2: med 10% Dip 1: 30° 45° 65-90° 2: 25° 45°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 65% 188/290

CORE LOG

BOX # 435 HOLE # 4 Sheet 8

Depth range 1281.31 to 1283.90 meters Depth range 4201 to 4209.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1,2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259.25 Top Rbl Clk 13x434 Core 259.25 Bottom Rbl Clk 436

Dip of Unit: Top 90 Bottom 90 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 51 Top Rbl Clk____ Core 51 Bottom Rbl Clk____

Dip of Unit: Top 90 Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 8.5' here

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 80 Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.66 = 171.5/259.25 = .6670

CORE LOG

BOX # 436 HOLE # 4 Sheet 8

Depth range 1283.9 to 1286.6 meters Depth range 4209.5 to 4218.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1, 2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 132 Top Rbl Clk — Core 132mm Bottom Rbl Clk —

Dip of Unit: Top Bx435 Bottom 40° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 2 Thickness: 134 Top Rbl Clk — Core 134mm Bottom Rbl Clk —

Dip of Unit: Top 40° Bottom Bx434 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olivine > clay. 2° min: smectite, calcite, pyrite

14 70°

VESICLES:

UNIT 1 Size(mm): Max. ___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

no Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

111
105
53
269

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 2 Size(max.vs.min.) 3x2mm

Degree of vesicle filling(%): Units: 1 50-100% ____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 50% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1, 2 Density high, low 20% Dip 1: 10° & 80° 2: 55° - 60° 70°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 98% 269/275

CORE LOG

BOX # 437 HOLE # 4 Sheet 8

Depth range 1286.64 to 1289.54 meters Depth range 4218.5 to 4228 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1-3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 254 Top Rbl Clk BX436 Core 254 Bottom Rbl Clk no

Dip of Unit: Top BX436 Bottom 55° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 9 Top Rbl Clk no Core 9 Bottom Rbl Clk no

Dip of Unit: Top unclear Bottom sicom Glass ✓ Alt1___ Alt2___ 0 ✓

10cm over lap 1/3 UNIT 3 Thickness: 52 Top Rbl Clk no Core 52 Bottom Rbl Clk BX438

Dip of Unit: Top 55° Bottom BX438 Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslices: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 285/300 = 95%

CORE LOG

BOX # 438 HOLE # 4 Sheet 8

Depth range 1289.54 to 1292.13 meters Depth range 4228 to 4236.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phn____ Transitional____ Rubble____

Intrusive Dike 2,3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia 1 Conglomerate____ Carbonate____

UNIT 1 Thickness: 18 Top Rbl Clk Bx 437 Core 18 Bottom Rbl Clk here

Dip of Unit: Top____ Bottom 37 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 43 Top Rbl Clk____ Core 43 Bottom Rbl Clk____

Dip of Unit: Top 37 Bottom 79 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness: 226.25 Top Rbl Clk here Core 226.25 Bottom Rbl Clk Bx 439

Dip of Unit: Top 79 Bottom____ Glass____ Alt1 ✓ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 8.5' present

37 3.5 79 28.5

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 5 Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.90 = 234/259.25 = 90%

CORE LOG

BOX # 439 HOLE # 4 Sheet 8

Depth range 1292.13 to 1294.88 meters Depth range 4236.5 to 4245 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 438 Core 274 Bottom Rbl Clk BX 440

Dip of Unit: Top BX 438 Bottom BX 440 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 167/274 = 61%

CORE LOG

BOX # 440 HOLE # 4 Sheet 8

Depth range 1294.88 to 1297.62 meters Depth range 4245.5 to 4254.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk Bx339 Core 274.5 Bottom Rbl Clk Bx441 ✓

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of core here

Diktytaxitic Dike w/ lg vesicles

VESICLES:

UNIT 1 Size(mm): Max. 6 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 1 Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.86 = 235/274.5 = 86%

CORE LOG

BOX # 441 HOLE # 4 Sheet 8

Depth range 1297.62 to 1300.52 meters Depth range 4254.5 to 4264 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A's____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk BX440 Core 290 Bottom Rbl Clk BX 442

Dip of Unit: Top BX 440 Bottom BX442 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 80% Dip 0-90°

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 181/290 = 62%

48
15
58
28
28
18
28

CORE LOG

BOX # 442 HOLE # 4 Sheet 8

Depth range 1300.52 to 1303.25 meters Depth range 4264 to 4273 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 248 cm Top Rbl Clk — Core 248 Bottom Rbl Clk —

Dip of Unit: Top Bx 441 Bottom 80° Glass ✓ Alt1 ✓ Alt2 ___ Ø ___

UNIT 2 Thickness: 30 cm Top Rbl Clk 30 cm Core — Bottom Rbl Clk ___

Dip of Unit: Top 80° Bottom Bx 443 Glass ___ Alt1 ___ Alt2 ___ Ø ✓

UNIT 3 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ Ø ___

UNIT 4 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ Ø ___

UNIT 5 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ Ø ___

Primary textures — ___ ___ ___ ___

Degree of Alteration or Comments:

olivine > dark clay 2° minr: smectite, pyrite, calcite

VESICLES:

UNIT 1 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

no Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 2 Size(mm): Max. 2mm Min. 4mm Ave. 4mm # of Vesiculation Units just at top

Density(%): Top 10% Middle — Bottom —

Shape: S ___ R ✓ SR ✓ SA ___ A ___

Aspect ratio Equant. ✓ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 3 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 4 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

160 88 248

UNIT 5 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

148 40 188

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

Bubble Entrails Present ___ Continuous ___ Discontinuous ___

Length ___ Dip ___

Voids Present 2 Size(max.vs.min.) 9x3 mm

Degree of vesicle filling(%): Units: 1 ___ 2 50-100% 3 ___ 4 ___ 5 ___

Total amt. of vesicles with filling(%): 1 — 2 80% 3 ___ 4 ___ 5 ___

FRACTURES: Yes ✓ No ___ Unit 1,2 Density high, low Dip 1:30°-45°, 90°-80° 2: vert.

Silkenslices: Yes ___ No ✓ Unit ___ Dip ___

Presence of Plant Molds: Yes ___ No ✓ Type ___

Rock Quality(# of pieces >4in. long/Total Box length) 68% 188/248

CORE LOG

BOX # 443 HOLE # 4 Sheet 8

Depth range 1303.27 to 1305.71 meters Depth range 4273 to 4281 feet

Logger's Name FT Page 2 of 2

Number of Units in Box _____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 2 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 84 Top Rbl Clk Bx442 Core 84 Bottom Rbl Clk here

Dip of Unit: Top ____ Bottom 69 Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 2 Thickness: 176 Top Rbl Clk here Core 176 Bottom Rbl Clk Bx444

Dip of Unit: Top 69 Bottom ____ Glass ____ Alt1 ✓ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 8' of Core (244 vs 275.5 measured)

VESICLES:

UNIT 1 Size(mm): Max. 8 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 10 Middle 10 Bottom 10

Shape: S ____ R ____ SR ✓ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip ____

UNIT 2 Size(mm): Max. 1 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S ____ R ✓ SR ____ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 55 Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality (# of pieces >4in. long/Total Box length) ____

253

0.92 = 253/275.5

CORE LOG

BOX # 444 HOLE # 4 Sheet 8

Depth range 1305.70 to 1308.60 meters Depth range 4281 to 4290 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk BX443 Core 290 Bottom Rbl Clk BX445

Dip of Unit: Top BX443 Bottom BX445 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

42 13 12 28 14 23 15

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 20% Dip 60°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 153/290 = 53%

CORE LOG

BOX # 445. HOLE # Y Sheet 8

Depth range 1308.60 to 1311.04 meters Depth range 4290.5 to 4298.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 8' present (244cm vs. 287 Measured)

VESICLES:

UNIT 1 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined 5 Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 3 Dip____

Slikensides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.85 = 244/287 = 85%

CORE LOG

BOX # 446 HOLE # 4 Sheet 8

Depth range 131 to 133.9 meters Depth range 429.8.5 to 438 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 277 Top Rbl Clk — Core 277 Bottom Rbl Clk —

Dip of Unit: Top Bx 445 Bottom Bx 447 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units —

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

140
46
216

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density low 20% Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 48% 216/247

CORE LOG

BOX # 447 HOLE # 4 Sheet 8

Depth range 313.9 to 316.7 meters Depth range 4308 to [illegible] feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 280 cm Top Rbl Clk — Core 280 cm Bottom Rbl Clk —

Dip of Unit: Top Bx 446 Bottom Bx 448 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olv → clay

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units____

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

165
115
280

FRACTURES: Yes ✓ No____ Unit 1 Density med 40% Dip 0°, 25°-30°, 50°, 65°

Slickensides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 69%

192/280

CORE LOG

BOX # 448 HOLE # 4 Sheet 8

Depth range 1316.8 to 1319.7 meters Depth range 4317.5 to 4327 feet

Logger's Name RE Page ___ of ___

Numcer of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a ___ Phh ___ Transitional ___ Rubble ___

Intrusive Dike 1 Sill ___ Other ___

Other Hyaloclastite ___ Volcaniclastic ___ Pillow ___

Ash ___ Breccia ___ Conglomerate ___ Carbonate ___

UNIT 1 Thickness: 285 Top Rbl Clk — Core 285 Bottom Rbl Clk —

Dip of Unit: Top Bx 449 Bottom Bx 449 Glass ___ Alt1 ___ Alt2 ___ 0 ✓

UNIT 2 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ 0 ___

UNIT 3 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ 0 ___

UNIT 4 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ 0 ___

UNIT 5 Thickness: ___ Top Rbl Clk ___ Core ___ Bottom Rbl Clk ___

Dip of Unit: Top ___ Bottom ___ Glass ___ Alt1 ___ Alt2 ___ 0 ___

Primary textures — ___ ___ ___ ___

Degree of Alteration or Comments:

olv -> clay 2° mins: smectite + calcite

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units ___

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ___ R ✓ SR ___ SA ___ A ___

Aspect ratio Equant. ✓ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 2 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 3 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 4 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 5 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___ 80

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___ 160

UNIT__ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___ 240

175 105

Bubble Entrails Present ___ Continuous ___ Discontinuous ___

Length ___ Dip ___

Voids Present ___ Size(max.vs.min.) ___

Degree of vesicle filling(%): Units: 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

Total amt. of vesicles with filling(%): 1 ___ 2 ___ 3 ___ 4 ___ 5 ___

FRACTURES: Yes ✓ No ___ Unit 1 Density low 10% Dip 0-45°

Slikenslides: Yes ___ No ✓ Unit ___ Dip ___

Presence of Plant Molds: Yes ___ No ✓ Type ___

Rock Quality (# of pieces >4in. long/Total Box length) 84% 240/285

CORE LOG

BOX # 449 HOLE # 4 Sheet 8

Depth range 1319.7 to 1322.6 meters Depth range 4329.7 to 4336.5 feet

Logger's Name RE Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh___ Transitional___ Rubble___

Intrusive Dike 1 Sill___ Other___

Other Hyaloclastite___ Volcaniclastic___ Pillow___

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 275 Top Rbl Clk — Core 275 Bottom Rbl Clk —

Dip of Unit: Top Bx448 Bottom Bx450 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures — ___ ___ ___ ___

166
109
275

Degree of Alteration or Comments:

slv → clay 2° mins: calcite, smectite

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S___ R ✓ SR___ SA___ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined ✓ Dip___

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1___ 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1___ 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit 1 Density low 25% Dip 30-60°

Slikenslides: Yes___ No ✓ Unit___ Dip___

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length) 83% 228/275

CORE LOG

BOX # 450 63 HOLE # 4 Sheet 8

Depth range 1322 to 1325 meters Depth range 4336.5 to 4345 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1-3 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

130 cm over 1AP 1A2

12 cm over 1AP 2A3

UNIT 1 Thickness: 157 Top Rbl Clk BX 449 Core 157 Bottom Rbl Clk no

Dip of Unit: Top BX 449 Bottom 75° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 79 Top Rbl Clk no Core 79 Bottom Rbl Clk no

Dip of Unit: Top 75° Bottom 65° Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness: 83 Top Rbl Clk no Core 83 Bottom Rbl Clk BX 451

Dip of Unit: Top 65 Bottom BX 451 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 236/274 = 86%

CORE LOG

BOX # 451 HOLE # 4 Sheet B

Depth range 1325.38 to 1328.27 meters Depth range 4345.5 to 4355 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

11 cm over lap 1 & 2

Unit Thickness: 263 Top Clinker BX 450 Core 263 Bottom Clinker no

Dip of Unit: Top BX 450 Bottom 60° # of Vesiculation Units —

Unit Thickness: 27 Top Clinker 27 Core BX 452 Bottom Clinker BX 452

Dip of Unit: Top 60° Bottom BX 452 # of Vesiculation Units —

Unit Thickness:____ Top Clinker____ Core____ Bottom Clinker____

Dip of Unit: Top____ Bottom____ # of Vesiculation Units____

Unit Thickness:____ Top Clinker____ Core____ Bottom Clinker____

Dip of Unit: Top____ Bottom____ # of Vesiculation Units____

Unit Thickness:____ Top Clinker____ Core____ Bottom Clinker____

Dip of Unit: Top____ Bottom____

Primary textures ____ ____ ____ ____ ____

Glass Present____ Vitreous____ Altered____ Thickness ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Horiz. dim.____ Vert. Dim.____

UNIT 2 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 10 Middle — Bottom —

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Horiz. dim.____ Vert. Dim.____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Horiz. dim.____ Vert. Dim.____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Horiz. dim.____ Vert. Dim.____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Horiz. dim.____ Vert. Dim.____

Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

33 76 31 58 47 37

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(% recovery vs. # of pieces >4in. long) 222/290 = 77%

CORE LOG

BOX # 1152 HOLE # 4 Sheet 8

Depth range 1328.3 to 1330.9 meters Depth range 4355 to 4363.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Rubble ____

Intrusive Dike ____ Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 263 Top Rbl Clk Bx 451 Core 263 Bottom Rbl Clk Bx 453

Dip of Unit: Top Bx 451 Bottom Bx 453 Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

slo → clay

VESICLES:

UNIT 1 Size(mm): Max. 5mm Min. <1mm Ave. 1mm # of Vesiculation Units ____

Density(%): Top 10% Middle 1% Bottom 5%

Shape: S ____ R ✓ SR ✓ SA ✓ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ✓ Dip 35°

UNIT 2 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____ 126

Density(%): Top ____ Middle ____ Bottom ____ 104

Shape: S ____ R ____ SR ____ SA ____ A ____ 53

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____ 263

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____ 71

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____ 97

Density(%): Top ____ Middle ____ Bottom ____ 36

Shape: S ____ R ____ SR ____ SA ____ A ____ 224

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 40-100% 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 16-30% 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit 1 Density low, 15% Dip 40-45°, 70°, 80°

Slikenslices: Yes ____ No ✓ Unit ✓ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 85% 224/263

CORE LOG

BOX # 453 HOLE # 4 Sheet 8

Depth range 1330.87 to 1333.46 meters Depth range 4362.5 to 4372 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh ____ Transitional ____ Rubble 1,2

Intrusive Dike 3 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 59 Top Rbl Clk 13x452 Core 8 Bottom Rbl Clk 51

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 2 Thickness: 177.5 Top Rbl Clk 51.5 Core 126 Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 3 Thickness: 28 Top Rbl Clk ____ Core 28 Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ✓ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 259.25 stated (9.5) vs 264.5 measured

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VESICLES:

UNIT 1 Size(mm): Max. 6 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 10 Bottom 10

Shape: S ____ R ____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip ____

UNIT 2 Size(mm): Max. 8 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 15 Bottom 10

Shape: S ____ R ____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip ____

UNIT 3 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S ____ R ✓ SR ____ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 100 2 100 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 2 2 2 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 1 Dip ____

Slickenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 0.88 =

232 / 264.5 = 88%

CORE LOG

BOX # 454 46 90 HOLE # 4 Sheet 8
Depth range 1333.46 to 1335.90 meters Depth range 4372 to 4380 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1,3 Phh____ Transitional____ Rubble____
Intrusive Dike 2 Sill____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

149 cm overlap 1 & 2

UNIT 1 Thickness: 151 Top Rbl Clk BX 453 Core 151 Bottom Rbl Clk unit 3
Dip of Unit: Top BX 453 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 171 Top Rbl Clk no Core 171 Bottom Rbl Clk BX 455
Dip of Unit: Top 40° Bottom BX 455 Glass ✓ Alt1____ Alt2____ 0____

100% overlap 2 & 3

UNIT 3 Thickness: 95 Top Rbl Clk — Core — Bottom Rbl Clk 95
Dip of Unit: Top ? Bottom 60° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 15 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 15 Middle 5 Bottom —
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant.____ Horiz. ✓ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 9 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 10 Middle 20 Bottom —
Shape: S____ R____ SR ✓ SA ✓ A____
Aspect ratio Equant.____ Horiz. ✓ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present / Continuous ✓ Discontinuous ✓
Length 4cm Dip 10°

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 75% 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Slickenslides: Yes____ No ✓ Unit____ Dip____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box Length) 219/244 = 90%

CORE LOG

BOX # 455 HOLE # 4 Sheet 8

Depth range 1335.9 to 1338.6 meters Depth range 4380 to 4389 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 5 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A's 2,3 Phh ____ Transitional ____ Rubble 3

Intrusive Dike 1,4,5 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 23 Top Rbl Clk — Core 23 Bottom Rbl Clk —

Dip of Unit: Top Bx 45 Bottom 80° Glass ✓ Alt1 ___ Alt2 ___ 0 ___

UNIT 2 Thickness: 85 Top Rbl Clk — Core 85 Bottom Rbl Clk ___

Dip of Unit: Top 80° Bottom 25° Glass ___ Alt1 ___ Alt2 ___ 0 ✓

UNIT 3 Thickness: 92 Top Rbl Clk 9 Core 83 Bottom Rbl Clk ___

Dip of Unit: Top 25° Bottom 70° Glass ___ Alt1 ___ Alt2 ___ 0 ✓

UNIT 4 Thickness: 29 Top Rbl Clk — Core 29 Bottom Rbl Clk ___

Dip of Unit: Top 90° see column Bottom 80° Glass ✓ Alt1 ___ Alt2 ___ 0 ___

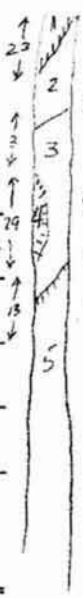
UNIT 5 Thickness: 92 Top Rbl Clk — Core 92 Bottom Rbl Clk ___

Dip of Unit: Top 70° Bottom Bx 456 Glass ✓ Alt1 ___ Alt2 ___ 0 ___

Primary textures top 3 ____ ____ ____ ____

Degree of Alteration or Comments:

clay -> clay



VESICLES:

UNIT 1 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

no Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 2 Size(mm): Max. 11mm Min. <1mm Ave. 1mm # of Vesiculation Units ___

Density(%): Top 3% Middle 1.5% Bottom 1%

Shape: S ___ R ✓ SR ✓ SA ✓ A ___

Aspect ratio Equant. ✓ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 3 Size(mm): Max. 8mm Min. <1mm Ave. 1mm # of Vesiculation Units ___

Density(%): Top 10% Middle 7% Bottom 5%

Shape: S ___ R ✓ SR ✓ SA ✓ A ___

Aspect ratio Equant. ✓ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 4 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

no Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

UNIT 5 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ___

no Density(%): Top ___ Middle ___ Bottom ___

Shape: S ___ R ___ SR ___ SA ___ A ___

Aspect ratio Equant. ___ Horiz. ___ Vert. ___ Inclined ___ Dip ___

1
94
77
92
263

1
112
79
92
283

UNIT __ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

UNIT __ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

UNIT __ Shear Planes: Dip ___ Depth(%) ___ Spacing: Max. ___ Min. ___

Bubble Entrails Present ___ Continuous ___ Discontinuous ___

Length ___ Dip ___

Voids Present 2,3 Size(max.vs.min.) 18x6mm, 16x6mm

Degree of vesicle filling(%): Units: 1 ___ 2 10-40% 3 10-40% 4 ___ 5 ___

Total amt. of vesicles with filling(%): 1 — 2 80% 3 80% 4 — 5 —

FRACTURES: Yes ✓ No ___ Unit 2,5 Density low, low Dip 80°, 80°

Slikenslides: Yes ___ No ✓ Unit ___ Dip ___

Presence of Plant Molds: Yes ___ No ✓ Type ___

Rock Quality(# of pieces >4in. long/Total Box length) 93% 263/283

CORE LOG

BOX # 456 HOLE # 4 Sheet 8

Depth range 1338.67 to 1341.54 meters Depth range 4389 to 4398 feet

Logger's Name C/I Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Rubble____

Intrusive Dike 1,3,4 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 14 Top Rbl Clk BX 455 Core 14 Bottom Rbl Clk no

Dip of Unit: Top BX 455 Bottom 55° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 82 Top Rbl Clk no Core 82 Bottom Rbl Clk no

Dip of Unit: Top 55 Bottom 65 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness: 60 Top Rbl Clk no Core 60 Bottom Rbl Clk no

Dip of Unit: Top 65° Bottom 75° Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness: 149 Top Rbl Clk no Core 149 Bottom Rbl Clk BX 457

Dip of Unit: Top 75° Bottom BX 457 Glass ✓ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures no

Degree of Alteration or Comments:

100% over IAP 213

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 8 Min. 1 Ave. 2 # of Vesiculation Units —

Density(%): Top — Middle 0 Bottom 20

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslices: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box Length) 211/290 = 73%

CORE LOG

BOX # 457 HOLE # 4 Sheet 8

Depth range 1341.54 to 1344.44 meters Depth range 4398.5 to 4408 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 160.5 Top Rbl Clk Bx456 Core 160.5 Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom 46 Glass ____ Alt1 ✓ Alt2 ____ 0 ____

UNIT 2 Thickness: 134.25 Top Rbl Clk ____ Core 134.25 Bottom Rbl Clk Bx458

Dip of Unit: Top 46 Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

5

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S ____ R ✓ SR ____ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. 15 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 1 Middle 5 Bottom 1

Shape: S ____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 0 2 10 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 0 2 80 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 10 Dip ____

Slickenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) ____

0.71 = 205/289.75 = 71%

CORE LOG

BOX # 458 HOLE # 4 Sheet 8

Depth range 1344.4 to 1344 meters Depth range 4408 to 4416.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 289 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. 4mm Ave. 4mm # of Vesiculation Units____ 57

Density(%): Top____ Middle____ Bottom____ 56

Shape: S____ R____ SR____ SA____ A____ 71

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____ 224

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____ 35

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____ 55

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____ 259

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 9x4mm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density low 20% Dip 50°, 75°-80°, s. vert.

Slikenslides: Yes____ No____ Unit____ Dip____

Presence of Plant Molds: Yes____ No____ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 86% 224/260

CORE LOG

BOX # 459 HOLE # 4 Sheet 8

Depth range 1347.03 to 1349.78 meters Depth range 4416.5 to 4425.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 458 Core 274 Bottom Rbl Clk BX 460

Dip of Unit: Top BX 458 Bottom BX 460 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 15 Min. 1 Ave. 3 # of Vesiculation Units —

Density(%): Top 0 Middle — Bottom 20

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slickenslices: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 233/274 = 85%

CORE LOG

BOX # 460 HOLE # 4 Sheet 8

Depth range 1349.78 to 1352.52 meters Depth range 4425.5 to 4434' Feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 2 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 27.45 Top Rbl Clk Bx 459 Core 27.45 Bottom Rbl Clk Bx 461

Dip of Unit: Top ____ Bottom 65 Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 2 Thickness: 14.5 Top Rbl Clk here Core 14.5 Bottom Rbl Clk Bx 461

Dip of Unit: Top 65 Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of Coal here

UNIT 1 EXHIBITS XTAL SETTLING

VESICLES:

UNIT 1 Size(mm): Max. 10 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 10 Middle 15 Bottom 3

Shape: S ____ R ✓ SR ✓ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S ____ R ✓ SR ____ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density 3 Dip ____

Slickenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) ____

0.95 = 262/274.5 = 95%

CORE LOG

BOX # 461 HOLE # 4 Sheet 8

Depth range 1352.5 to 1355.4 meters Depth range 4434.5 to 4444.1 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1 Sill ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 2.64 Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top Bx 460 Bottom Bx 462 Glass ✓ Alt1 ____ Alt2 ____ 0 ____

UNIT 2 Thickness: 26 Top Rbl Clk — Core 26 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom 70° Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

1 | 2 70°

26

==========

VESICLES:

UNIT 1 Size(mm): Max. 5mm Min. 1mm Ave. 1mm # of Vesiculation Units —

Density(%): Top 15% Middle — Bottom —

Shape: S ____ R ✓ SR ✓ SA ____ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

1
93
12
112
56
273

90
56
91
237

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present 2 Size(max.vs.min.) 24 x 3mm

Degree of vesicle filling(%): Units: 1 ____ 2 10% 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 — 2 20-30% 3 ____ 4 ____ 5 ____

==========

FRACTURES: Yes ✓ No ____ Unit 1,2 Density 1: 40% low Dip 1: 90%

2: 65°, 80°, s. vert.

Slickenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 87% 237/273

CORE LOG

BOX # 462 HOLE # 4 Sheet 8

Depth range 1355.42 to 1358.16 meters Depth range 4444 to 4453 feet

Logger's Name EM Page 2 of 2

Numcer of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike 1 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 461 Core 274 Bottom Rbl Clk BX 463

Dip of Unit: Top BX 461 Bottom BX 463 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

16 19 50 13 12 11 17

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 148/274 = 54%

CORE LOG

BOX # 463 HOLE # 4 Sheet 8

Depth range 1358.16 to 1360.91 meters Depth range 4453 to 4462 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2,4 Phh ____ Transitional ____ Rubble ____

Intrusive Dike 1,3 Sill ____ Other ____

Other Hyaloclastite ____ Volaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

12 cm over lap 1/2

UNIT 1 Thickness: 85 Top Rbl Clk BX 462 Core 85 Bottom Rbl Clk no

Dip of Unit: Top BX 462 Bottom 70° Glass ✓ Alt1 ___ Alt2 ___ 0 ___

UNIT 2 Thickness: 17 Top Rbl Clk no Core 17 Bottom Rbl Clk no

Dip of Unit: Top 70° Bottom 30° Glass ___ Alt1 ___ Alt2 ___ 0 ✓

UNIT 3 Thickness: 153 Top Rbl Clk no Core 153 Bottom Rbl Clk no

Dip of Unit: Top 30 Bottom 55 Glass ✓ Alt1 ___ Alt2 ___ 0 ___

UNIT 4 Thickness: 40 Top Rbl Clk no Core 40 Bottom Rbl Clk BX 464

Dip of Unit: Top 55 Bottom BX 464 Glass ___ Alt1 ___ Alt2 ___ 0 ✓

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ___ Alt1 ___ Alt2 ___ 0 ___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

==========

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 2 Size(mm): Max. 5 Min. 1 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S ____ R ____ SR ____ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. 7 Min. 1 Ave. 5 # of Vesiculation Units —

Density(%): Top 5 Middle 5 Bottom 5

Shape: S ____ R ____ SR ✓ SA ✓ A ____

Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ___ Min. ___ Ave. ___ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

no UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present no Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present no Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 ____ 2 ____ 3 ____ 4 50-100% 5 ____

Total amt. of vesicles with filling(%): 1 ____ 2 ____ 3 ____ 4 90% 5 ____

==========

FRACTURES: Yes ____ No ✓ Unit ____ Density ____ Dip ____

Slikenslides: Yes ____ No ✓ Unit ____ Dip ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) 144/274 = 71%

CORE LOG

BOX # 464 HOLE # 4 Sheet B

Depth range 1360.91 to 1363.35 meters Depth range 4462 to 4470 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,3 Phn____ Transitional____ Rubble____

Intrusive Dike 2 Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

35cm over lap 1A2

UNIT 1 Thickness: 100 Top Rbl Clk BX 462 Core 46 Bottom Rbl Clk 54

Dip of Unit: Top BX 463 Bottom 85° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 81 Top Rbl Clk — Core 81 Bottom Rbl Clk —

Dip of Unit: Top 85° Bottom 50° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 130 Top Rbl Clk no Core 77 Bottom Rbl Clk 53

Dip of Unit: Top 50° Bottom BX 465 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 5 Min. 1 Ave. 1 # of Vesiculation Units —

Density(%): Top — Middle 5 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 5 Min. 1 Ave. 3 # of Vesiculation Units —

Density(%): Top — Middle 20 Bottom 30

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3 10 4____ 5____

Total amt. of vesicles with filling(%): 1 50 2____ 3 50 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 70/244 = 29%

CORE LOG

BOX # 465 HOLE # 4 Sheet 8

Depth range 1363.3 to 1366.2 meters Depth range 4470 to 4479.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 : Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 234 Top Rbl Clk Bx 464 Core 175 Bottom Rbl Clk 59

Dip of Unit: Top Bx 464 Bottom 45° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 4 cm Top Rbl Clk 38 Core 3 Bottom Rbl Clk Bx 466

Dip of Unit: Top 45° Bottom Bx 464 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures top 2 ____ ____ ____ ____

Degree of Alteration or Comments: FRACTURES: pyrite, smectite ? olv → clay. VOID FILLER: smectite, calcite

112
12
234

==========

VESICLES:

UNIT 1 Size(mm): Max. 4mm Min. <1mm Ave. <1mm # of Vesiculation Units 1

Density(%): Top 10% Middle <1% Bottom 15%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units just vesicular top

Density(%): Top 5% Middle Bx 466 Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 20 x 3mm

Degree of vesicle filling(%): Units: 1 10-30% 2 10% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 80% 2 20% 3____ 4____ 5____

86
80
39
205

==========

FRACTURES: Yes ✓ No____ Unit 1 Density low med 25-30% Dip 35-50°, 70°-75°

Slikenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 75%

245

CORE LOG

BOX # 466 HOLE # 4 Sheet B

Depth range 1366.25 to 1369.15 meters Depth range 4479.5 to 4489 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a ✓ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 289.75 Top Rbl Clk Bx 467 Core 289.75 Bottom Rbl Clk 467

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9.5' here

VESICLES:

UNIT 1 Size(mm): Max. 12 Min. <1 Ave. <1 # of Vesiculation Units 4

Density(%): Top 7 Middle 10 Bottom 1

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 10 x 15

Degree of vesicle filling(%): Units: 1 10 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 98 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 3 Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.74 = 215.5 / 289.75 = 74%

CORE LOG

BOX # 467 HOLE # 4 Sheet B
Depth range 1369.14 to 1371.58 meters Depth range 4489 to 4497 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1, 2 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 91 Top Rbl Clk — Core 58 Bottom Rbl Clk 33
Dip of Unit: Top BX 466 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 199 Top Rbl Clk — Core 110 Bottom Rbl Clk 89
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 7 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top — Middle 20 Bottom 5
Shape: S____ R____ SR ✓ SA ✓ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. 11 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 25 Middle 20 Bottom 5
Shape: S____ R____ SR____ SA ✓ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 75% 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 259/290 = 89%

CORE LOG

BOX # 468 HOLE # 4 Sheet B

Depth range 1371.6 to 1374.5 meters Depth range 4497 to 4506.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1, 2 Phh____ Transitional____ Clk/Rubble 1, 2

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 211 Top Rbl Clk Bx467 Core 82 Bottom Rbl Clk 129

Dip of Unit: Top Bx467 Bottom 20° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 80 Top Rbl Clk 74 Core 6 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures bott 1: clink: top 2

Degree of Alteration or Comments:

olivine → clay

3.0 ↕ 25°

1.5 ↕ 20°

VESICLES:

UNIT 1 Size(mm): Max. 3mm Min. <1mm Ave. <1mm # of Vesiculation Units 1

Density(%): Top 7% Middle 3% Bottom 15%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units just see top

Density(%): Top 15% Middle — Bottom —

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present ✓ Size(max.vs.min.) 25x16mm

Degree of vesicle filling(%): Units: 1 10-30% 2 10-30% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 80% 2 80% 3____ 4____ 5____

1 112
2 94
59
265

2 113
119
59
291

211
-129
82

FRACTURES: Yes ✓ No____ Unit 1,2 Density low 10-20% Dip 1: 25°, 40° 2: 30°, 60°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 100%

291/291

CORE LOG

BOX # 469 HOLE # 4 Sheet B

Depth range 1374 to _____ meters Depth range 4506.5 to 4516.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1,2 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 62 Top Rbl Clk Bx 468 Core 10 Bottom Rbl Clk 52

Dip of Unit: Top____ Bottom Ø Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 243 Top Rbl Clk 53 Core 190 Bottom Rbl Clk Bx 470

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 6 Min. <1 Ave. 2 # of Vesiculation Units 1

Density(%): Top 10 Middle 10 Bottom 10

Shape: S____ R____ SR — SA ✓ A____

Aspect ratio Equant. ✓ Horiz. — Vert. — Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 11 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 20 Middle 10 Bottom 1

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. — Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 20x30

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 3 Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 87%

251/289.75 = 87%

CORE LOG

BOX # 470 HOLE # 4 Sheet B
Depth range 1377.55 to 1380.48 meters Depth range 4516.5 to 4526 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1,3 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash 2 Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 272 Top Rbl (Clk) 144 Core 106 Bottom Rbl (Clk) 22
Dip of Unit: Top BX 469 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 11 Top Rbl Clk no Core 11 Bottom Rbl Clk no
Dip of Unit: Top 0° Bottom 10° Glass____ Alt1____ Alt2 ✓ 0____
UNIT 3 Thickness: 7 Top Rbl Clk — Core — Bottom Rbl (Clk) 7
Dip of Unit: Top 10° Bottom BX 471 Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no

59 58 56 52 37

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —
Density(%): Top 15 Middle 15 Bottom 15
Shape: S____ R____ SR____ SA ✓ A ✓
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —
Density(%): Top 15 Middle — Bottom —
Shape: S____ R____ SR____ SA ✓ A ✓
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

59 58 35 15 55

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 220/290 = 76%

CORE LOG

BOX # 471 HOLE # 4 Sheet B

Depth range 1380.69 to 1383.18 meters Depth range 4526 to 4535 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble 1

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 262.5 Top Rbl Clk____ Core____ Bottom Rbl Clk 262.5

Dip of Unit: Top____ Bottom 43 Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 18.5 Top Rbl Clk____ Core 18.5 Bottom Rbl Clk Bx 472

Dip of Unit: Top 43 Bottom____ Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

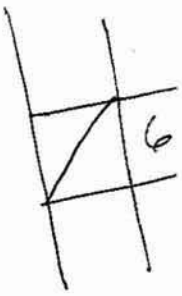
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 9' present



VESICLES:

UNIT 1 Size(mm): Max. 12 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 7 Middle 5 Bottom 3

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present ✓ Size(max.vs.min.) 8 X 10

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 70 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.91 =

249/274.5 = 91

CORE LOG

BOX # 472 HOLE # 4 Sheet B

Depth range 1383.2 to 1385.9 meters Depth range 4535 to 4544 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,3 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 169 Top Rbl Clk — Core 169 Bottom Rbl Clk —

Dip of Unit: Top Bx 471 Bottom 90° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 2 Thickness: 100 Top Rbl Clk 70 Core 30 Bottom Rbl Clk Bx 473

Dip of Unit: Top 40° Bottom Bx 473 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness: 30 ~~Top Rbl Clk~~ — Core 30 Bottom Rbl Clk —

Dip of Unit: Top 80° Bottom 80° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

glv → clay groundmass → smectite

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 5% Middle 5% Bottom 5%

Shape: S ✓ R____ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 1.5mm Min. <1mm Ave. <1mm # of Vesiculation Units 1/2

Density(%): Top 10% Middle 5% Bottom Bx 473

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 5% Middle 5% Bottom 5%

Shape: S ✓ R____ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

152
17
169

~~70~~

169
100
30
299

111
87
198

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 10-30% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 70% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No___ Unit 1,3 Density low 20% Dip ~0°, 50°, 60°

Natural ✓ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 66% 198/299

CORE LOG

BOX # 473 HOLE # 4 Sheet B

Depth range 1385.9 to 1388.4 meters Depth range 4544 to 4553 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Clk/Rubble 2

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

SEE DIAGRAM on PG 1 BEFORE PLOTTING COLUMN!

UNIT 1 Thickness: 41 Top Rbl Clk — Core 41 Bottom Rbl Clk —

Dip of Unit: Top 75° Bottom 65° Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 270 Top Rbl Clk 57 Core 213 Bottom Rbl Clk Bx 474

Dip of Unit: Top 65° Bottom Bx 474 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

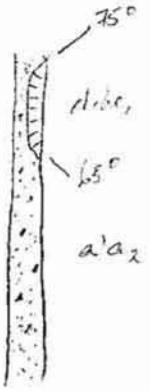
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures top unit 2 ____ ____ ____ ____

Degree of Alteration or Comments:

olivine → iddingsite + clays



VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R____ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 6mm Min. <1mm Ave. <1mm # of Vesiculation Units____

Density(%): Top 10% Middle 20% Bottom 10%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 2 Size(max.vs.min.) 15x7mm

Degree of vesicle filling(%): Units: 1____ 2 20-100% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2 100% 3____ 4____ 5____

173
97
270

99
91
43
233

FRACTURES: Yes ✓ No____ Unit 1, 2 Density med, low (50% 10%) Dip 1: ⊥ to chill margin 2: 35°-45°, 65°-70°

Natural ✓ Induced 2 Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 86% 233/270

CORE LOG

BOX # 474 HOLE # 4 Sheet B
Depth range 1388.66 to 1391.56 meters Depth range 4553 to 4562.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 2 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

100% ver/ap 1/2

UNIT 1 Thickness: 290 Top Rbl Clk BX473 Core 290 Bottom Rbl Clk BX475
Dip of Unit: Top BX473 Bottom BX475 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 8 Top Rbl Clk no Core 8 Bottom Rbl Clk no
Dip of Unit: Top unch Bottom unch Glass ✓ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 6 Min. 1 Ave. 3 # of Vesiculation Units 2
Density(%): Top 10 Middle 0 Bottom 5
Shape: S____ R____ SR ✓ SA ✓ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

no
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 252/290 = 87%

CORE LOG

BOX # 475 HOLE # 4 Sheet B
Depth range 1391.56 to 1394.15 meters Depth range 4562.5 to 4571 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 2,3 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 12 Top Rbl Clk BX474 Core 12 Bottom Rbl Clk no
Dip of Unit: Top BX474 Bottom 30° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 155 Top Rbl Clk no Core 155 Bottom Rbl Clk no
Dip of Unit: Top 30° Bottom 7 Glass ✓ Alt1____ Alt2____ 0____
UNIT 3 Thickness: 92 Top Rbl Clk no Core 92 Bottom Rbl Clk BX 476
Dip of Unit: Top 7 Bottom BX476 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

==========

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 0 Middle 5 Bottom 10
Shape: S____ R____ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

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FRACTURES: Yes ✓ No____ Unit 3 Density 100 Dip 0-90
Natural____ Induced 3 Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 85/260 = 33%

CORE LOG

BOX # 476 HOLE # 4 Sheet B
Depth range 1394.15 to 1397.20 meters Depth range 4571 to 4581 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1,2 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 150 Top Rbl Clk BX475 Core 150 Bottom Rbl Clk no
Dip of Unit: Top BX475 Bottom 55° Glass ✓ Alt1___ Alt2___ 0___
UNIT 2 Thickness: 155 Top Rbl Clk no Core 155 Bottom Rbl Clk BX477
Dip of Unit: Top 55° Bottom BX477 Glass___ Alt1___ Alt2___ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

37
59
59

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VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____
UNIT 2 Size(mm): Max. 7 Min. 1 Ave. 1 # of Vesiculation Units 1
Density(%): Top 10 Middle 3 Bottom 10
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

13
11
37
16
50

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FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 90-60°
Natural ✓ Induced ✓ Fault gouge___ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 127/305 = 42%

CORE LOG

BOX # 477 HOLE # 4 Sheet B

Depth range 1397.2 to 1400.10 meters Depth range 4581 to 4590.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

38 cm overlap 1 A 2

UNIT 1 Thickness: 206 Top Rbl Clk BX 476 Core 206 Bottom Rbl Clk no

Dip of Unit: Top BX476 Bottom 80° Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 104 Top Rbl Clk no Core 104 Bottom Rbl Clk BX 478

Dip of Unit: Top 80° Bottom BX 478 Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 16 Middle 5 Bottom 0

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 137/290 = 47%

CORE LOG

BOX # 478 HOLE # 4 Sheet B

Depth range 1400.1 to 1402.7 meters Depth range 4590.5 to 4599 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

SEE COLUMN!

UNIT 1 Thickness: 274cm Top Rbl Clk — Core 274 Bottom Rbl Clk —

Dip of Unit: Top Bx478 Bottom Bx479 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 16cm Top Rbl Clk — Core 16 Bottom Rbl Clk —

Dip of Unit: Top 40° Bottom 75° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

sw → clay

VESICLES:

UNIT 1 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R____ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 2mm Min. <1mm Ave. 1mm # of Vesiculation Units just a piece

Density(%): Top — Middle 7% Bottom —

Shape: S ✓ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 22x1.5mm inclined 70°

Degree of vesicle filling(%): Units: 1 10% 2 10% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 50% 3____ 4____ 5____

1 106 111 57 274

119 108 227

FRACTURES: Yes ✓ No____ Unit 1 Density low 10% Dip 0°(?), ~~35°~~, 45°, 60°, 70°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 83% 227/274

CORE LOG

BOX # 479 HOLE # 4 Sheet B
Depth range 1402.69 to 1405.59 meters Depth range 4599 to 4608 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1,2 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

100% OVERLAP 1/2

UNIT 1 Thickness: 290 Top Rbl Clk BX478 Core 290 Bottom Rbl Clk no
Dip of Unit: Top BX478 Bottom 70° Glass ✓ Alt1___ Alt2___ 0___
UNIT 2 Thickness: 28 Top Rbl Clk no Core 28 Bottom Rbl Clk BX480
Dip of Unit: Top 70° Bottom BX480 Glass___ Alt1___ Alt2___ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

12
14
16
11
12
54
15
15

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 150/290 = 52%

CORE LOG

BOX # 480 HOLE # 4 Sheet B

Depth range 1405.59 to 1408.18 meters Depth range 4608.5 to 4617 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike ✓ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 260 Top Rbl Clk BX 479 Core 260 Bottom Rbl Clk BX 481

Dip of Unit: Top BX 479 Bottom BX 481 Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

30
22
25
12

FRACTURES: Yes ✓ No____ Unit 1 Density 40% Dip 0-90°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 89/290 = 31%

CORE LOG

BOX # 481 HOLE # 4 Sheet B
Depth range 1408.18 to 1410.47 meters Depth range 4617 to 4624.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 3 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1,2 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

11 cm over lap 1A2 — UNIT 1 Thickness: 48 Top Rbl Clk BX480 Core 48 Bottom Rbl Clk no
Dip of Unit: Top BX480 Bottom 65° Glass____ Alt1____ Alt2____ 0 ✓ — 14
13 cm lap 2A3 — UNIT 2 Thickness: 80 Top Rbl Clk no Core 80 Bottom Rbl Clk no — 15
Dip of Unit: Top 65° Bottom 65° Glass ✓ Alt1____ Alt2____ 0____
UNIT 3 Thickness: 161 Top Rbl Clk no Core 161 Bottom Rbl Clk BX482
Dip of Unit: Top 65° Bottom BX482 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____ — 52
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____ — 53
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____ — 56
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

==========

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —
Density(%): Top 15 Middle 15 Bottom 15
Shape: S____ R____ SR ✓ SA ✓ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____ — 9
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____ — 4
Bubble Entrails Present no Continuous____ Discontinuous____ — 12
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3 100 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3 90% 4____ 5____

==========

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 240/265 = 91%

CORE LOG

BOX # 482 HOLE # 4 Sheet B

Depth range 1410.47 to 1413.52 meters Depth range 4624.5 to 4634.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

8 cm over lap 1 & 2

UNIT 1 Thickness: 88 Top Rbl Clk BX481 Core 88 Bottom Rbl Clk no

Dip of Unit: Top BX481 Bottom 55° Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 204 Top Rbl Clk no Core____ Bottom Rbl Clk BX483

Dip of Unit: Top 55 Bottom BX483 Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

29 61 60 59

VESICLES:

UNIT 1 Size(mm): Max. 5 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 15 Middle 15 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 50 2____ 3____ 4____ 5____

12 10 30

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 162/284 = 57%

CORE LOG

BOX # 483 HOLE # 4 Sheet B
Depth range 1413.52 to 1416.27 meters Depth range 4634.5 to 4643.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX482 Core 274 Bottom Rbl Clk BX484
Dip of Unit: Top BX482 Bottom BX484 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ✓ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present 1 Size(max.vs.min.) 1mm x 5cm
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 5 Density 50% Dip 0-90°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 213/274 = 78%

57
60
57
39

CORE LOG

BOX # 484 HOLE # 4 Sheet B
Depth range 1416.27 to 1418.86 meters Depth range 4643.5 to 4652 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 260 Top Rbl Clk BX483 Core 260 Bottom Rbl Clk BX485
Dip of Unit: Top BX483 Bottom BX485 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present 1 Size(max.vs.min.) .5 x 7cm
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 60° Dip 0-90°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 142/260 = 55%

J1
10
17
53
14
21

CORE LOG

BOX # 485 HOLE # 4 Sheet B

Depth range 1418.86 to 1421.76 meters Depth range 4652 to 4661.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk BX484 Core 290 Bottom Rbl Clk BX486

Dip of Unit: Top BX484 Bottom BX486 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ✓ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

WO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 1mm × 6cm

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 60% Dip 60°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 290/290 = 100%

CORE LOG

BOX # 486 HOLE # 4 Sheet B
Depth range 1421.76 to 1424.65 meters Depth range 4661.5 to 4671 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk BX 485 Core 290 Bottom Rbl Clk BX 487
Dip of Unit: Top BX 485 Bottom BX 487 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 2 Min. 1 Ave. 2 # of Vesiculation Units —
Density(%): Top <1 Middle <1 Bottom <1
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

47
22
54
30
12

FRACTURES: Yes ✓ No____ Unit 1 Density 50% Dip 60-90°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 166/290 = 57%

CORE LOG

BOX # 487 HOLE # 4 Sheet B
Depth range 1424.7 to 1427.6 meters Depth range 4671 to 4680.5 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 289 Top Rbl Clk — Core 289 Bottom Rbl Clk —
Dip of Unit: Top Bx486 Bottom Bx488 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:
olv → idd / clay

VESICLES:
UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —
Density(%): Top <1% Middle <1% Bottom <1%
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

114
115
60
289

11
105
50
31
33
13
232

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density low 25% Dip a.horiz, 30°, 45°, 70°, 80°, a.vert.
Natural____ Induced ✓ Fault gouge ✓ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 80% 232/290

CORE LOG

BOX # 488 HOLE # 4 Sheet B

Depth range 1427.55 to 1430.45 meters Depth range 4680.5 to 4690 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 42 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

30 cm verlap 1A2

UNIT 1 Thickness: 200 Top Rbl Clk BX487 Core 200 Bottom Rbl Clk no

Dip of Unit: Top BX487 Bottom 80° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 109 Top Rbl Clk no Core 109 Bottom Rbl Clk BX489

Dip of Unit: Top 80° Bottom BX489 Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

57 60 50 30

52 57

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2 Density 100 Dip 0-90

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 212/279 = 76%

50 60 53 20 17 11 21

CORE LOG

BOX # 489 HOLE # 4 Sheet B

Depth range 1430.5 to 1433.2 meters Depth range 4690 to 4699 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 29 Top Rbl Clk — Core 29 Bottom Rbl Clk —

Dip of Unit: Top Bx488 Bottom 80° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 249 Top Rbl Clk — Core 249 Bottom Rbl Clk —

Dip of Unit: Top 80° Bottom Bx490 Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

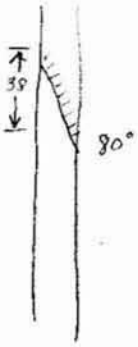
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____



Degree of Alteration or Comments:

olv → clay plag → kaolinite

1 48. 113 58 249

VESICLES:

UNIT 1 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

no Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <<1%

Shape: S ✓ R____ ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

1 75 113 53 241

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density 2: 1. high 80% in ⊥ to chill margin / contact = 10 Dip also 65°

Natural ✓ Induced ✓ Fault gouge ✓ Brecciation 2: low 10% — high 90%

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 84%

241/248

CORE LOG

BOX # 490 HOLE # 4 Sheet B

Depth range 1433.19 to 1435.94 meters Depth range 4697 to 4708 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 2 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

17cm overlap 1A2

UNIT 1 Thickness: 56 Top Rbl Clk BX 469 Core 56 Bottom Rbl Clk no

Dip of Unit: Top BX 489 Bottom 80° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 218 Top Rbl Clk no Core 218 Bottom Rbl Clk BX 491

Dip of Unit: Top 80° Bottom BX 491 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle 20 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2 100 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2 100 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2 Density 10° Dip 60°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No____ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 105/274 = 38%

56
18
19
12

CORE LOG

BOX # 491 HOLE # 4 Sheet B
Depth range 1435.9 to 1432.7 meters Depth range 4708 to 4717 feet
Logger's Name RE Page___ of___
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1 Phh 2 Transitional___ Clk/Rubble___
Intrusive Dike___ Sill___ Glass___ Other___
Other Hyaloclastite___ Volcaniclastic___ Pillow___
Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 96 Top Rbl Clk — Core 96 Bottom Rbl Clk —
Dip of Unit: Top Bx490 Bottom 20° Glass___ Alt1___ Alt2___ 0 ✓
UNIT 2 Thickness: 173 Top Rbl Clk — Core 173 Bottom Rbl Clk —
Dip of Unit: Top 20° Bottom Bx492 Glass___ Alt1___ Alt2___ 0 ✓
UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___
Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___
UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___
Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___
UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___
Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___
Primary textures — ___ ___ ___ ___

3 ↕ 20°

Degree of Alteration or Comments:
plv → idd. g.m. → smectite.

118
55
173

VESICLES:
UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units lower 1/2
Density(%): Top___ Middle 5% Bottom 1%
Shape: S___ R___ SR ✓ SA ✓ A___
Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 2 Size(mm): Max. 3mm Min. <1mm Ave. 1mm # of Vesiculation Units 3
Density(%): Top 20% Middle 10% Bottom 20%
Shape: S___ R___ SR ✓ SA ✓ A___
Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___
Density(%): Top___ Middle___ Bottom___
Shape: S___ R___ SR___ SA___ A___
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___
Density(%): Top___ Middle___ Bottom___
Shape: S___ R___ SR___ SA___ A___
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___
Density(%): Top___ Middle___ Bottom___
Shape: S___ R___ SR___ SA___ A___
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___
UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___
UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___
UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___
Bubble Entrails Present___ Continuous___ Discontinuous___
Length___ Dip___
Voids Present___ Size(max.vs.min.)___
Degree of vesicle filling(%): Units: 1 100% 2 10-30% 3___ 4___ 5___
Total amt. of vesicles with filling(%): 1 100% 2 70% 3___ 4___ 5___

1
79
60
39
178

FRACTURES: Yes ✓ No___ Unit 1, 2 Density 1: v. high 90% 2: low 10% Dip 1: 20° 2: 20°, 40°
Natural___ Induced ✓ Fault gouge ✓ Brecciation___
Presence of Plant Molds: Yes___ No ✓ Type___
Rock Quality(# of pieces >4in. long/Total Box length) 66%

178
269

CORE LOG

BOX # 492 HOLE # 4 Sheet B
Depth range 1438.4 to 1441.7 meters Depth range 4717' to 4727' feet
Logger's Name RE Page___ of___
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a___ Phh 1 Transitional___ Clk/Rubble___
Intrusive Dike___ Sill___ Glass___ Other___
Other Hyaloclastite___ Volcaniclastic___ Pillow___
Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 276 Top (Rbl) Clk 123 Core 103 Bottom (Rbl) Clk 50
Dip of Unit: Top 40° core Bottom 30° core Glass___ Alt1___ Alt2___ 0 ✓
UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___
Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___
UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___
Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___
UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___
Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___
UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___
Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___
Primary textures ? top + bottom of phh core

Degree of Alteration or Comments:
olv → idd + FeOx gm → smectite

VESICLES:
UNIT 1 Size(mm): Max. 5mm Min. 2mm Ave. 2mm # of Vesiculation Units___
Density(%): Top 20% Middle 5% Bottom 25%
Shape: S___ R___ SR ✓ SA ✓ A ✓
Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___
Density(%): Top___ Middle___ Bottom___
Shape: S___ R___ SR___ SA___ A___
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___
Density(%): Top___ Middle___ Bottom___
Shape: S___ R___ SR___ SA___ A___
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___
Density(%): Top___ Middle___ Bottom___
Shape: S___ R___ SR___ SA___ A___
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___
UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___
Density(%): Top___ Middle___ Bottom___
Shape: S___ R___ SR___ SA___ A___
Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___
UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___
UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___
UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___
Bubble Entrails Present___ Continuous___ Discontinuous___
Length___ Dip___
Voids Present___ Size(max.vs.min.)___
Degree of vesicle filling(%): Units: 1 10% smectite + 3 calc xsl + pyrite 5___
Total amt. of vesicles with filling(%): 1 80-100% 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit 1 Density v low. 1% Dip 75° + 1 vert.
Natural___ Induced ✓ Fault gouge ✓ Brecciation___
Presence of Plant Molds: Yes___ No ✓ Type___
Rock Quality(# of pieces >4in. long/Total Box length) 97%

104
60
114
278

95
56
56
60
267

267/276

CORE LOG

BOX # 493 HOLE # 4 Sheet B
Depth range 1441.73 to 1444.63 meters Depth range 4727 to 4736.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh 1, 2 Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 119 Top Rbl Clk BX 492 Core 70 Bottom Rbl Clk no
Dip of Unit: Top BX 492 Bottom 30° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 158 Top Rbl Clk no Core 158 Bottom Rbl Clk BX 494
Dip of Unit: Top 30° Bottom BX 494 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ✓ ____ ____ ____ ____

Degree of Alteration or Comments:

==========

VESICLES:
UNIT 1 Size(mm): Max. 6 Min. .5 Ave. 1 # of Vesiculation Units 1
Density(%): Top 30 Middle 15 Bottom 30
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. 6 Min. .5 Ave. 1 # of Vesiculation Units —
Density(%): Top 30 Middle 15 Bottom —
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2 100 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 50 2 50 3____ 4____ 5____

==========

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 240/277 = 87%

55
53
12
25
49
46

CORE LOG

BOX # 4911 HOLE # 4 Sheet B

Depth range 1444.6 to 1447.7 meters Depth range 4736.5 to 4746.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 284cm Top Rbl Clk____ Core 284 Bottom Rbl Clk____ ✓

Dip of Unit: Top Bx493 Bottom Bx495 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures —— ____ ____ ____ ____

Degree of Alteration or Comments:

ol → idd + fe Ox gw → smectite

VESICLES:

UNIT 1 Size(mm): Max. 5mm Min. 1mm Ave. 1mm # of Vesiculation Units____

Density(%): Top 25% Middle 10% Bottom 20%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

✓ Voids Present 1 Size(max.vs.min.) 15 x 4mm

Degree of vesicle filling(%): Units: 1 80-100% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 80-100% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density low 10% Dip 60°, 70°, s. vert

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 82% 234/284

? 85 58 44 47 = 234

115 110 59 = 284

CORE LOG

BOX # 495 HOLE # 4 Sheet B

Depth range 1447.7 to 1450.4 meters Depth range 4746.5 to 4755.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1,2, Transitional____ Clk/Rubble____

Intrusive Dike 3 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 55 Top Rbl Clk — Core 55 Bottom Rbl Clk —

Dip of Unit: Top Bx494 Bottom 0° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 222 Top Rbl Clk — Core 222 Bottom Rbl Clk —

Dip of Unit: Top 0° Bottom Bx496 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 4.5+6=10.5 Top Rbl Clk — Core 10.5 Bottom Rbl Clk —

Dip of Unit: Top 40° Bottom 40° Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

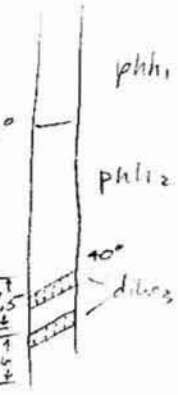
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures betw 1+2 ?

Degree of Alteration or Comments:

olv → idd + FeOs gm → smectite



VESICLES:

UNIT 1 Size(mm): Max. 3mm Min. <1mm Ave. 1mm # of Vesiculation Units just see bott.

Density(%): Top — Middle — Bottom 25%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 5mm Min. <1mm Ave. 1mm # of Vesiculation Units 2

Density(%): Top 25% Middle 15% Bottom 20%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

112
110
222

2
51
56
58
57
57
279

2
51
48
43
48
33
223

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 2 Size(max.vs.min.) 22 x 6 mm

Degree of vesicle filling(%): Units: 1 20-80% 2 20-80% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 100% 3 0% 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2,3 Density 2: low 3: mod Dip 2: 10°, 40°, 45° to chill margin

Natural ✓3 Induced ✓2 Fault gouge____ Brecciation ✓2 3: b

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 80% 223/279

CORE LOG

BOX # 496 HOLE # 4 Sheet B

Depth range 1450.4 to 1453.3 meters Depth range 4755.5 to 4765 feet

Logger's Name RE Page___ of___

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh 1 Transitional___ Clk/Rubble___

Intrusive Dike 2,3 Sill___ Glass___ Other___

Other Hyaloclastite___ Volcaniclastic___ Pillow___

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 172 Top Rbl Clk ~~Bx~~ 495 Core 172 Bottom Rbl Clk —

Dip of Unit: Top Bx 495 Bottom 82° Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 171 Top Rbl Clk — Core 171 Bottom Rbl Clk —

Dip of Unit: Top 82° Bottom Bx 494 Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 3 Thickness: 23 Top Rbl Clk — Core 23 Bottom Rbl Clk —

Dip of Unit: Top 30° Bottom 50° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

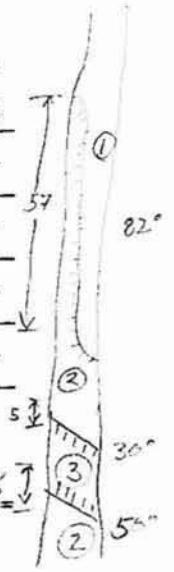
UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures — ___ ___ ___ ___

Degree of Alteration or Comments:

sW → idd + FeOs / clay g.m → smectite



VESICLES:

UNIT 1 Size(mm): Max. 3mm Min. <1mm Ave. 1mm # of Vesiculation Units 1

Density(%): Top 25% Middle 10% Bottom 15%

Shape: S___ R ✓ SR ✓ SA ✓ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S ✓ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 2% Middle 2% Bottom 2%

Shape: S___ R ✓ SR ✓ SA ✓ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1 50-100% 2 10-25% 3 10-25% 4___ 5___

Total amt. of vesicles with filling(%): 1 50-100% 2 100% 3 100% 4___ 5___

82
89
171
172
343
-57
286

FRACTURES: Yes ✓ No___ Unit 1,2,3 Density low Dip 1: s.vert 2: 30°, 50°, 60° 3: 30°, 50°

Natural___ Induced ✓ Fault gouge___ Brecciation___

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length) 84% 240/286

CORE LOG

BOX # 497 HOLE # 4 Sheet B

Depth range 1453.32 to 1455.76 meters Depth range 4765 to 4773 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 294 Top Rbl Clk BX496 Core 294 Bottom Rbl Clk BX498

Dip of Unit: Top BX496 Bottom BX498 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ✓ no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 18 Min. 1 Ave. 5 # of Vesiculation Units —

Density(%): Top 0 Middle 7 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 171/294 = 58%

CORE LOG

BOX # 498 HOLE # 4 Sheet B

Depth range 1455.8 to 1458.5 meters Depth range 4773 to 4782 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 262 Top Rbl Clk — Core 262 Bottom Rbl Clk —

Dip of Unit: Top BN 497 Bottom BX499 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olv → clay (smectite?) + idd gm → chl

VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 15% Middle 5% Bottom 3%

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2 smectite 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No ✓ Unit 1 Density 1/inch 40% Dip 60°-75°, s.w.t.

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 88% 232/262

17
113
94
55
262

17
113
21
48
232

CORE LOG

BOX # 499 HOLE # 4 Sheet B
Depth range 1458.5 to 1461.4 meters Depth range 4782 to 4791.5 feet
Logger's Name RE Page___ of___
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 283 Top Rbl Clk — Core 283 Bottom Rbl Clk —
Dip of Unit: Top 8x498 Bottom 6x500 Glass____ Alt1___ Alt2___ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:
ow → clay + idd gw → smectite

VESICLES:
UNIT 1 Size(mm): Max. 3mm Min. 1/mm Ave. 1mm # of Vesiculation Units 1
Density(%): Top 10% Middle 1% Bottom 5%
Shape: S____ R____ ✓ SR ✓ SA ✓ A ✓
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____

2
58
56
63
53
53
283

2
58
48
63
51
47
267

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 10% Dip 30°, 45°, 55°, 70°-78°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 94% 267/283

CORE LOG

BOX # 500 HOLE # 4 Sheet B
Depth range 1461.41 to 1464.15 meters Depth range 4791.5 to 4800.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX499 Core 274 Bottom Rbl Clk BX501
Dip of Unit: Top BX499 Bottom BX501 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 15 Middle 15 Bottom 15
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____

11
8
18
32
17
20
14
11
23
15

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 90 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 174/274 = 63%

CORE LOG

BOX # 501 HOLE # 4 Sheet B
Depth range 1464.15 to 1466.59 meters Depth range 4800.5 to 4808.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 271 Top Rbl Clk BX500 Core 271 Bottom Rbl Clk BX502
Dip of Unit: Top BX500 Bottom BX502 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ✓ ____ ____ ____ ____
Degree of Alteration or Comments:

52
53
55
50
54

VESICLES:
UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 15 Middle 15 Bottom 15
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

32
30
21
54

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 90 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 137/271 = 50%

CORE LOG

BOX # 502 HOLE # 4 Sheet B

Depth range 1466.59 to 1469.18 meters Depth range 4808.5 to 4817 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 280 Top Rbl Clk BXS01 Core 280 Bottom Rbl Clk BXS03

Dip of Unit: Top BXS01 Bottom BXS03 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

55
56
60
54
55

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. 1 Ave. 1 # of Vesiculation Units —

Density(%): Top 20 Middle — Bottom —

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

49
43
14
10
55

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 171/280 = 61%

CORE LOG

BOX # 503 HOLE # 4 Sheet B
Depth range 1469.18 to 1472.23 meters Depth range 4817 to 4827 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1, 2 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

7cm overlap 1 & 2

UNIT 1 Thickness: 276 Top Rbl Clk BX502 Core 276 Bottom Rbl Clk no
Dip of Unit: Top BX502 Bottom 10 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 29 Top Rbl Clk no Core 29 Bottom Rbl Clk no
Dip of Unit: Top 10 Bottom 60 Glass ✓ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 12 Min. 3 Ave. 5 # of Vesiculation Units —
Density(%): Top 0 Middle <1 Bottom 1
Shape: S____ R____ SR____ SA ✓ A____
Aspect ratio Equant.____ Horiz. ✓ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present 1 Size(max.vs.min.) 7 x 1.5 cm
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 305/305 = 100%

CORE LOG

BOX # 504 HOLE # 4 Sheet B

Depth range 1472.23 to 1474.98 meters Depth range 4827 to 4836 feet

Logger's Name EN Page___ of___

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 42 Sill___ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 84 Top Rbl Clk BX503 Core 84 Bottom Rbl Clk no

Dip of Unit: Top BX503 Bottom 60° Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 197 Top Rbl Clk no Core 197 Bottom Rbl Clk BX505

Dip of Unit: Top 60° Bottom BX505 Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

17 14 0 2 56cm overlap 1A2

28 41 15

23 12 59 48 55

==========

VESICLES:

UNIT 1 Size(mm): Max. 20 Min. 6 Ave. 5 # of Vesiculation Units —

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant.___ Horiz. ✓ Vert.___ Inclined___ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip____

51 13 58 36 22

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) .5cm x .5cm

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

==========

FRACTURES: Yes ✓ No____ Unit 2 Density 50% Dip 90°

Natural___ Induced ✓ Fault gouge___ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 180/274 = 66%

CORE LOG

BOX # 505 HOLE # 4 Sheet B

Depth range 1474.98 to 1477.72 meters Depth range 4836 to 4845 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike ✓ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 504 Core 274 Bottom Rbl Clk BX 506

Dip of Unit: Top BX 504 Bottom BOX 506 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 60-90°

Natural ✓ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 198/274 = 72%

14
51
43
49
22
19

CORE LOG

BOX # 506 HOLE # 4 Sheet B
Depth range 1477.72 to 1480.32 meters Depth range 4845 to 4853.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259 Top Rbl Clk BX 505 Core 259 Bottom Rbl Clk BX 507
Dip of Unit: Top BX 505 Bottom BX 507 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____ 48
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____ 58
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____ 46
Bubble Entrails Present no Continuous____ Discontinuous____ 39
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 80% Dip 60-90°
Natural ✓ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 191/259 = 74%

CORE LOG

BOX # 507 HOLE # 4 Sheet B

Depth range 1480.3 to 1483.1 meters Depth range 4853.5 to 4862.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 260 Top Rbl Clk — Core 260 Bottom Rbl Clk —

Dip of Unit: Top Box 506 Bottom Box 508 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olv → white clay g.m. → smectite

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 30-40% Dip 45°-55°, 70°-75°, v. vert.

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 72% 187/260

56
51
51
52
50
260

3
48
12
32
15
19
15
25
21
187

CORE LOG

BOX # 508 HOLE # 4 Sheet B
Depth range 1483.06 to _____ meters Depth range 4862.5 to 4871.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 507 Core 274 Bottom Rbl Clk BX 509
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

23
16
31
30
11
14

FRACTURES: Yes ✓ No____ Unit 1 Density 20 Dip 60
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No____ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 129/274 = 47%

CORE LOG

BOX # 509 HOLE # 4 Sheet B

Depth range 1485.8 to 1488.4 meters Depth range 4871.5 to 4880 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 281 Top Rbl Clk — Core 281 Bottom Rbl Clk —

Dip of Unit: Top Bx 508 Bottom Bx 510 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures —— ____ ____ ____ ____

Degree of Alteration or Comments:

olv → clay

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle 1% Bottom 1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density med 30-45° Dip 35°-40°, 60°-80°, v. vert.

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 87% 245/281

3
54
54
54
59
51
281

2
47
48
46
60
44
245

CORE LOG

BOX # 510 HOLE # 4 Sheet B

Depth range 1488.40 to 1491.14 meters Depth range 4880 to 4889 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

100% overlap 1 & 2

UNIT 1 Thickness: 274 Top Rbl Clk BX 509 Core 274 Bottom Rbl Clk BX 511

Dip of Unit: Top BX 509 Bottom BX 511 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 97 Top Rbl Clk no Core 97 Bottom Rbl Clk no

Dip of Unit: Top 85° Bottom 85° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

1P
5C
20

==========

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

27
31
26
57
46
15
17

==========

FRACTURES: Yes ✓ No____ Unit 1,2 Density 100 Dip 60-90°

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 219/274 = 80%

CORE LOG

BOX # 511 HOLE # 4 Sheet B

Depth range 1491.1 to 1493.9 meters Depth range 4887 to 4898 feet

Logger's Name AE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 79 Top Rbl Clk — Core 79 Bottom Rbl Clk —

Dip of Unit: Top Box 510 Bottom 65° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 177 Top Rbl Clk — Core 177 Bottom Rbl Clk —

Dip of Unit: Top 65° Bottom Box 512 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

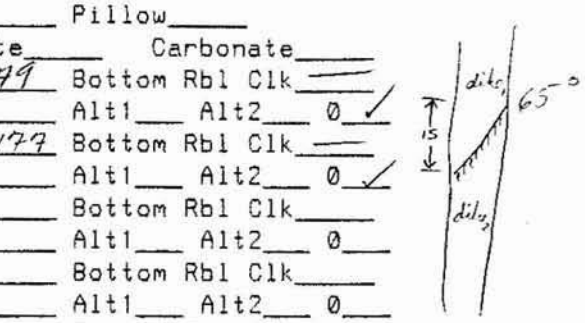
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____



Degree of Alteration or Comments:

blv → dark clay grn → smectite

VESICLES:

UNIT 1 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom 3%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

93
84
177

110
57
51
48
266

2
37
32
57
42
49
211

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1, 2 Density 30-40% mod, 75-80% lud 1: 35°, s.vert. Dip 2: 25°-30°, 45°-60°, 70°

Natural ✓ 25mm Induced ✓ most Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 82% 211/256

CORE LOG

BOX # 512 HOLE # 4 Sheet B
Depth range 1493.89 to 1496.63 meters Depth range 4898 to 4907 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BXS11 Core 274 Bottom Rbl Clk BXS13
Dip of Unit: Top BXS11 Bottom BXS13 Glass____ Alt1___ Alt2___ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 1 Min. .5 Ave. .5 # of Vesiculation Units —
Density(%): Top 5 Middle 3 Bottom 0
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

49
18
20
56
57

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 90°–30°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 200/274 = 73%

CORE LOG

BOX # 513 HOLE # 4 Sheet B
Depth range 1496.63 to 1499.53 meters Depth range 4907 to 4916.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike #1,2 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

100% verlap 1/2

UNIT 1 Thickness: 7 Top Rbl Clk BX 512 Core 7 Bottom Rbl Clk no
Dip of Unit: Top BX 512 Bottom 40° Glass ✓ Alt1___ Alt2___ 0___
UNIT 2 Thickness: 290 Top Rbl Clk no Core 290 Bottom Rbl Clk BX 514
Dip of Unit: Top 40° Bottom BX 514 Glass___ Alt1___ Alt2___ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present 2 Size(max.vs.min.) 2.5 x 1.5 cm
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

92
93
49
19
18
14
13

FRACTURES: Yes ✓ No____ Unit 2 Density 160 Dip 60-90°
Natural ✓ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 244/290 = 77%

CORE LOG

BOX # 514 HOLE # 4 Sheet B

Depth range 1499.5 to 1502.4 meters Depth range 4916.5 to 4926 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,2,3 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 32 Top Rbl Clk — Core 32 Bottom Rbl Clk —

Dip of Unit: Top Bx 513 Bottom 45° Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 221 Top Rbl Clk — Core 221 Bottom Rbl Clk —

Dip of Unit: Top 45° Bottom 60° Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness: 19 Top Rbl Clk — Core 19 Bottom Rbl Clk —

Dip of Unit: Top 60° Bottom Bx 515 Glass____ Alt1___ Alt2___ 0 ✓

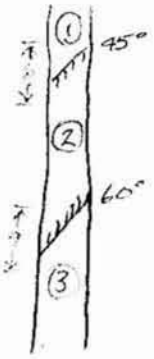
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures — ____ ____ ____ ____



Degree of Alteration or Comments:

slw → clay

VESICLES:

UNIT 1 Size(mm): Max. 7mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1 ✓ Middle — Bottom 1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units 1

Density(%): Top <1% Middle 7% Bottom <1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No___ Unit 1,2,3 Density med, low, high (50%, 10%, 100%) Dip 1: 70° 2: 50°-60° 3: dominantly 55°, brecciated

Natural (cooling) ✓ Induced___ Fault gouge___ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 81% 221/272

-19

1
32
78
60
51
51
272
-51
221

CORE LOG

BOX # 515 HOLE # 4 Sheet B
Depth range 1502.43 to 1505.48 meters Depth range 4926 to 4936 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 2 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

20cm OVERLAP 1A2

UNIT 1 Thickness: 191 Top Rbl Clk no Core 191 Bottom Rbl Clk no
Dip of Unit: Top 60 Bottom 85 Glass ✓ Alt1___ Alt2___ 0___
UNIT 2 Thickness: 134 Top Rbl Clk no Core 134 Bottom Rbl Clk BX516
Dip of Unit: Top 85° Bottom BX515 Glass___ Alt1___ Alt2___ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

59 61 59 12

==========

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. 10 Min. 1 Ave. 5 # of Vesiculation Units —
Density(%): Top 0 Middle 5 Bottom 10
Shape: S ✓ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2 100 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2 100 3____ 4____ 5____

==========

FRACTURES: Yes ✓ No____ Unit 1,2 Density 40% Dip 60°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 188/305 = 62%

59 36 44 49

CORE LOG

BOX # 516 HOLE # 4 Sheet B
Depth range 1505.48 to 1507.92 meters Depth range 4936 to 4944 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX515 Core 274 Bottom Rbl Clk BX517
Dip of Unit: Top BX515 Bottom BX517 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures NO ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 5 # of Vesiculation Units —
Density(%): Top 10 Middle 10 Bottom 10
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present NO Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____ 16
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____ 27
30

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 73/274 = 27%

CORE LOG

BOX # 517 HOLE # 4 Sheet B
Depth range 1507.92 to 1510.36 meters Depth range 4944 to 4952 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a #1 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 284 Top Rbl Clk BX 516 Core 148 Bottom Rbl (Clk) 136
Dip of Unit: Top BX 516 Bottom BX 516 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

51
55
57
58
56

VESICLES:
UNIT 1 Size(mm): Max. 5 Min. 1 Ave. 2 # of Vesiculation Units —
Density(%): Top 0 Middle 20 Bottom 20
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 Lined 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

19
61
60
42
42

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 230/284 = 81%

CORE LOG

BOX # 518 HOLE # 4 Sheet B

Depth range 1510.5 to 1513.1 meters Depth range 4952.5 to 4961 feet

Logger's Name RE Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh___ Transitional___ Clk/Rubble___

Intrusive Dike___ Sill___ Glass___ Other___

Other Hyaloclastite___ Volcaniclastic___ Pillow___

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 295 Top Rbl Clk Bx 517 Core 295 Bottom Rbl Clk Bx 519

Dip of Unit: Top Bx 217 Bottom Bx 219 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures —

Degree of Alteration or Comments:

plw → clay gm → smectite

VESICLES:

UNIT 1 Size(mm): Max. 8mm Min. <1mm Ave. <1mm # of Vesiculation Units 1

Density(%): Top 7% Middle 20% Bottom 10%

Shape: S___ R ✓ SR ✓ SA ✓ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1___ 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1___ 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit 1 Density low 10% Dip 45°, 70°, s.vert.

Natural___ Induced ✓ Fault gouge___ Brecciation___

Presence of Plant Molds: Yes___ No___ Type___

Rock Quality(# of pieces >4in. long/Total Box length) 91% 269/295

2
56
61
58
61
59
295

3
51
37
15
25
28
54
59
269

CORE LOG

BOX # 519 HOLE # 4 Sheet B

Depth range 1513.10 to 1516.15 meters Depth range 4961 to 4971 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

9cm overlap 1 A2

UNIT 1 Thickness: 219 Top Rbl Clk BX518 Core BX518 Bottom Rbl Clk 219

Dip of Unit: Top BX518 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 66 Top Rbl Clk no Core 66 Bottom Rbl Clk BX520

Dip of Unit: Top 70° Bottom BX520 Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

55 55 53 56 66

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 25 Middle 25 Bottom 25

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 Lined 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2 Density 100 Dip 60°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 222/276 = 80%

46 19 36 17 47 57

CORE LOG

BOX # 520 HOLE # 4 Sheet B
Depth range 1516.2 to 1518.9 meters Depth range 4971 to 4980 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 272 Top Rbl Clk — Core 272 Bottom Rbl Clk —
Dip of Unit: Top Bx 519 Bottom Bx 521 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:
olv → clay gm. → smectite

VESICLES:

UNIT 1 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —
Density(%): Top <1% Middle 1% Bottom <1%
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

2
55
50
55
56
56
272

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

2
45
44
47
51
43
230

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 80%-90% high Dip 60-75°, s. vert.
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 85% 230/272

CORE LOG

BOX # 521 HOLE # 4 Sheet B
Depth range 1518.9 to 1521.6 meters Depth range 4980 to 4989 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 2 Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 229 Top Rbl Clk — Core 229 Bottom Rbl Clk —
Dip of Unit: Top Bx520 Bottom 60° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 48cm Top Rbl Clk — Core 48 Bottom Rbl Clk —
Dip of Unit: Top 60° Bottom Bx522 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:
ol → clay, smectite gm → smectite

VESICLES:
UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —
Density(%): Top <1% Middle <1% Bottom <1%
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —
Density(%): Top 25% Middle 25% Bottom Bx522
Shape: S____ R ✓ SR ✓ SA ✓ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

50
60
50
57
60
277

3
46
49
53
57
46
251

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present 2 Size(max.vs.min.) 27x 4mm
Degree of vesicle filling(%): Units: 1 100% 2 70-100% ____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100% 2 100% 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density high 75-85% Dip 40°, 55°-40° 9/3 min 70°
Natural____ Induced ✓ Fault gouge 80° Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 91% 251/277

CORE LOG

BOX # S22 HOLE # 4 Sheet B
Depth range 1521.64 to 1524.39 meters Depth range 4989 to 4998 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1,2 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 118 Top Rbl Clk BX521 Core 118 Bottom Rbl Clk no
Dip of Unit: Top BX521 Bottom 30° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 156 Top Rbl Clk no Core 156 Bottom Rbl Clk BX523
Dip of Unit: Top 30° Bottom BX523 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____

57
51
4

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present / Size(max.vs.min.) 3×1 cm
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 114/274 = 42%

CORE LOG

BOX # 523 HOLE # 4 Sheet B
Depth range 1524.39 to 1526.98 meters Depth range 4998 to 5006.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259 Top Rbl Clk BX 522 Core 259 Bottom Rbl Clk BX 524
Dip of Unit: Top BX 522 Bottom BX 524 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures NO ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present NO Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

30
41
10
17
2
1

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge ✓ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 134/259 = 52 %

CORE LOG

BOX # 524 HOLE # 4 Sheet B

Depth range 1527.0 to 1529.6 meters Depth range 5006.5 to 5015 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 256 Top Rbl Clk Bx523 Core 256 Bottom Rbl Clk 1525

Dip of Unit: Top Bx523 Bottom Bx525 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures —— ____ ____ ____ ____

Degree of Alteration or Comments:

gm → smectite, calcite, dark clay

VESICLES:

UNIT 1 Size(mm): Max. 5mm Min. <1mm Ave. 1mm # of Vesiculation Units____

Density(%): Top 25% Middle 25% Bottom 10%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2____ 3____ 4____ 5____

1 48 53 52 52 51 256

1 31 30 12 17 11 101

FRACTURES: Yes ✓ No____ Unit 1 Density high 90% Dip 55°–75°, 2 hor 3, 5 vert.

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 39% 101/256

CORE LOG

BOX # 525 HOLE # 4 Sheet B
Depth range 1529.57 to 1532.62 meters Depth range 5015 to 5025 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk BX 524 Core 305 Bottom Rbl Clk BX 526
Dip of Unit: Top BX 524 Bottom BX 526 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures NO ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present NO Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

10
12
28
26

FRACTURES: Yes ✓ No____ Unit 1 Density 30% Dip 0-60°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 70/305 = 23%

CORE LOG

BOX # 526 HOLE # 4 Sheet B

Depth range 1532.6 to 1535.7 meters Depth range 5025 to 5036 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 2 Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 59 Top Rbl Clk — Core 59 Bottom Rbl Clk —

Dip of Unit: Top Bx 521 Bottom 80° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 238 Top Rbl Clk — Core 238 Bottom Rbl Clk Bx 527

Dip of Unit: Top 80° Bottom Bx 527 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

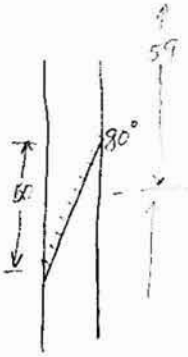
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures — ____ ____ ____ ____



Degree of Alteration or Comments:

High. Ol → clay + iddingsite, gm → smectite, quartz, calcite.

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

51
65
62
60
238

UNIT 2 Size(mm): Max. 5mm Min. <1mm Ave. 1mm # of Vesiculation Units 1?

Density(%): Top 5% Middle 3% Bottom 5%

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2 100% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2 100% 3____ 4____ 5____

FRACTURES: Yes ✓ No___ Unit 1,2? Density 1: high 2: upper = med, rest is gl'ss Dip 135°-40°; s. vert 2: s. vert, gmxx

Natural___ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 10%

31
297

CORE LOG

BOX # 527 HOLE # 4 Sheet B

Depth range 1535.67 to 1538.72 meters Depth range 5035 to 5045 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk BX 526 Core 305 Bottom Rbl Clk BX 528

Dip of Unit: Top BX 526 Bottom BX 528 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units —

Density(%): Top — Middle 15 Bottom —

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 49/305 = 16%

12/57

CORE LOG

BOX # 328 HOLE # 4 Sheet B

Depth range 1538.73 to 1541.47 meters Depth range 5045 to 5054 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble 1

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of Core

VESICLES:

UNIT 1 Size(mm): Max. 8 Min. <1 Ave. 3 # of Vesiculation Units 1

Density(%): Top 5 Middle <1 Bottom 3

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.13 = 35/274.5 = 13%

CORE LOG

BOX # 527 HOLE # 4 Sheet B
Depth range 1541.47 to 1544.21 meters Depth range 5054 to 5063 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional #1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX528 Core 274 Bottom Rbl Clk BX530
Dip of Unit: Top BX528 Bottom BX530 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures NO ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. .5 Min. .5 Ave. 1 # of Vesiculation Units____
Density(%): Top — Middle 20 Bottom —
Shape: S____ R ✓ SR ✓ SA ✓ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present NO Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

11
14
21
48

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 94/274 = 34%

CORE LOG

BOX # 530 HOLE # 4 Sheet B

Depth range 1544.22 to 1546.96 meters Depth range 5063 to 5072 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1,2 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 133.5 Top Rbl Clk____ Core 133.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 141 Top Rbl Clk____ Core 141 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____

Degree of Alteration or Comments: 9' of Core

VESICLES:

UNIT 1 Size(mm): Max. 9 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 25 Middle 15 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 10 Min. <1 Ave. 1 # of Vesiculation Units 2

Density(%): Top 15 Middle 20 Bottom 10

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length): 76 209.5/274.5 = 76%

CORE LOG

BOX # 531 HOLE # 4 Sheet B

Depth range 1546.96 to 1549.4 meters Depth range 5072 to 5080 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 5 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1,5 Clk/Rubble____

Intrusive Dike 2,3,4 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia 4 Conglomerate____ Carbonate____

UNIT 1 Thickness: 30 Top Rbl Clk Bx 530 Core 30 Bottom Rbl Clk —

Dip of Unit: Top Bx 530 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 15 Top Rbl Clk — Core 15 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom 60° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: ← 67? Top Rbl Clk — Core 67 Bottom Rbl Clk —

Dip of Unit: Top brecciated Bottom brecciated Glass ✓ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 67 Top Rbl Clk — Core 67 Bottom Rbl Clk —

Dip of Unit: Top 60° Bottom 60° Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 5 Thickness: 163 Top Rbl Clk — Core 163 Bottom Rbl Clk —

Dip of Unit: Top 60° Bottom Bx 532 Glass____ Alt1____ Alt2____ 0 ✓

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

ol → clay, idd. gm → smectite

UNIT 3 "Absorbed" to Unit 4.

VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. 1mm # of Vesiculation Units just bottom

Density(%): Top — Middle — Bottom 3%

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top — Middle <1% Bottom —

Shape: S ✓ R____ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 3% Middle 3% Bottom 3%

Shape: S ✓ R____ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle 1% Bottom 1%

Shape: S ✓ R____ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max. 5mm Min. <1mm Ave. 1mm # of Vesiculation Units____

Density(%): Top 10% Middle 5% Bottom 7%

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

(VMGS) Length____ Dip____

Voids Present 4 Size(max.vs.min.) 15x13mm

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5 100%

Total amt. of vesicles with filling(%): 1 100% 2 0% 3 0% 4 0% 5 100%

105
58
163
67
45
275

3
32
37
49
28
14
160

FRACTURES: Yes ✓ No____ Unit 1,2,4,5 Density 1: low 2: high 3: med Dip 1: 60°, 2: 30°, 4: 35°-50° 5: 15°, 30°, 50°, 60°

Natural ✓ 2 Induced ✓ Fault gouge____ Brecciation 3,4

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 58% 160/275

CORE LOG

BOX # 532 HOLE # 4 Sheet B
Depth range 1549.40 to 1552.14 meters Depth range 5080 to 5089 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike ~~#243~~ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

100% overlap 1 & 2

UNIT 1 Thickness: 150 Top Rbl Clk BX531 Core 150 Bottom Rbl Clk no
Dip of Unit: Top BX531 Bottom 85 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 34 Top Rbl Clk no Core 34 Bottom Rbl Clk no
Dip of Unit: Top 85 Bottom 85 Glass ✓ Alt1____ Alt2____ 0____

30cm overlap 3 & 4

UNIT 3 Thickness: 75 Top Rbl Clk no Core 75 Bottom Rbl Clk no
Dip of Unit: Top 75 Bottom 75 Glass ✓ Alt1____ Alt2____ 0____
UNIT 4 Thickness: 79 Top Rbl Clk no Core 79 Bottom Rbl Clk BX533
Dip of Unit: Top 75° Bottom BX533 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 15 Middle — Bottom —
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 14/274 = 5%

CORE LOG

BOX # 533 HOLE # 4 Sheet B

Depth range 1552.15 to 1555.20 meters Depth range 5089 to 5099 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble 1

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk 305 Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Sand Sized Particles

VESICLES: Can't Tell

UNIT 1 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____ $\emptyset/305 = \emptyset$

CORE LOG

BOX # 534 HOLE # 4 Sheet B

Depth range 1555.20 to 1558.75 meters Depth range 5099 to 5109 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 34 Transitional 1 Clk/Rubble____

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 32 Top Rbl Clk 62 Core 32 Bottom Rbl Clk 0

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 117.5 Top Rbl Clk____ Core 117.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 4.5 Top Rbl Clk____ Core 4.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness: 151 Top Rbl Clk____ Core 151 Bottom Rbl Clk____

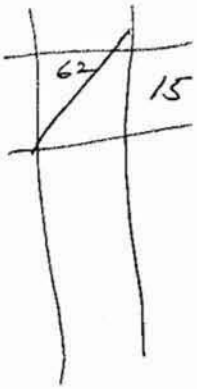
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max. Ø Min. Ø Ave. Ø # of Vesiculation Units____

Density(%): Top Ø Middle Ø Bottom Ø

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units <1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 15 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 4 Size(mm): Max. 8 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 20 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.66 = 2015/305 = 66%

CORE LOG

BOX # 535 HOLE # 4 Sheet B
Depth range 1558.24 to 1560.68 meters Depth range 5109 to 5117 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX 534 Core 244 Bottom Rbl Clk BX 536
Dip of Unit: Top BOX 534 Bottom BOX 536 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

11
12
43
45

FRACTURES: Yes____ No____ Unit 1 Density 60 Dip 60°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 111/244 = 45%

CORE LOG

BOX # 536 HOLE # 4 Sheet B
Depth range 1560.68 to 1563.12 meters Depth range 5117 to 5125 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX535 Core 244 Bottom Rbl Clk BX537
Dip of Unit: Top BX535 Bottom BX537 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures NO ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max.— Min.— Ave.— # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present NO Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 90 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 141/244 = 58%

CORE LOG

BOX # 537 HOLE # 4 Sheet B

Depth range 1563 to 1566 meters Depth range 5125 to 5134.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1,2,3 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 174 Top Rbl Clk Bx 536 Core 174 Bottom Rbl Clk —

Dip of Unit: Top Bx 536 Bottom 20° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 4 Top Rbl Clk — Core 4 Bottom Rbl Clk —

Dip of Unit: Top 20° Bottom 20° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 100 Top Rbl Clk — Core 100 Bottom Rbl Clk Bx 538

Dip of Unit: Top 20° Bottom Bx 538 Glass____ Alt1____ Alt2____ 0 ✓

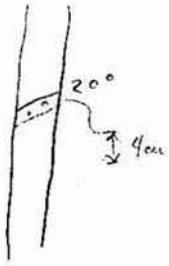
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____



Degree of Alteration or Comments:

olv → idd + clay gm → smectite

VESICLES:

UNIT 1 Size(mm): Max. 4mm Min. <1mm Ave. 1mm # of Vesiculation Units 1/2

Density(%): Top 3% Middle 7% Bottom 10%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 8mm Min. <1mm Ave. 2mm # of Vesiculation Units —

Density(%): Top — Middle 5% Bottom —

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 10mm Min. <1mm Ave. 1.5mm # of Vesiculation Units 1

Density(%): Top 20% Middle 3% Bottom 15%

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____ 2: 15 x 6mm

Voids Present 2,3 Size(max.vs.min.) 3: 12x8mm – analcime filled

Degree of vesicle filling(%): Units: 1 100% 2 40-60% 3 20-100% 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 100% 3 50% 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,3 Density 1,3: low to moderate 2,4 Dip 1: 35°, 65° 2: 40°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 63%

1
56
56
62
174

1
54
46
100

1
75
54
47
176

176/278

CORE LOG

BOX # 538 HOLE # 4 Sheet B

Depth range 1566.02 to 1568.79 meters Depth range 5134.5 to 5143.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk BX 537 Core 274 Bottom Rbl Clk BX 539

Dip of Unit: Top BX 537 Bottom BX 539 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No____ Unit 1 Density one fract. Dip 90°

Natural____ Induced____ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 100/274 = 36%

CORE LOG

BOX # 539 HOLE # 4 Sheet B

Depth range 1568.77 to 1571.36 meters Depth range 5143.5 to 5152 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh ✓ 1, 2 Transitional____ Clk/Rubble 1, 2

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 86 Top Rbl Clk____ Core 86 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ Ø___

UNIT 2 Thickness: 173.25 Top Rbl Clk____ Core 173.25 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ Ø___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ Ø___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ Ø___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ Ø___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 10 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 15 Middle 15 Bottom 15

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 10 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 25 Middle 20 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 98 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 5 Dip____

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.60

156.5 / 259.25 = 60%

CORE LOG

BOX # 540 HOLE # 4 Sheet B

Depth range 1571.36 to 1574.26 meters Depth range 5152 to 5161.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk BX539 Core 290 Bottom Rbl Clk BX541

Dip of Unit: Top BX539 Bottom BX541 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 20 Dip 0-90°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 70/290 = 24%

16
13
17
10
12

CORE LOG

BOX # 541 HOLE # 4 Sheet B

Depth range 1574.1 to 1576.9 meters Depth range 5161' to 5170' feet

Logger's Name RE Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh 1 Transitional___ Clk/Rubble___

Intrusive Dike___ Sill___ Glass___ Other___

Other Hyaloclastite___ Volcaniclastic___ Pillow___

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 274 Top Rbl Clk Bx 540 Core 274 Bottom Rbl Clk Bx 542

Dip of Unit: Top Bx540 Bottom Bx 542 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures — ___ ___ ___ ___

Degree of Alteration or Comments:

ol → idd + clay gm → smectite

VESICLES:

UNIT 1 Size(mm): Max. 8mm Min. <1mm Ave. 1mm # of Vesiculation Units 1

Density(%): Top 2% Middle 5% Bottom 3%

Shape: S___ R ✓ SR ✓ SA ✓ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present 1 Size(max.vs.min.) 13x13mm

Degree of vesicle filling(%): Units: 1 100% 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1 100% 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit 1 Density upper = quad low 10% Dist. low = Dip 30°, 45° - 70°

Natural___ Induced ✓ Fault gouge___ Brecciation___

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length) 28%

7
10
23
12
16
14
78

78/274

CORE LOG

BOX # 342 HOLE # 4 Sheet B

Depth range 1576'85 to 1579'75 meters Depth range 5170 to 5179.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1,2 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 41.5 Top Rbl Clk____ Core 41.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 56 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 263.25 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 56 Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

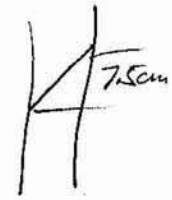
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9.5' here



VESICLES:

UNIT 1 Size(mm): Max. 12 Min. <1 Ave. 3 # of Vesiculation Units 1

Density(%): Top 10 Middle 15 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. 1 Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 15 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 25 Middle 25 Bottom 5

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2 100 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 89 2 98 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 30 Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.37 =

108.5 / 289.75 = 37%

CORE LOG

BOX # 543 HOLE # 4 Sheet B

Depth range 1579.4 to 1582.5 meters Depth range 5179.5 to 5188.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1,2 Transitional____ Clk/Rubble____

Intrusive Dike 3 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 50 Top Rbl Clk Bx 542 Core 50 Bottom Rbl Clk —

Dip of Unit: Top Bx 542 Bottom 38° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 186 Top Rbl Clk — Core 186 Bottom Rbl Clk —

Dip of Unit: Top 38° Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 35 Top Rbl Clk — Core 35 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom Bx 544 Glass ✓ Alt1____ Alt2____ 0____

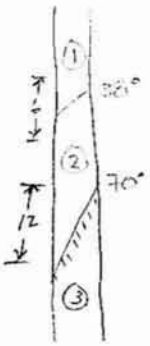
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____



Degree of Alteration or Comments:

olv → idd, clay gm → smectite

VESICLES:

UNIT 1 Size(mm): Max. 5mm Min. <1mm Ave. 1mm # of Vesiculation Units 1/2

Density(%): Top — Middle 3% Bottom 1%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3mm Min. <1mm Ave. <1mm # of Vesiculation Units 1

Density(%): Top 3% Middle 10% Bottom 5%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1,2 Size(max.vs.min.) 20×8mm, 12×8mm

Degree of vesicle filling(%): Units: 1 100% 2 100% 3 10% 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 100% 3 10% 4____ 5____

73
91
22
186
85
261
63
46
57
44
21
231

FRACTURES: Yes ✓ No____ Unit 1,2,3 Density 1: med 40% 2: low 10% 3: high med 70% Dip 1: 20°, 75° 2: 30°, 40°, 50°, 60° 3: 65-70°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓ ~ Semi 2.

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 89% 231/261

CORE LOG

BOX # 544 HOLE # 4 Sheet B
Depth range 1582.49 to 1585.08 meters Depth range 5188.5 to 5197 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike ✓ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259 Top Rbl Clk BX 543 Core 259 Bottom Rbl Clk BX 545
Dip of Unit: Top BX 543 Bottom BX 545 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 40 Dip 0-30°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 11/259 = 9%

CORE LOG

BOX # 545 HOLE # 4 Sheet B

Depth range 1585.08 to 1587.52 meters Depth range 5171 to 5205 feet

Logger's Name EN Page 1 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk BX 544 Core 244 Bottom Rbl Clk BX 546

Dip of Unit: Top BX 544 Bottom BX 546 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0%

CORE LOG

BOX # 546 HOLE # 4 Sheet B

Depth range 1587.5 to 1589.4 meters Depth range 5205 to 5211 feet

Logger's Name RE Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 183 Top Rbl Clk — Core 183 Bottom Rbl Clk —

Dip of Unit: Top Bx545 Bottom Bx544 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

plv → idd, clay gm → smectite

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle 1% Bottom 1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density high 90% Dip 25°-30°, 80°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 25%

46/183

CORE LOG

BOX # 547 HOLE # 4 Sheet B

Depth range 1589.4 to 1591.8 meters Depth range 5211 to 5219 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 2 Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 41 Top Rbl Clk — Core 41 Bottom Rbl Clk —

Dip of Unit: Top Bx546 Bottom 70° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 233 Top Rbl Clk — Core 233 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom Bx548 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

olv → idd, clay gm → smectite

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 8mm Min. 1mm Ave. 2mm # of Vesiculation Units____

Density(%): Top 7% Middle 3% Bottom 7%

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 2 Size(max.vs.min.) 30X22mm

Degree of vesicle filling(%): Units: 1____ 2 100% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2 100% 3____ 4____ 5____

2
57
59
60
54
233

2
52
59
42
48
201
56
16
2
273

FRACTURES: Yes ✓ No____ Unit 1, 2 Density 1: high 90% (hairline) 2: 10-20% Dip 1: 65°-70°

Natural____ Induced ✓ Fault gouge____ Brecciation 2: 20°-25°, 45°-50°, 70°

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 73% 201/274

CORE LOG

BOX # 548 HOLE # 4 Sheet B
Depth range 1591.79 to 1592.00 meters Depth range 5219 to 5229.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 303 Top Rbl Clk BX 547 Core 303 Bottom Rbl Clk BX 549
Dip of Unit: Top BX 547 Bottom BX 549 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

19 21 29 30 50 57 9 28

VESICLES:
UNIT 1 Size(mm): Max. 15 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top 15 Middle 10 Bottom 5
Shape: S____ R ✓ SR ✓ SA ✓ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

15 16 17 19 21 14 47

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 153/303 = 50%

CORE LOG

BOX # 549 HOLE # 4 Sheet B

Depth range 1595 to 1597.59 meters Depth range 5229.5 to 5238 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1,2 Transitional____ Clk/Rubble____

Intrusive Dike 3 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 29 Top Rbl Clk____ Core 29 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 18 Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 243 Top Rbl Clk____ Core 243 Bottom Rbl Clk____

Dip of Unit: Top 18 Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness: 16 Top Rbl Clk____ Core 16 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____

Degree of Alteration or Comments: 85'(259.25) vs 288 Measured

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VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units____

Density(%): Top 10 Middle 25 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined ✓ Dip 12-15

UNIT 2 Size(mm): Max. 9 Min. <1 Ave. <1 # of Vesiculation Units____

Density(%): Top 25 Middle 10 Bottom 10

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units____

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2 100 3 100 4____ 5____

Total amt. of vesicles with filling(%): 1 96 2 100 3 1 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 20 Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.91

261.5/288 = 91%

CORE LOG

BOX # 550 HOLE # 4 Sheet B
Depth range 1597.58 to 1600.64 meters Depth range 5238 to 5248 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk BX549 Core 215 Bottom Rbl (Clk) 90
Dip of Unit: Top BX549 Bottom BX551 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 5 Min. 1 Ave. 2 # of Vesiculation Units —
Density(%): Top 5 Middle 0 Bottom 0
Shape: S____ R____ SR____ SA ✓ A ✓
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

15
42
16
17
35
60

FRACTURES: Yes ✓ No____ Unit 1 Density 10% Dip 0-90
Natural____ Induced ✓ Fault gouge ✓ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 185/305 = 61%

CORE LOG

BOX # 551 HOLE # 4 Sheet B

Depth range 1600.64 to 1603.39 meters Depth range 5248 to 5257 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh___ Transitional___ Clk/Rubble___

Intrusive Dike___ Sill___ Glass___ Other___

Other Hyaloclastite___ Volcaniclastic___ Pillow___

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 274.5 Top Rbl Clk 76 Core 198.5 Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures ___ ___ ___ ___

Degree of Alteration or Comments: a'a clinker weld & oxidized red

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VESICLES:

UNIT 1 Size(mm): Max. 8 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 30 Middle 25 Bottom 7

Shape: S___ R ✓ SR ✓ SA ✓ A___

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip___

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1 100 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1 85 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit___ Density 30 Dip___

Natural___ Induced ✓ Fault gouge___ Brecciation___

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length) 0.65 =

179/274.5 = 65%

CORE LOG

BOX # 552 HOLE # 4 Sheet B

Depth range 1603.4 to 1605.98 meters Depth range 5254 to 5245.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 264 Top Rbl Clk Bx551 Core 264 Bottom Rbl Clk Bx553

Dip of Unit: Top Bx551 Bottom Bx553 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

alt → clays, iddingsite

VESICLES:

UNIT 1 Size(mm): Max. 4mm Min. <1mm Ave. 1mm # of Vesiculation Units 1

Density(%): Top 1% Middle 4% Bottom 2%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 14 x 8mm

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density med 50% Dip 15°-20°, 40°, 50°, 60°-65°, s. vert.

Natural____ Induced ✓ Fault gouge ✓ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 79% 210/264

2
59
48
55
53
52
264

4
48
12
29
37
34
47
210

CORE LOG

BOX # SS3 HOLE # 4 Sheet B
Depth range 1605.98 to 1608.87 meters Depth range 5265.5 to 5275 feet
Logger's Name EN Page 1 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk BXSS2 Core 290 Bottom Rbl Clk BXSS4
Dip of Unit: Top BXSS2 Bottom BXSS4 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 15 Min. 1 Ave. 3mm # of Vesiculation Units —
Density(%): Top 10 Middle 10 Bottom 10
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 95 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 70 Density 70% Dip 90-60°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 134/290 = 46%

CORE LOG

BOX # 554 HOLE # 4 Sheet B

Depth range 1608.88 to 1611.62 meters Depth range 5275 to 5284 feet

Logger's Name F Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble 1

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 217.5 Bottom Rbl Clk 57

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 9' of Core

VESICLES:

UNIT 1 Size(mm): Max. 8 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 7 Middle 10 Bottom 30

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant.____ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 95 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 70 Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.50 = 136/274.5 = 50%

CORE LOG

BOX # 555 HOLE # 4 Sheet B
Depth range 1611.6 to 1613.5 meters Depth range 5284 to 5290 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1 Phh____ Transitional____ Clk/~~Rubble~~ 1
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 183 Top ~~Rbl~~ Clk 183 Core Bx 556 Bottom Rbl Clk Bx 556
Dip of Unit: Top Bx 554 Bottom Bx 556 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures —— ____ ____ ____ ____

Degree of Alteration or Comments:
olv → idd, clays gm → smectite

VESICLES:
UNIT 1 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units ——
Density(%): Top 10% Middle 10% Bottom 10%
Shape: S ✓ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density low 10% to high 80% Dip 25°, 60°, 75°-85°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 70% 129/183

69 40 20 29

CORE LOG

BOX # 556 HOLE # 4 Sheet B

Depth range 1613.45 to 1620.01 meters Depth range 5290 to 5311.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble 1

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk 305 Core — Bottom Rbl Clk —

Dip of Unit: Top BX555 Bottom BX557 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. .25 Ave. .5 # of Vesiculation Units —

Density(%): Top____ Middle 50 Bottom____ discrete areas of high vesicularity

Shape: S____ R ✓ SR____ SA____ A interspersed w/ amsicular material

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 139/305 = 46%

15
17
19
14
17
15
14
12
12

CORE LOG

BOX # 557 HOLE # 4 Sheet B

Depth range 1620.01 to 1623.51 meters Depth range 5311.5 to 5323 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble 1,3

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 2

UNIT 1 Thickness: 252 ~~Top~~ Rbl Clk 252 Core — Bottom Rbl Clk —

Dip of Unit: Top BX 556 Bottom 0 & 25° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 2 & .5 Top Rbl Clk NO Core 2 & .5 Bottom Rbl Clk NO

Dip of Unit: Top 0 & 25° Bottom 0 & 25° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 44 ~~Top~~ Rbl Clk 44 Core — Bottom Rbl Clk —

Dip of Unit: Top 25° Bottom BX 558 Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. .25 Ave. .5 # of Vesiculation Units —

Density(%): Top — Middle 50 Bottom — see box 556

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. 5 Min. 1 Ave. 3 # of Vesiculation Units —

Density(%): Top 15 Middle — Bottom —

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2 — 3 100 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2 — 3 100 4____ 5____

12 16 10 20 20 19 20 13

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 139/305 = 46%

CORE LOG

BOX # 558 HOLE # 4 Sheet B

Depth range 1623.5 to 1626.6 meters Depth range 5323 to 5333 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 1 Clk/Rubble 1,2,3

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia 2,3 Conglomerate____ Carbonate 2

UNIT 1 Thickness: 44 Top Rbl Clk — Core 34 Bottom Rbl Clk 10

Dip of Unit: Top Bx559 Bottom 25° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 58 Top Rbl Clk — Core 58 Bottom Rbl Clk —

Dip of Unit: Top 25° Bottom 15° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 172 Top Rbl Clk — Core 172 Bottom Rbl Clk —

Dip of Unit: Top 15° Bottom Bx559 Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____

Degree of Alteration or Comments:

hv → idd, clay gw → smectite

VESICLES:

UNIT 1 Size(mm): Max. 3mm Min. <1mm Ave. 1mm # of Vesiculation Units —

Density(%): Top 10% Middle 10% Bottom 10%

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 0-100% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 80% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2,3 Density 40% Dip 60°, s. horiz.

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 36% 100/274

120

172
58
44
274

CORE LOG

BOX # 559 HOLE # 4 Sheet B
Depth range 1626.6 to 1629.6 meters Depth range 5333 to 5343 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 8 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh 1,3,6,8 Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate 2,4,7 Carbonate 5

UNIT 1 Thickness: 17cm Top Rbl Clk Bx558 Core 17cm Bottom Rbl Clk —
Dip of Unit: Top Bx 559 Bottom 0° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 41 Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top 0° Bottom 5° Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness: 112 Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top 5° Bottom 10° Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness: 37 Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top 10° Bottom 30° Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness: 18 Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top 30° Bottom 75° Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
filling

Degree of Alteration or Comments:
UNIT 6 27cm 75°/0° UNIT 7 5cm 0°/0° UNIT 8 24cm 0°/Bx562

VESICLES:
UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units____
Density(%): Top____ Middle 5% Bottom____
Shape: S ✓ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 1+2
UNIT 3 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —
Density(%): Top 20% Middle 20% Bottom gone
Shape: S ✓ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units____
Density(%): Top 4% Middle____ Bottom____
Shape: S____ R____ SR ✓ SA ✓ A ✓
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —
Density(%): Top 5% Middle____ Bottom____
Shape: S____ R____ SR ✓ SA ✓ A ✓
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 7 Carb. sand
UNIT 8 3mm <1mm <1mm 7% SR ✓ SA ✓ A ✓ Eq ✓.
UNIT 6 Size(mm): Max. 4mm Min. <1mm Ave. <1mm # of Vesiculation Units 1/2
Density(%): Top 15% Middle 10% Bottom 7%
Shape: S ✓ R ✓ SR ✓ SA ✓ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100% 2 100% 3 100% 4 100% 5 100%
Total amt. of vesicles with filling(%): 1 100% 2 100% 3 100% 4 100% 5 100%

FRACTURES: Yes 1,2,3,4 No____ Unit ← Density med. Dip 15°-20°
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 20% 57/281

26

CORE LOG

BOX # 560 HOLE # 4 Sheet B

Depth range 1629.61 to 1632.21 meters Depth range 5343 to 5351.5 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1(?) Transitional____ Clk/Rubble 4

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 3

100% over p 112

UNIT 1 Thickness: 174 Top Rbl Clk — Core 174 Bottom Rbl Clk —

Dip of Unit: Top BX559 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 50 Top Rbl Clk — Core 50 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom 70° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 1cm Top Rbl Clk — Core 1 Bottom Rbl Clk —

Dip of Unit: Top 20° Bottom 20° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness: 85 ~~Top Rbl~~ Clk 85 Core — Bottom Rbl Clk —

Dip of Unit: Top ? Bottom BX561 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

26 14

54 51

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. .5 Ave. 1 # of Vesiculation Units —

Density(%): Top 30 Middle — Bottom —

Shape: S____ R____ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min. — Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min. — Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max. — Min. — Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density 100 Dip 0-90°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 38/259 = 15%

CORE LOG

BOX # 561 HOLE # 4 Sheet B

Depth range 1632.21 to 1638.8 meters Depth range 5351.5 to 5360 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259.25 Top Rbl Clk____ Core 259.25 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 6 Min. <1 Ave. <1 # of Vesiculation Units 3

Density(%): Top 20 Middle 30 Bottom 25

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.41

/259.25 = 41%

CORE LOG

BOX # 562 HOLE # 4 Sheet B
Depth range 1634.80 to 1637.39 meters Depth range 5360 to 5368.5 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional 1 Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate 2

UNIT 1 Thickness: 259 Top Rbl Clk 120 Core 95 Bottom Rbl Clk 44
Dip of Unit: Top BX 561 Bottom BX 563 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: .5cm Top Rbl Clk — Core .5 Bottom Rbl Clk —
Dip of Unit: Top 0° Bottom 0° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 11 Min. 1 Ave. 5 # of Vesiculation Units 1
Density(%): Top 0 Middle 15 Bottom 0
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

15
11
14
11

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 51/259 = 20%

CORE LOG

BOX # 563 HOLE # 4 Sheet B

Depth range 1637.39 to 1640.29 meters Depth range 5368.5 to 5378 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 289.75 Top Rbl Clk 128 Core 161.75 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 8 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 25 Middle 30 Bottom 20

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.42 = 122/289.75 = 42%

CORE LOG

BOX # 564 HOLE # 4 Sheet B

Depth range 1640.3 to 1643.04 meters Depth range 5378 to 5387 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble 3

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash 2 Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 33cm Top Rbl Clk By563 Core 33 Bottom Rbl Clk —

Dip of Unit: Top By563 Bottom 15° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 2cm Top Rbl Clk____ Core 2cm Bottom Rbl Clk____

Dip of Unit: Top 15° Bottom 15° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 252 Top Rbl Clk____ Core 252 Bottom Rbl Clk____

Dip of Unit: Top 15° Bottom By565 Glass ✓ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures —

Degree of Alteration or Comments:

slv - rich glass - clay

VESICLES:

UNIT 1 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 10% Middle____ Bottom____

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 15% Middle____ Bottom____

Shape: S____ R____ SR____ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 20% Middle 15% Bottom 10%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2 0% 3 100% 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 0% 3 100% 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,3 Density 1) high 70% 3) 100% 169% Dip 1) 20° 3) 55-60°, 80°

Natural____ Induced ✓ Fault gouge 3 bxl fracture Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 81% 233/287

47
32
60
61
35
287

2
75
99
57
233

CORE LOG

BOX # 565 HOLE # 4 Sheet B

Depth range 1643.04 to 1645.78 meters Depth range 5387 to 5396 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ____ Transitional ____ Clk/Rubble ____

Intrusive Dike ____ Sill ____ Glass ____ Other ____

Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____

Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

^ Flow Top + Clk UNIT 1 Thickness: 274.5 Top Rbl Clk 31 Core 244.5 Bottom Rbl Clk 8x566

— Dip of Unit: Top 65 Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ✓

UNIT 2 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 3 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____

Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Pink colour here (oxydized)

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 20 Bottom 20

Shape: S ____ R ____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip ____

UNIT 2 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 3 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____

Density(%): Top ____ Middle ____ Bottom ____

Shape: S ____ R ____ SR ____ SA ____ A ____

Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____

Bubble Entrails Present ____ Continuous ____ Discontinuous ____

Length ____ Dip ____

Voids Present ____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 100 2 ____ 3 ____ 4 ____ 5 ____

Total amt. of vesicles with filling(%): 1 99 2 ____ 3 ____ 4 ____ 5 ____

FRACTURES: Yes ✓ No ____ Unit ____ Density ____ Dip ____

Natural ____ Induced ✓ Fault gouge ____ Brecciation ____

Presence of Plant Molds: Yes ____ No ✓ Type ____

Rock Quality(# of pieces >4in. long/Total Box length) ____

0.94 = 2585/274.5 = 94%

CORE LOG

BOX # 566 HOLE # 4 Sheet B

Depth range 1645.78 to 1648.83 meters Depth range 5396 to 5406 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk____ Core 305 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 10 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 1 Shear Planes: Dip 48 Depth(%) 80 Spacing: Max. 10 Min. 1

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 85 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____ Dike in close proximity

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.64 = 195/305 = 64%

CORE LOG

BOX # 567 HOLE # 4 Sheet B

Depth range 1648.8 to 1652.2 meters Depth range 5406 to 5417 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 235 Top Rbl Clk____ Core 235 Bottom Rbl Clk____

Dip of Unit: Top Bx 566 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 44 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 70° Bottom Bx 568 Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

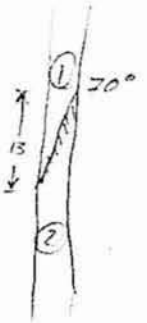
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1-2% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 40 x 14mm

Degree of vesicle filling(%): Units: 1 0% 2 0% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2 0% 3____ 4____ 5____

1 58
2 54
3 62
4 51
5 10
235

2 95
3 56
4 16
5 13
50
230

FRACTURES: Yes ✓ No____ Unit 1,2 Density 1: high 45-50 2: low 5% Dip 1: 50°-70° 2: 80°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 52%

230/279

CORE LOG

BOX # 568 HOLE # 4 Sheet B
Depth range 1652.18 to 1654.62 meters Depth range 5417 to 5425 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 2,3 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 20 Top Rbl Clk — Core 20 Bottom Rbl Clk no
Dip of Unit: Top BX567 Bottom 55° Glass ✓ Alt1___ Alt2___ 0___
UNIT 2 Thickness: 33 Top Rbl Clk no Core 33 Bottom Rbl Clk unit 3
Dip of Unit: Top 55° Bottom 30° Glass___ Alt1___ Alt2___ 0 ✓
UNIT 3 Thickness: 191 Top Rbl Clk 60 Core 131 Bottom Rbl Clk BX 569
Dip of Unit: Top 30° Bottom BX569 Glass___ Alt1___ Alt2___ 0 ✓
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
?UNIT 3 Size(mm): Max. 5 Min. 1 Ave. 3 # of Vesiculation Units —
Density(%): Top____ Middle 10 Bottom____
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 — 2 100 3 100 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2 100 3 100 4____ 5____

FRACTURES: Yes ✓ No____ Unit 2 Density 75% Dip 0-90
Natural____ Induced____ Fault gouge ✓ Brecciation ✓
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 112/244 = 46%

22
37
22
13
11

CORE LOG

BOX # 569 HOLE # 4 Sheet B

Depth range 1654.63 to 1657.66 meters Depth range 5425 to 5433 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk____ Core 244 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____

Degree of Alteration or Comments: only 8' of core

VESICLES:

UNIT 1 Size(mm): Max. 7 Min. <1 Ave. <1 # of Vesiculation Units____

Density(%): Top 15 Middle 15 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 1 Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.59 = 143/244 59%

CORE LOG

BOX # 570 HOLE # 4 Sheet B

Depth range 1657.06 to 1659.81 meters Depth range 5433 to 5442 feet

Logger's Name EN Page 1 of 2

Number of Units in Box_____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh ~~X~~ Transitional_____ Clk/Rubble_____

Intrusive Dike____ Sill____ Glass_____ Other_____

Other Hyaloclastite_____ Volcaniclastic_____ Pillow_____

Ash_____ Breccia_____ Conglomerate_____ Carbonate_____

UNIT 1 Thickness: 274 Top Rbl Clk BX 569 Core 274 Bottom Rbl Clk BX 271

Dip of Unit: Top BX 569 Bottom BX 571 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

Primary textures _____ _____ _____ _____ _____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 5 Min. 1 Ave. 2 # of Vesiculation Units —

Density(%): Top 20 Middle 15 Bottom 10

Shape: S_____ R ✓ SR ✓ SA_____ A_____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

NO UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

Bubble Entrails Present NO Continuous_____ Discontinuous_____

Length_____ Dip_____

Voids Present NO Size(max.vs.min.)_____

Degree of vesicle filling(%): Units: 1 100 2_____ 3_____ 4_____ 5_____

Total amt. of vesicles with filling(%): 1 100 2_____ 3_____ 4_____ 5_____

18
12
22

FRACTURES: Yes_____ No ✓ Unit_____ Density_____ Dip_____

Natural____ Induced_____ Fault gouge____ Brecciation_____

Presence of Plant Molds: Yes_____ No ✓ Type_____

Rock Quality(# of pieces >4in. long/Total Box length) 52/274 = 19%

CORE LOG

BOX # 571 HOLE # 4 Sheet B

Depth range 1659.8 to 1662.7 meters Depth range 5442 to 5451.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 285 Top Rbl Clk Bx570? Core 285 Bottom Rbl Clk Bx572

Dip of Unit: Top Bx570 Bottom Bx572 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

olv → idd.

VESICLES:

UNIT 1 Size(mm): Max. 3mm Min. <1mm Ave. <1mm # of Vesiculation Units____

Density(%): Top 5% Middle 4% Bottom 3%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2____ 3____ 4____ 5____

114
120
51
~~114~~
285
1
25
20
31
15
91

FRACTURES: Yes ✓ No____ Unit 1 Density med-high 50-85% Dip 20°, 55°, 70-85°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 32% 91/285

CORE LOG

BOX # 572 HOLE # 4 Sheet B

Depth range 1662.7 to 1665.6 meters Depth range 5451.5 to 5461 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike 2,3 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia 2 Conglomerate____ Carbonate____

UNIT 1 Thickness: 66 Top Rbl Clk Bx 541 Core 66 Bottom Rbl Clk Bx 543

Dip of Unit: Top Bx 541 Bottom 40° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 206 Top Rbl Clk — Core 206 Bottom Rbl Clk —

Dip of Unit: Top 40° Bottom Bx 543 Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 40 Top Rbl Clk — Core 40 Bottom Rbl Clk —

Dip of Unit: Top 40° Bottom filling cracks of 1 & 2 Glass ✓ Alt1 ✓ Alt2____ 0____

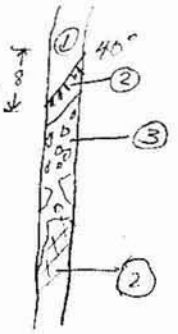
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures — ____ ____ ____ ____



Degree of Alteration or Comments:

alv → idd.

VESICLES:

UNIT 1 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 3% Middle " Bottom "

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle <1% Bottom <1%

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

no ves. Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2 0% 3 — 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 0% 3 — 4____ 5____

1 38 28 66

2 89 68 57 206

206 66

85 50 59 194

FRACTURES: Yes ✓ No____ Unit 1, 2 Density 1) high 20% 2) high 90% Dip 1: 20°, 40°-45°, s. west. 2: 45°-50°, 60° 40°, 25°, s west.

Natural____ Induced ✓ Fault gouge ✓ Brecciation ✓ 2

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 71% 194/272

CORE LOG

BOX # 573 HOLE # 4 Sheet B

Depth range 1665.60 to 1668.35 meters Depth range 5461 to 5476 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 2(?) Clk/Rubble____

Intrusive Dike 1,3 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 157 Top Rbl Clk — Core 157 Bottom Rbl Clk no

Dip of Unit: Top BX572 Bottom 65° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 33 Top Rbl Clk no Core 33 Bottom Rbl Clk no

Dip of Unit: Top 65° Bottom 55° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 98 Top Rbl Clk — Core 98 Bottom Rbl Clk BX574

Dip of Unit: Top 55 Bottom BX574 Glass ✓ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

44 14 56 43 15 17 39 30 31

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VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. ? Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min. — Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2 100(?) 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2 100(?) 3____ 4____ 5____

25 13 54 31 45 12 31

==========

FRACTURES: Yes ✓ No____ Unit 1,3 Density 100 Dip 0-90

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 216/288 = 75%

CORE LOG

BOX # 574 HOLE # 4 Sheet B

Depth range 1668.35 to 1671.40 meters Depth range 5470 to 5480 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 6 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 7 Top Rbl Clk — Core 7 Bottom Rbl Clk no

Dip of Unit: Top BX 573 Bottom 30° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 21 Top Rbl Clk no Core 21 Bottom Rbl Clk no

Dip of Unit: Top 30° Bottom 65 Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 27 Top Rbl Clk no Core 27 Bottom Rbl Clk no

Dip of Unit: Top 65 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness: 69 Top Rbl Clk no Core 69 Bottom Rbl Clk no

Dip of Unit: Top ? Bottom 10 Glass ✓ Alt1____ Alt2____ 0____

UNIT 5 Thickness: 114 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 10 Bottom 40 Glass ✓ Alt1____ Alt2____ 0____

UNIT 6 ~~Primary textures~~ THICKNESS: 8 CORE: 8 GLASS: Ø

~~Degree of Alteration or Comments:~~ DIP: TOP: 40° BOTTOM: BX 575

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VESICLES:

UNIT 1 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

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FRACTURES: Yes ✓ No____ Unit 4 Density 100 Dip 0-90

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 205/305 = 67%

CORE LOG

BOX # 575 HOLE # 4 Sheet B

Depth range 1671.4 to 1674.15 meters Depth range 5480 to 5489 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble 1

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk 69 Core 205.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 9' here

VESICLES:

UNIT 1 Size(mm): Max. 6 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 15 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 99 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 75 Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.65 = 177.5/274.5 = 65%

CORE LOG

BOX # 576 HOLE # 4 Sheet B

Depth range 1674.15 to 1677.20 meters Depth range 5489 to 5499 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble____

Intrusive Dike ✓ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 285 Top Rbl Clk____ Core 285 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 49 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 20 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 49 Bottom____ Glass____ Alt1___ Alt2 ✓ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

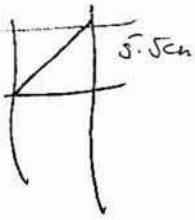
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max. 8 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 15 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____ open Fractures

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.63 = 193/305 = 63%

CORE LOG

BOX # 574 HOLE # 4 Sheet B

Depth range 1677.2 to 1679.9 meters Depth range 5499 to 5508 feet

Logger's Name RE Page 1 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 245 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.— Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

12
47
117
49
243

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

56
54
58
59
58
285

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No___ Unit 1 Density low 10% Dip 50°, 65°, 70°, S. vert

Natural____ Induced ✓ Fault gouge___ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 85% 243/285

CORE LOG

BOX # 578 HOLE # 4 Sheet B

Depth range 1677.94 to 1682.68 meters Depth range 5508 to 5517 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional 2 Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 76 Top Rbl Clk — Core 76 Bottom Rbl Clk no 58

Dip of Unit: Top BX577 Bottom 60° Glass ✓ Alt1___ Alt2___ 0___ 16

UNIT 2 Thickness: 198 Top Rbl Clk no Core 198 Bottom Rbl Clk BX579

Dip of Unit: Top 60° Bottom BX579 Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 5 Min. 1 Ave. 2 # of Vesiculation Units —

Density(%): Top 15 Middle 15 Bottom 15

Shape: S____ R____ SR ✓ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

M UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____ 15

Length____ Dip____ 16

Voids Present no Size(max.vs.min.)____ 17

Degree of vesicle filling(%): Units: 1____ 2 100 3____ 4____ 5____ 18

Total amt. of vesicles with filling(%): 1____ 2 100 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 67/274 = 24%

CORE LOG

BOX # 549 HOLE # 4 Sheet B

Depth range 1682.7 to 1685.7 meters Depth range 5517 to 5527 feet

Logger's Name RE Page___ of___

Number of Units in Box 6 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh 1,3,5 Transitional___ ~~Clk~~/Rubble 5

Intrusive Dike 2,4 Sill___ Glass___ Other___

Other Hyaloclastite___ Volcaniclastic___ Pillow___

Ash___ Breccia 6 Conglomerate___ Carbonate___

UNIT 1 Thickness: 81 Top Rbl Clk — Core 81 Bottom Rbl Clk___

Dip of Unit: Top 0x528 Bottom 50° Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 44 Top Rbl Clk — Core 44 Bottom Rbl Clk___

Dip of Unit: Top 50° Bottom 80° Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness: 20 Top Rbl Clk — Core 20 Bottom Rbl Clk___

Dip of Unit: Top 80° Bottom 30° Glass___ Alt1___ Alt2___ 0 ✓

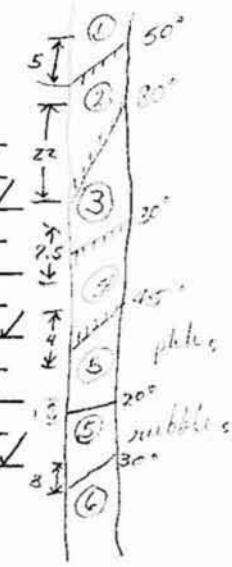
UNIT 4 Thickness: 50 Top Rbl Clk — Core 50 Bottom Rbl Clk___

Dip of Unit: Top 30° Bottom 45° Glass ✓ Alt1___ Alt2___ 0___

UNIT 5 Thickness: 53 Top Rbl Clk — Core 20 Bottom Rbl Clk 33

Dip of Unit: Top 45° Bottom 30° Glass___ Alt1___ Alt2___ 0 ✓

Primary textures ___ ___ ___ ___ ___



Degree of Alteration or Comments:

UNIT 6 Tk 35cm

VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units 1/2

Density(%): Top 10% Middle 3% Bottom 3%

Shape: S___ R ✓ SR ✓ SA___ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max. — Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units 1

Density(%): Top 3% Middle 7% Bottom 3%

Shape: S___ R ✓ SR ✓ SA___ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S___ R ✓ SR___ SA___ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units 1/2

Density(%): Top 5% Middle 3% Bottom 3%

Shape: S___ R ✓ SR ✓ SA___ A___

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 6 <1mm
% 10% "
SK-A
Eq /

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1 100% 2___ 3 100% 4 10% 5 100% 6 0%

Total amt. of vesicles with filling(%): 1 100% 2___ 3 100% 4 20% 5 100% 0%

FRACTURES: Yes ✓ No___ Unit 1,2,4,5 Density 1: low 2: mod 50% 4: 15% Dip 1: 60% 2: s.horz, 35° 4: 50°, 80°

Natural___ Induced ✓ Fault gouge ✓ Brecciation ✓

5: 50° (low 5%)
6: 55-60° (low 5%)

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length) 68% 193/285

CORE LOG

BOX # 580 HOLE # 4 Sheet B

Depth range 1685.74 to 1688.48 meters Depth range 5527 to 5536 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1 Phh____ Transitional____ Clk/Rubble 1

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk 80 Core 194.5 Bottom Rbl Clk 80

— Dip of Unit: Top 32 Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

~ clk + Flow rock

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: clinker is red

— only 9' here

VESICLES:

UNIT 1 Size(mm): Max. 11 Min. <1 Ave. <1 # of Vesiculation Units 2

Density(%): Top 10 Middle 7 Bottom 25

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 45 x 40

Degree of vesicle filling(%): Units: 1 95 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 80 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.94 = 257.5/274.5 = 94%

CORE LOG

BOX # 581 HOLE # 4 Sheet B
Depth range 1688.48 to 1691.22 meters Depth range 5536 to 5545 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1,2 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 196 Top Rbl Clk BX 580 Core 104 Bottom Rbl Clk 92
Dip of Unit: Top BX 581 Bottom 30° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 81 Top Rbl Clk — Core 81 Bottom Rbl Clk BX 582
Dip of Unit: Top 30° Bottom BX 582 Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 5 Min. 1 Ave. 2 # of Vesiculation Units 3
Density(%): Top 20 Middle 0 Bottom 20
Shape: S____ R____ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. 10 Min. 1 Ave. 3 # of Vesiculation Units 2
Density(%): Top 20 Middle 0 Bottom 20
Shape: S____ R____ SR ✓ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined ✓ Dip 50°
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present 2 Size(max.vs.min.) 3 x .5 cm
Degree of vesicle filling(%): Units: 1 100 2 10-100 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2 100 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 20° Dip 0-90°
Natural____ Induced____ Fault gouge____ Brecciation ✓
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 252/277 = 91%

CORE LOG

BOX # 582 HOLE # 4 Sheet B
Depth range 1691.22 to 1693.97 meters Depth range 5545 to 5554 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 3 Phh ____ Transitional ____ Clk/Rubble 1
Intrusive Dike 2 Sill ____ Glass ____ Other ____
Other Hyaloclastite ____ Volcaniclastic ____ Pillow ____
Ash ____ Breccia ____ Conglomerate ____ Carbonate ____

UNIT 1 Thickness: 86 Top Rbl Clk — Core — Bottom Rbl Clk 86
Dip of Unit: Top BX581 Bottom 60° Glass ____ Alt1 ____ Alt2 ____ 0 ✓ 58 32
UNIT 2 Thickness: 100 Top Rbl Clk no Core 100 Bottom Rbl Clk no
Dip of Unit: Top 60° Bottom 60° Glass ✓ Alt1 ____ Alt2 ____ 0 ____
UNIT 3 Thickness: 100 Top Rbl Clk no Core 100 Bottom Rbl Clk BX 583 80
Dip of Unit: Top 60° Bottom BX583 Glass ____ Alt1 ____ Alt2 ____ 0 ✓ 57 13
UNIT 4 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____
Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____
UNIT 5 Thickness: ____ Top Rbl Clk ____ Core ____ Bottom Rbl Clk ____ 40
Dip of Unit: Top ____ Bottom ____ Glass ____ Alt1 ____ Alt2 ____ 0 ____ 60
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

==========

VESICLES:
UNIT 1 Size(mm): Max. 3 Min. 1 Ave. 1 # of Vesiculation Units —
Density(%): Top 20 Middle ____ Bottom ____
Shape: S ____ R ____ SR ✓ SA ✓ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units ____
Density(%): Top ____ Middle ____ Bottom ____
Shape: S ____ R ____ SR ____ SA ____ A ____
Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 3 Size(mm): Max. 3 Min. 1 Ave. 1 # of Vesiculation Units —
Density(%): Top 30 Middle 0 Bottom 0
Shape: S ____ R ____ SR ✓ SA ✓ A ____
Aspect ratio Equant. ✓ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 4 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____
Density(%): Top ____ Middle ____ Bottom ____
Shape: S ____ R ____ SR ____ SA ____ A ____
Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT 5 Size(mm): Max. ____ Min. ____ Ave. ____ # of Vesiculation Units ____
Density(%): Top ____ Middle ____ Bottom ____
Shape: S ____ R ____ SR ____ SA ____ A ____
Aspect ratio Equant. ____ Horiz. ____ Vert. ____ Inclined ____ Dip ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
no UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
UNIT__ Shear Planes: Dip ____ Depth(%) ____ Spacing: Max. ____ Min. ____
Bubble Entrails Present no Continuous ____ Discontinuous ____
Length ____ Dip ____
Voids Present no Size(max.vs.min.) ____
Degree of vesicle filling(%): Units: 1 — 2 ____ 3 ____ 4 ____ 5 ____
Total amt. of vesicles with filling(%): 1 — 2 ____ 3 ____ 4 ____ 5 ____

==========

FRACTURES: Yes ____ No ✓ Unit ____ Density ____ Dip ____
Natural ____ Induced ____ Fault gouge ____ Brecciation ____
Presence of Plant Molds: Yes ____ No ✓ Type ____
Rock Quality(# of pieces >4in. long/Total Box length) 206/286 = 72 %

CORE LOG

BOX # 583 HOLE # 4 Sheet B
Depth range 1693.99 to 1696.71 meters Depth range 5554 to 5563 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 1 Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 2 Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 167 Top Rbl Clk — Core — Bottom Rbl Clk 167
Dip of Unit: Top BX582 Bottom 20° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 120 Top Rbl Clk no Core 120 Bottom Rbl Clk BX584
Dip of Unit: Top 20° Bottom BX584 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures no

59
57
47
9
55
56

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. 10 Min. 1 Ave. 2 # of Vesiculation Units 1
Density(%): Top 0 Middle 20 Bottom 0
Shape: S____ R____ SR ✓ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined ✓ Dip 45°
UNIT 2 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present 1 Size(max.vs.min.) 3.5 x .5 cm
Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

59
45
15
21
11
53
24
12

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 240/287 = 84%

CORE LOG

BOX # 584 HOLE # 4 Sheet B

Depth range 1696.7 to 1699.8 meters Depth range 5563 to 5573 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow____

Ash____ Breccia 1 Conglomerate____ Carbonate____

UNIT 1 Thickness: 300 Top Rbl Clk — Core 300 Bottom Rbl Clk —

Dip of Unit: Top Bx583 Bottom Bx585 Glass ✓ Alt1 ✓ Alt2 ✓ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

glass → clay

VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. 1mm Ave. 1mm # of Vesiculation Units____

Density(%): Top 7% Middle 10% Bottom 7%

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present ✓ Size(max.vs.min.) 22 × 10mm

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 10% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density low 5-10% Dip ∥ horz, 20°-30°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 49% 147/300

120
62
61
57
300

92
52
56
37
237

CORE LOG

BOX # 585 HOLE # 4 Sheet B
Depth range 1699.76 to 1702.81 meters Depth range 5573 to 5583 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 1 Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk — Core 305 Bottom Rbl Clk —
Dip of Unit: Top BX584 Bottom BX586 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

18
21
41
49
52
17
10
16

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 231/365 = 76%

CORE LOG

BOX # 586 HOLE # 4 Sheet B

Depth range 1702.8 to 1705.6 meters Depth range 5583 to 5592 feet

Logger's Name RE Page 1 of 2

Number of Units in Box 8 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 3,5 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1,8 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate 7 Carbonate 2,4,6

UNIT 1 Thickness: 52 Top Rbl Clk — Core 52 Bottom Rbl Clk —

Dip of Unit: Top Bx 585 Bottom 25° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 4 Top Rbl Clk — Core 4 Bottom Rbl Clk —

Dip of Unit: Top 25° Bottom 25° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 21 Top Rbl Clk — Core 21 Bottom Rbl Clk —

Dip of Unit: Top 25° Bottom 50° Glass____ Alt1____ Alt2____ 0____

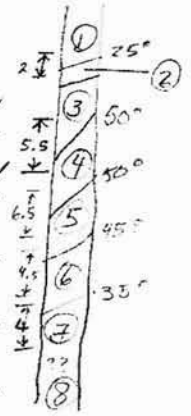
UNIT 4 Thickness: 4 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom 50° Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness: 18 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom 45° Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____



Degree of Alteration or Comments:

UNIT 6 16cm t: 45° b: 35° Unit 7: 17 cm t: 35° bot? Unit 8: 142 cm top? bot Bx 584

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 3% Middle 5% Bottom 4%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max. 3mm Min. <1mm Ave. 1mm # of Vesiculation Units —

Density(%): Top 3% Middle 3% Bottom 5%

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5 100%

Total amt. of vesicles with filling(%): 1 100% 2____ 3____ 4____ 5 100%

96
61
157

61
66
13
137

132
157
289

88

FRACTURES: Yes ✓ No____ Unit 1,3,8 Density 1: 5% 8: 100% Dip 1: s. horiz. 8: s. horiz 8: s. horz (discing)

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 32%

88

CORE LOG

BOX # 587 HOLE # 4 Sheet B

Depth range 1705.26 to 1708 meters Depth range 5591 to 5600 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic 1 Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 9' here

VESICLES:

UNIT 1 Size(mm): Max. 6 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 5 Middle 10 Bottom 7

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 95 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____ DISKING

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

.08 = 22/274.5 = 8% DISKING

CORE LOG

BOX # 588 HOLE # 4 Sheet B

Depth range 1708 to 1710.75 meters Depth range 5600 to 5609 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic ✓ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 6 Min. 4 Ave. 4 # of Vesiculation Units 1

Density(%): Top 7 Middle 10 Bottom 7

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 95 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

.04 = 12/274.5 = 4%

DISKING

CORE LOG

BOX # 589 HOLE # 4 Sheet B

Depth range 1710.75 to 1712.88 meters Depth range 5609 to 5616 feet

Logger's Name FT Page 2 of 2

Number of Units in Box_____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a_____ Phh 2 Transitional_____ Clk/Rubble_____

Intrusive Dike_____ Sill_____ Glass_____ Other_____

Other Hyaloclastite / Volcaniclastic / Pillow_____

Ash_____ Breccia_____ Conglomerate_____ Carbonate_____

UNIT 1 Thickness: 106.75 Top Rbl Clk_____ Core 106.75 Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2_____ 0 ✓

UNIT 2 Thickness: 106.75 Top Rbl Clk_____ Core 106.75 Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2_____ 0 ✓

UNIT 3 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2_____ 0_____

UNIT 4 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2_____ 0_____

UNIT 5 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2_____ 0_____

Primary textures _____ _____ _____ _____

Degree of Alteration or Comments: only 7' of Core here

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 15 Bottom 15

Shape: S_____ R_____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip_____

UNIT 2 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 2

Density(%): Top 25 Middle 15 Bottom 15 $\bar{x} = 18.3$

Shape: S_____ R_____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip_____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

Bubble Entrails Present_____ Continuous_____ Discontinuous_____

Length_____ Dip_____

Voids Present_____ Size(max.vs.min.)_____

Degree of vesicle filling(%): Units: 1 100 2_____ 3_____ 4_____ 5_____

Total amt. of vesicles with filling(%): 1 75 2_____ 3_____ 4_____ 5_____

FRACTURES: Yes ✓ No_____ Unit_____ Density_____ Dip_____

Natural ✓ Induced_____ Fault gouge_____ Brecciation_____

Presence of Plant Molds: Yes_____ No ✓ Type_____

Rock Quality(# of pieces >4in. long/Total Box length)_____

0.11 = 24/213.5 = 11%

CORE LOG

BOX # 590 HOLE # 4 Sheet B

Depth range 1712.88 to 1715.63 meters Depth range 5616 to 5625 feet

Logger's Name FT Page 2 of 2

Number of Units in Box____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1,2 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 112.5 Top Rbl Clk____ Core 112.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 54 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 162 Top Rbl Clk____ Core 162 Bottom Rbl Clk____

Dip of Unit: Top 34 Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' Core

Drilling commen

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 15 Bottom 10

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 15 Bottom 10

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Shear Planes: Dip 52 Depth(%) 10 Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 70 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.36 = 97.5/274.5 = 36%

CORE LOG

BOX # 591 HOLE # 4 Sheet B

Depth range 1715.63 to 1718.22 meters Depth range 5625 to 5633.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic 2 Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 8.5 Top Rbl Clk____ Core 8.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 54 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 250.75 Top Rbl Clk____ Core 250.75 Bottom Rbl Clk____

Dip of Unit: Top 54 Bottom____ Glass____ Alt1___ Alt2 ✓ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 20 Middle 20 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 20 Middle 15 Bottom 10

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2 100 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2 98 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 30 Dip____

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

$0.25 = 66/259.25 = 25\%$

CORE LOG

BOX # 592 HOLE # 4 Sheet B

Depth range 1718.22 to 1722.64 meters Depth range 5633.5 to 5648 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a ? Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

4.5' = 137cm lost core

UNIT 1 Thickness: 442 Top Rbl Clk BX591 Core 442 Bottom Rbl Clk BX593

Dip of Unit: Top BX591 Bottom BX593 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures NO ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. ? Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 100 Dip 0-90

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 20/305 = 6%

CORE LOG

BOX # 593 HOLE # 4 Sheet B

Depth range 1722.64 to 1724.47 meters Depth range 5648 to 5654 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 1(?) Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1(?) Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 183 Top Rbl Clk BX592 Core 183 Bottom Rbl Clk BX594

Dip of Unit: Top BX592 Bottom BX594 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 18/183 = 10%

CORE LOG

BOX # 594 HOLE # 4 Sheet B

Depth range 1729.47 to 1727.52 meters Depth range 5654 to 5664 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk BX593 Core 305 Bottom Rbl Clk BX595

Dip of Unit: Top BX593 Bottom BX595 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0/305 = 0

CORE LOG

BOX # 595 HOLE # 4 Sheet B

Depth range 1727.52 to 1730.26 meters Depth range 5664 to 5673 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a 4(?) Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1, 2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 3

UNIT 1 Thickness: 172 Top Rbl Clk BX594 Core 172 Bottom Rbl Clk no

Dip of Unit: Top BX594 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 70 Top Rbl Clk no Core 70 Bottom Rbl Clk no

Dip of Unit: Top ? Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 22 Top Rbl Clk no Core 22 Bottom Rbl Clk no

Dip of Unit: Top ? Bottom ? Glass ✓ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 10 Top Rbl Clk no Core 10 Bottom Rbl Clk BX596

Dip of Unit: Top ? Bottom BX596 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no

Degree of Alteration or Comments:

unit #3 glass is microscopic and uncompacted in carbonate

VESICLES:

UNIT 1 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0/277 = 0%

CORE LOG

BOX # 596 HOLE # 4 Sheet B

Depth range 1730.27 to 1733.32 meters Depth range 5673 to 5683 feet

Logger's Name FT Page 2 of 2

Number of Units in Box____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 3 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1,2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 124.5 Top Rbl Clk____ Core 124.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness: 34 Top Rbl Clk____ Core 34 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 12 Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 146.5 Top Rbl Clk____ Core 146.5 Bottom Rbl Clk____

Dip of Unit: Top 12 Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 5 Bottom 3

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 15 Middle 10 Bottom 5

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units MULTIPLE

Density(%): Top 30 Middle 7 Bottom 10

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Shear Planes: Dip 44 Depth(%)____ Spacing: Max. 20 Min. 10

UNIT 3 Shear Planes: Dip 47 Depth(%)____ Spacing: Max. 20 Min. 10

UNIT 3 Shear Planes: Dip 59 Depth(%)____ Spacing: Max. 20 Min. 10

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 3 Size(max.vs.min.) 10 x 7

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No____ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No____ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

CORE LOG

BOX # 597 HOLE # 4 Sheet B

Depth range 1733 to 1736 meters Depth range 5683 to 5692 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 58cm Top Rbl Clk____ Core 58cm Bottom Rbl Clk____

Dip of Unit: Top Bx596 Bottom 50° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 228 Top Rbl Clk____ Core 228 Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom Bx598 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

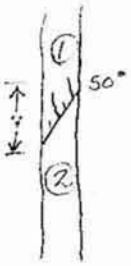
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 0% 2 100% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2 70-80% 3____ 4____ 5____

111
60
57
228
58
286

71
74
11
156

FRACTURES: Yes ✓ No____ Unit 1, 2 Density 1: 60% 2: 30% Dip 1: 35°, 70° 2: 0°-30°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓ 2

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 55% 156/286

CORE LOG

BOX # 598 HOLE # 4 Sheet B
Depth range 1736.06 to 1739.11 meters Depth range 5692 to 5702 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a 2(?) Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 1 Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 262 Top Rbl Clk BX597 Core 262 Bottom Rbl Clk no
Dip of Unit: Top BX597 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 43 Top Rbl Clk no Core 43 Bottom Rbl Clk BX599
Dip of Unit: Top ? Bottom BX599 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present 2 Size(max.vs.min.) 4x3 cm
Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

49
50
17
34
5
10
10

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 242/305 = 79%

CORE LOG

BOX # 599 HOLE # 4 Sheet B

Depth range 1739" to 1742'16" meters Depth range 5702 to 5712 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk____ Core 305 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Hydrated glass Present

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. 1 Ave. 1 # of Vesiculation Units 3

Density(%): Top 10 Middle 7 Bottom 3

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 50 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____ Pillows w/ RADIAL Jointing

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

$0.76 = 232.5/305 = 76\%$

CORE LOG

BOX # 600 HOLE # 4 Sheet B

Depth range 1442 to 1445 meters Depth range 5412 to 5421.5 feet

Logger's Name KE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 3

UNIT 1 Thickness: 26cm Top Rbl Clk — Core 26cm Bottom Rbl Clk —

Dip of Unit: Top Bx 599 Bottom 60° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 173cm Top Rbl Clk — Core 173 Bottom Rbl Clk —

Dip of Unit: Top 60° Bottom 60° Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness: 100cm Top Rbl Clk — Core 100 Bottom Rbl Clk —

Dip of Unit: Top 60° Bottom Bx 601 Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle " Bottom "

Shape: S ✓ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Clast dependent

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 0% 2 100% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2 40% 3 — 4____ 5____

1 23
2 50
3 53
4 12
123

100
173
26
299

1 49
2 51
3 50
4 50
5 41
241

FRACTURES: Yes ✓ No____ Unit 1,2,3 Density 1: open 50% 2: low 10% 3: low 5% Dip 1: 40°, L. NE 2: 155-200, 35° 3: [illegible]

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 81%

241/299

CORE LOG

BOX # 601 HOLE # 4 Sheet B
Depth range 1745.06 to 1747.95 meters Depth range 5721.5 to 5731 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate 1,2

UNIT 1 Thickness: 20 Top Rbl Clk BX600 Core 20 Bottom Rbl Clk no
Dip of Unit: Top BX600 Bottom 25° Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 270 Top Rbl Clk no Core 270 Bottom Rbl Clk BX602
Dip of Unit: Top 25° Bottom BX602 Glass____ Alt1____ Alt2____ 0 ✓
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 290/290 = 100%

CORE LOG

BOX # 602 HOLE # 4 Sheet B

Depth range 1747.95 to 1750.70 meters Depth range 5731 to 5740 feet

Logger's Name EM Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 1

UNIT 1 Thickness: 277 Top Rbl Clk BX601 Core 277 Bottom Rbl Clk BX603

Dip of Unit: Top BX601 Bottom BX603 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures no ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 240/277 = 87%

CORE LOG

BOX # 603 HOLE # 4 Sheet B

Depth range 1750.7 to 1753.8 meters Depth range 5740 to 5750 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 1

UNIT 1 Thickness: 296 Top Rbl Clk — Core 296 Bottom Rbl Clk ——

Dip of Unit: Top 13x602 Bottom 13x604 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

1 56 61 60 59 60 296

1 51 61 56 50 48 11 277

FRACTURES: Yes ✓ No ✓ Unit 1 Density low 10% Dip 0°-15°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 94% 277/296

CORE LOG

BOX # 604 HOLE # 4 Sheet B

Depth range 1753.75 to 1756.50 meters Depth range 5750 to 5759 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 3 Volcaniclastic 3 Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 1,2

UNIT 1 Thickness: 130 Top Rbl Clk____ Core 130 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 55.5 Top Rbl Clk____ Core 55.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 89 Top Rbl Clk____ Core 89 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____

Degree of Alteration or Comments: only 9' here

VESICLES:

UNIT 1 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 30 Middle 30 Bottom 30

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 20 Middle 10 Bottom 15

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max. 4 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 5 Middle 10 Bottom 5

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1,2,3 Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2 100 3 100 4____ 5____

Total amt. of vesicles with filling(%): 1 30 2 70 3 95 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 10 Dip____

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.84 = 229.5/274.5 = 84%

CORE LOG

BOX # 605 HOLE # 4 Sheet B

Depth range 1456.5 to 1759.5 meters Depth range 5759 to 5769 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite 1,3 Volcaniclastic____ Pillow 1,3

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 142 Top Rbl Clk — Core 142 Bottom Rbl Clk —

Dip of Unit: Top Bx604 Bottom 55° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 77 Top Rbl Clk — Core 77 Bottom Rbl Clk —

Dip of Unit: Top 55° Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 63 Top Rbl Clk — Core 63 Bottom Rbl Clk —

Dip of Unit: Top 70° Bottom Bx 606 Glass____ Alt1____ Alt2____ 0 ✓

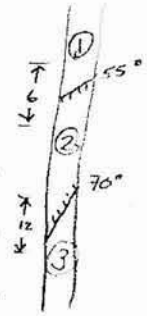
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____



Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2 — 3 — 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2 0% 3 0% 4____ 5____

111
37
142

205
77
282

2
52
30
28
27
37
174

FRACTURES: Yes ✓ No____ Unit 1,2,3 Density 1: 30-40% 2: 50% 3: 40% Dip 1: 25°, 60°, 80°, s. vert. 2: 30°-40° 3: 70°, s. vert

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 62% 174/282

CORE LOG

BOX # 60'6 HOLE # 4 Sheet B

Depth range 1759.55 to 1761.99 meters Depth range 5769 to 5777 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 1 Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk____ Core 244 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 8' of core

Some open lithophysae regions w/ pristine glass here

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units <1

Density(%): Top 25 Middle 25 Bottom 25

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 40 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 7 Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

$0.70 = 171.5/244 = 70\%$

CORE LOG

BOX # 607 HOLE # 4 Sheet B

Depth range 1761.99 to 1763.04 meters Depth range 5777 to 5787 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk____ Core 305 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ Ø____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ Ø____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ Ø____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ Ø____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ Ø____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 20 Middle 20 Bottom 20

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 60 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 5 Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.68 = 208/305 = 68%

CORE LOG

BOX # 608 HOLE # 4 Sheet B

Depth range 1765.04 to 1767.78 meters Depth range 5787 to 5796 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh ✓ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 78 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 78 Bottom____ Glass____ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

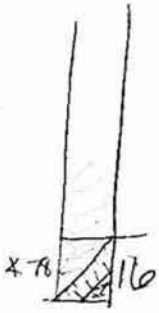
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of Core here



VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 15 Bottom 5

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 65 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.87 = 239.5/274.5 = 87%

CORE LOG

BOX # 609 HOLE # 4 Sheet B

Depth range 1467.8 to 1470.7 meters Depth range 5796 to 5805.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 5 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh 2 Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite 3 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate 5 Carbonate 4

UNIT 1 Thickness: 30 Top Rbl Clk — Core 30 Bottom Rbl Clk —

Dip of Unit: Top Bx608 Bottom 80° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 51 Top Rbl Clk — Core 51 Bottom Rbl Clk —

Dip of Unit: Top 80° Bottom 15° Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 83 Top Rbl Clk — Core 83 Bottom Rbl Clk —

Dip of Unit: Top 15° Bottom 30° Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 106 Top Rbl Clk — Core 106 Bottom Rbl Clk —

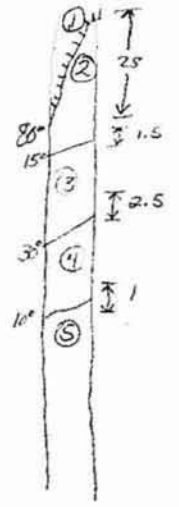
Dip of Unit: Top 30° Bottom 10° Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness: 41 Top Rbl Clk — Core 41 Bottom Rbl Clk —

Dip of Unit: Top 10° Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle " Bottom "

Shape: S ✓ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

1 55
18
106

2 106
41
83
51
281

1 13
81
39
31
164

FRACTURES: Yes ✓ No____ Unit 1 Density 2: 75% 1: 90% 3: 10-20% 4,5: 10% Dip 2: discontinuous 1 to contact - variable 3, 4, 5: sharp. discontinuous

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 58% 164/281

CORE LOG

BOX # 610 HOLE # 4 Sheet B

Depth range 1770.7 to 1773.6 meters Depth range 5805.5 to 5815 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 4 Volcaniclastic____ Pillow 3

Ash____ Breccia____ Conglomerate 1 Carbonate 2

UNIT 1 Thickness: 2.5cm Top Rbl Clk____ Core 2.5 Bottom Rbl Clk____

Dip of Unit: Top BX#609 Bottom 10° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 35cm Top Rbl Clk____ Core 35 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 35° Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 68cm Top Rbl Clk____ Core 68 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 50° Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 184cm Top Rbl Clk____ Core 184 Bottom Rbl Clk____

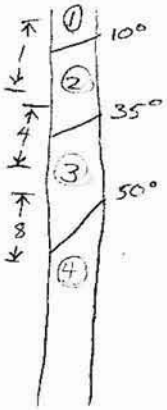
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3 0% 4 0% 5____

44
6
18
68

60
57
53
10
4
184
68
35
2.5
289

2
55
18
53
35
51
212

FRACTURES: Yes 3/4 No____ Unit____ Density 3: 10-15% 4: 15-20% Dip 3: 40°, 5 horz 4: 5 horz, 30°, 10°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 73% 212/289

CORE LOG

BOX # 611 HOLE # 4 Sheet B

Depth range 1773.6 to 1776.3 meters Depth range 5815' to 5824' feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 2

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 228 Top Rbl Clk____ Core 228 Bottom Rbl Clk 1

Dip of Unit: Top 13x6/0 Bottom 19° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 64 Top Rbl Clk____ Core 64 Bottom Rbl Clk____

Dip of Unit: Top 19° Bottom 13x6/2 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

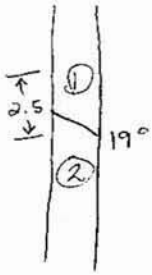
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

oriented alv. planes in lower unit 2



VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle 5% Bottom <1–5% clast dependent

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present 1 Size(max.vs.min.) 25x6mm

Degree of vesicle filling(%): Units: 1 100% 2 100% 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 10% 3____ 4____ 5____

1 58
60
59
51
228

55
9
64

3 58
60
51
98
17
26
260

FRACTURES: Yes ✓ No____ Unit 1 2 Density 1: low 10% 2: med 40–70% Dip 1: 0–10° 2: 45°, 60°–70°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 89%

260/292

CORE LOG

BOX # 612 HOLE # 4 Sheet B

Depth range 1776.32 to 1779.37 meters Depth range 5824 to 5834 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic 1 Pillow 2

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 251 Top Rbl Clk____ Core 251 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness: 54 Top Rbl Clk____ Core 54 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Hyalo-Clastite

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 5 Middle 3 Bottom 3

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 3

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 98 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 20 Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 0.80 = 244/305 = 80%

CORE LOG

BOX # 613 HOLE # 4 Sheet B

Depth range 1779.37 to 1782.12 meters Depth range 5834 to 5845 feet

Logger's Name FT Page 2 of 2

Number of Units in Box____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow 1 3

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 88 Top Rbl Clk____ Core 88 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 148 Top Rbl Clk____ Core 148 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness: 38.5 Top Rbl Clk____ Core 38.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 9' here

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 3

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 7 Bottom 10

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 3

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 98 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

$0.92 = 253.5/274.5 = 92\%$

CORE LOG

BOX # 614 HOLE # 4 Sheet B

Depth range 1782.1 to 1785.2 meters Depth range 5843 to 5853 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 178 Top Rbl Clk____ Core 178 Bottom Rbl Clk____

Dip of Unit: Top Bx613 Bottom 30° Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 117 Top Rbl Clk____ Core 117 Bottom Rbl Clk____

Dip of Unit: Top 30° Bottom Bx615 Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle 1.5% Bottom 2%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1.5% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 50-100% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 30% 2 0% 3____ 4____ 5____

60
57
61
178

59
58
117

2
58
28
11
61
60
25
20
263

FRACTURES: Yes ✓ No____ Unit 1,2 Density 2: 10% 1: 50-70% Dip 2: 63° 1: 45°-50°, 70°, 80° variable radial ⊥ to final 63°

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 92%

263/285

CORE LOG

BOX # 615 HOLE # 4 Sheet B

Depth range 1785.2 to 1787.9 meters Depth range 5853 to 5862 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk____ Core 290 Bottom Rbl Clk____

Dip of Unit: Top Bx614 Bottom Bx616 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 2% Middle 1% Bottom 1.5%

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2____ 3____ 4____ 5____

3
58
59
60
53
55
290

3
58
59
28.
49.
13
207

FRACTURES: Yes ✓ No____ Unit 1 Density 80-90% Dip 75-90°

Natural ✓ Induced ✓ Fault gouge____ Brecciation ?

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 71% 207/290

CORE LOG

BOX # 616 HOLE # 4 Sheet B
Depth range 1787.91 to 1790.35 meters Depth range 5862 to 5870 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 1,4 Volcaniclastic____ Pillow 2,3
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 98 Top Rbl Clk — Core 98 Bottom Rbl Clk no
Dip of Unit: Top BX615 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓
UNIT 2 Thickness: 67 Top Rbl Clk no Core 67 Bottom Rbl Clk no
Dip of Unit: Top ? Bottom 25° Glass____ Alt1____ Alt2 ✓ 0____
UNIT 3 Thickness: 21 Top Rbl Clk no Core 21 Bottom Rbl Clk no
Dip of Unit: Top 25° Bottom 40° Glass____ Alt1____ Alt2 ✓ 0____
UNIT 4 Thickness: 46 Top Rbl Clk no Core 46 Bottom Rbl Clk BX617
Dip of Unit: Top 40° Bottom BX617 Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____

59
39
20
47
21
46

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1-4 Density 100 Dip 0-90
Natural ✓ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 214/232 = 92%

CORE LOG

BOX # 617 HOLE # 4 Sheet 8

Depth range 179.635 to 179.325 meters Depth range 589.70 to 587.95 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 5 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Rubble____

Intrusive Dike____ Sill____ Other____

Other Hyaloclastite 1,3,5 Volcaniclastic____ Pillow 2,4

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 180 Top Rbl Clk — Core 180 Bottom Rbl Clk no

Dip of Unit: Top BX616 Bottom 30° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 40 Top Rbl Clk no Core 40 Bottom Rbl Clk no

Dip of Unit: Top 30° Bottom ? Glass____ Alt1____ Alt2 ✓ 0____

UNIT 3 Thickness: 20 Top Rbl Clk no Core 20 Bottom Rbl Clk no

Dip of Unit: Top ? Bottom 30° Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 40 Top Rbl Clk no Core 40 Bottom Rbl Clk no

Dip of Unit: Top ? Bottom 20° Glass____ Alt1____ Alt2 ✓ 0____

UNIT 5 Thickness: 20 Top Rbl Clk no Core 20 Bottom Rbl Clk BX618

Dip of Unit: Top 20° Bottom BX618 Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1-5 Density 160 Dip 0-90

Slickenslides: Yes____ No ✓ Unit____ Dip____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 194/300 = 65%

27
17
26
12
12
22
17
24
18

CORE LOG

BOX # 618 HOLE # 4 Sheet B

Depth range 1793.25 to 1795.99 meters Depth range 5879.5 to 5888.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic ✓ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 15 Top Rbl Clk____ Core 15 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 30 Top Rbl Clk____ Core 30 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 57.5 Top Rbl (Clk) 57.5 Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 23.5 Top Rbl Clk____ Core 23.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness: 148.5 Top Rbl (Clk) 90.5 Core 58 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: only 9' core

Clk

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 3

Shape: S____ R ✓ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 ✓ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.83 = 228.5/274.5 = 83%

CORE LOG

BOX # 619 HOLE # 4 Sheet B

Depth range 1795.99 to 1798.89 meters Depth range 5888.5 to 5898 feet

Logger's Name FT Page 2 of 2

Number of Units in Box_____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a_____ Phh_____ Transitional_____ Clk/Rubble_____

Intrusive Dike_____ Sill_____ Glass_____ Other_____

Other Hyaloclastite ✓ Volcaniclastic ✓ Pillow ✓

Ash_____ Breccia_____ Conglomerate_____ Carbonate_____

UNIT 1 Thickness: 93.75 Top Rbl Clk_____ Core 37 Bottom Rbl (Clk) 56.75

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2 ✓ 0_____

UNIT 2 Thickness: 58 Top Rbl Clk_____ Core 41.0 Bottom Rbl (Clk) 17

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2 ✓ 0_____

UNIT 3 Thickness: 138 Top Rbl Clk_____ Core 138 Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2 ✓ 0_____

UNIT 4 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2_____ 0_____

UNIT 5 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass_____ Alt1_____ Alt2_____ 0_____

Primary textures _____ _____ _____ _____ _____

Degree of Alteration or Comments: 9.5' here

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 3

Shape: S_____ R ✓ SR_____ SA_____ A_____

Aspect ratio Equant. ✓ Horiz._____ Vert._____ Inclined_____ Dip_____

— on region no open vesicles

UNIT 2 Size(mm): Max._____ Min._____ Ave._____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant._____ Horiz._____ Vert._____ Inclined_____ Dip_____

UNIT 3 Size(mm): Max._____ Min._____ Ave._____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant._____ Horiz._____ Vert._____ Inclined_____ Dip_____

UNIT 4 Size(mm): Max._____ Min._____ Ave._____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant._____ Horiz._____ Vert._____ Inclined_____ Dip_____

UNIT 5 Size(mm): Max._____ Min._____ Ave._____ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant._____ Horiz._____ Vert._____ Inclined_____ Dip_____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

Bubble Entrails Present_____ Continuous_____ Discontinuous_____

Length_____ Dip_____

Voids Present_____ Size(max.vs.min.)_____

Degree of vesicle filling(%): Units: 1 100 2_____ 3_____ 4_____ 5_____

Total amt. of vesicles with filling(%): 1 15 2_____ 3_____ 4_____ 5_____

FRACTURES: Yes ✓ No_____ Unit_____ Density_____ Dip_____

Natural ✓ Induced_____ Fault gouge_____ Brecciation_____ PILLOWS

Presence of Plant Molds: Yes_____ No ✓ Type_____

Rock Quality(# of pieces >4in. long/Total Box length)_____

$0.82 = 239 / 289.75 = 82\%$

CORE LOG

BOX #620 HOLE # 4 Sheet B

Depth range 1798.89 to 1801.79 meters Depth range 5898 to 5907.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic ✓ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 129 Top Rbl Clk____ Core____ Bottom Rbl Clk 129

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness: 52 Top Rbl Clk____ Core 10 Bottom Rbl Clk 42

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 3 Thickness: 109.75 Top Rbl Clk____ Core 58 Bottom Rbl Clk 50.75

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9.5' here

(km 13) Hino Seaside Glass Athens 311 Patrick 76825

VESICLES:

UNIT 1 Size(mm): Max. 3 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 3 Bottom 3

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant.____ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. 2 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 7 Middle 5 Bottom 3

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max. 2 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 7 Middle 10 Bottom 7

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 40 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

Pun Laau Forestry Cabin 1 min thru side of Girl Scout Camp

$7/hr. cash

≈ 9am

3 people

ECKO Lunch

25 min walk w/ pay gas

0.89 = 256.5/289.75 = 89%

CORE LOG

BOX # 621 HOLE # 4 Sheet B

Depth range 1801.79 to 1804.69 meters Depth range 5907.5 to 5917 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic ✓ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 61.5 Top Rbl Clk____ Core 25.5 Bottom Rbl (Clk) 36

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness: 38 Top Rbl Clk____ Core 18 Bottom Rbl (Clk) 20

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 142.25 Top Rbl Clk____ Core 103.75 Bottom Rbl (Clk) 38.5

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 48 Top Rbl Clk____ Core 48 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9.5' here

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 3

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____ 38.5

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 60 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.72 = 208.5 / 289.75 = 72%

CORE LOG

BOX # 622 HOLE # 4 Sheet B

Depth range 1804.69 to 1807.43 meters Depth range 5917 to 5926 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' here

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 25 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.60 = 166/274.5 = 60%

CORE LOG

BOX # 623 HOLE # 4 Sheet B

Depth range _____ to _____ meters Depth range 5926 to 5936 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk____ Core 305 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R — SR — SA — A —

Aspect ratio Equant. ✓ Horiz. — Vert. — Inclined — Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 15 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

-1
10.5
12
14
10
16.5
23.5
38.0
53.0
177.5

177.5/305 = 58%

CORE LOG

BOX # 624 HOLE # 4 Sheet B

Depth range 1810.5 to 1813.2 meters Depth range 5936 to 5945 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 275 Top Rbl Clk____ Core 275 Bottom Rbl Clk____

Dip of Unit: Top Bx623 Bottom Bx625 Glass____ Alt1____ Alt2____ 0____

see diagram UNIT 2 Thickness: 45 Top Rbl Clk____ Core 45 Bottom Rbl Clk____

Dip of Unit: Top 45° Bottom 60° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

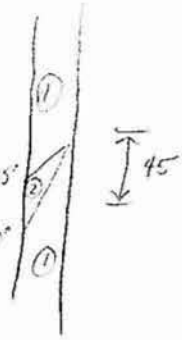
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 2mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 2% Middle 3% Bottom 1%

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

60 45 60 60 40 175

2 4 48 46 41 45 224

FRACTURES: Yes ✓ No____ Unit 1, 2 Density 1: 70% 2: 20% Dip 1: 46, 50, 60, 70°, 5. vert 2: 5. horiz.

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 81% 224/275

CORE LOG

BOX # 625 HOLE # 4 Sheet B

Depth range 1813.2 to 1816.0 meters Depth range 5945 to 5954 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 5 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow 1,3

Ash____ Breccia____ Conglomerate 4,5 Carbonate 4,5

UNIT 1 Thickness: 33 Top Rbl Clk____ Core 33 Bottom Rbl Clk____

Dip of Unit: Top Bx624 Bottom 50° Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 32 Top Rbl Clk____ Core 32 Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom 50° Glass ✓ Alt1____ Alt2____ 0____

UNIT 3 Thickness: 24 Top Rbl Clk____ Core 24 Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom 45° Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness: 49 Top Rbl Clk____ Core 49 Bottom Rbl Clk____

Dip of Unit: Top 45° Bottom 25° Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness: 146 Top Rbl Clk____ Core 146 Bottom Rbl Clk____

Dip of Unit: Top 25° Bottom Bx626 Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units ——

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units ——

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units ——

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2 0% 3 0% 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,3,5 Density 3: 90% 1: 90% Dip 2: same as 1 1: 60° - vert 5: 5. horiz, 60°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 89% 252/284

1 89 57 146 49 24 32 33 284

3 38 58 58 46 52 252

CORE LOG

BOX # 626 HOLE # 4 Sheet B

Depth range 1815.97 to 1819.02 meters Depth range 5954 to 5964 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk — Core 305 Bottom Rbl Clk —

Dip of Unit: Top BX625 Bottom BX627 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present NO Continuous____ Discontinuous____

Length____ Dip____

Voids Present NO Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 95/305 = 31%

CORE LOG

BOX # 627 HOLE # 4 Sheet B

Depth range 1819.02 to 1821.77 meters Depth range 5964 to 5973 feet

Logger's Name FT Page 2 of 2

Number of Units in Box_____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a_____ Phh_____ Transitional_____ Clk/Rubble_____

Intrusive Dike____ Sill____ Glass_____ Other_____

Other Hyaloclastite ✓ Volcaniclastic ✓ Pillow_____

Ash_____ Breccia_____ Conglomerate_____ Carbonate_____

UNIT 1 Thickness: 274.5 Top Rbl Clk 274.5 Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

Primary textures _____ _____ _____ _____ _____

Degree of Alteration or Comments: 9' here

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 3 Bottom 3

Shape: S_____ R_____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip_____

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip_____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

Bubble Entrails Present_____ Continuous_____ Discontinuous_____

Length_____ Dip_____

Voids Present_____ Size(max.vs.min.)_____

Degree of vesicle filling(%): Units: 1 100 2_____ 3_____ 4_____ 5_____

Total amt. of vesicles with filling(%): 1 30 2_____ 3_____ 4_____ 5_____

FRACTURES: Yes ✓ No_____ Unit_____ Density 50 Dip_____

Natural ✓ Induced_____ Fault gouge ✓ Brecciation_____

Presence of Plant Molds: Yes_____ No ✓ Type_____

Rock Quality(# of pieces >4in. long/Total Box length)_____

0.64 = 176.5/274.5 = 64%

CORE LOG

BOX # 628 HOLE # 4 Sheet B

Depth range 1821.8 to 1824.5 meters Depth range 5943 to 5982 feet

Logger's Name RE Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 271 Top Rbl Clk____ Core 271 Bottom Rbl Clk____

Dip of Unit: Top Bx627 Bottom Bx629 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units ___

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2____ 3____ 4____ 5____

2
53
53
57
54
54
271

3
35
35
15
35
28
48
196

FRACTURES: Yes ✓ No____ Unit 1 Density 30-40% Dip 10°, 30°, 50°-60°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 72% 196/271

CORE LOG

BOX # 629 HOLE # 4 Sheet B

Depth range 1824.51 to 1827.25 meters Depth range 5982 to 5991 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 2,3,4 Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

9cm over-lap 1A2 — UNIT 1 Thickness: 23 Top Rbl Clk — Core 23 Bottom Rbl Clk —

Dip of Unit: Top BX 628 Bottom 70° Glass____ Alt1____ Alt2____ 0 ✓

11cm over-lap 2A3 — UNIT 2 Thickness: 33 Top Rbl Clk no Core 33 Bottom Rbl Clk____

Dip of Unit: Top 70 Bottom 85° Glass____ Alt1 ✓ Alt2____ 0____

1cm over-lap 3A4 — UNIT 3 Thickness: 32 Top Rbl Clk no Core 32 Bottom Rbl Clk no

Dip of Unit: Top 85° Bottom 75° Glass____ Alt1 ✓ Alt2____ 0____

UNIT 4 Thickness: 186 Top Rbl Clk no Core 186 Bottom Rbl Clk BX 630

Dip of Unit: Top 75° Bottom BX 630 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Shear Planes: Dip 75° Depth(%) 30 Spacing: Max. 1.5cm Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

18 34 57

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 99/305 = 32%

CORE LOG

BOX # 630 HOLE # 4 Sheet B

Depth range 1827.26 to 1830 meters Depth range 5991 to 6000 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike ✓ Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of Core here

Core altered sand-like

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom ✓

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1 Ø 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ? Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.04 = 12/274.5 = 4%

CORE LOG

BOX # 631 HOLE # 7 Sheet B

Depth range 1030 to 1032.8 meters Depth range 6000 to 6007 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 211 Top Rbl Clk____ Core 211 Bottom Rbl Clk____

Dip of Unit: Top 60x630 Bottom 60° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 64 Top Rbl Clk____ Core 64 Bottom Rbl Clk____

Dip of Unit: Top 60° Bottom 60x632 Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

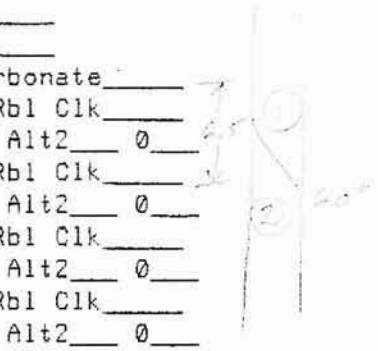
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



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VESICLES:

UNIT 1 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 4mm Min. 2mm Ave. 4mm # of Vesiculation Units —

Density(%): Top 41% Middle " Bottom "

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

==========

FRACTURES: Yes ✓ No____ Unit 1,2 Density 1: 8.0% 2: 1.0% Dip 1: 25-30°, 2: 30-50°, 250

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 53%

CORE LOG

BOX # 632 HOLE # 4 Sheet B

Depth range 1832.75 to 1835.49 meters Depth range 6009 to 6018 feet

Logger's Name FT Page 2 of 2

Number of Units in Box____ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic ✓ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of Core here

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 10 Middle 10 Bottom 10

Shape: S____ R____ SR — SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 80 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.56 = 152.5/274.5 = 56%

CORE LOG

BOX # 633 HOLE # 4 Sheet B

Depth range 1835.49 to 1838.54 meters Depth range 6018 to 6028 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 2 Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk 244 Core 1 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 2 Thickness: 61 Top Rbl Clk____ Core 61 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top 7 Middle 10 Bottom 3

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 25 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ 1 Induced ✓ 2 Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.50 = 152.5/305 = 50%

CORE LOG

BOX # 034 HOLE # 7 Sheet B

Depth range 1828.5 to 1841.4 meters Depth range 6000 to 6042.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 285 Top Rbl Clk____ Core 285 Bottom Rbl Clk____

Dip of Unit: Top 0x60° Bottom 0x35 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.— Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 70-80% Dip 30°, 50°, 60°, 90°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 42% 121/285

2
20
50
54
59
56
285

1
21
29
30
31
10
121

CORE LOG

BOX # 635 HOLE # 4 Sheet B

Depth range 1841.44 to 1845.33 meters Depth range 6037.5 to 6047 feet

Logger's Name CN Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk 10 Core 290 Bottom Rbl Clk 10

Dip of Unit: Top 60 Bottom 60 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 21 Top Rbl Clk 10 Core 21 Bottom Rbl Clk 10

Dip of Unit: Top 60 Bottom 60 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present 10 Continuous____ Discontinuous____

Length____ Dip____

Voids Present 10 Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 60,80°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 139/290 = 48%

34
26
14
23
12
14
16

CORE LOG

BOX # 636 HOLE # 4 Sheet B

Depth range 1744.3 to 1746.9 meters Depth range 6047 to 6055.5 feet

Logger's Name RC Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 270 Top Rbl Clk____ Core 270 Bottom Rbl Clk____

Dip of Unit: Top Bx635 Bottom Bx637 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

3
48
56
52
55
59
270

2
88
53
40
28
11
220

FRACTURES: Yes ✓ No____ Unit 1 Density 25-30% Dip 40°-45°, 65°-70°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 81% 220/270

CORE LOG

BOX # 637 HOLE # 4 Sheet B

Depth range 1846.98 to 1849.02 meters Depth range 6055.5 to 6065 feet

Logger's Name CN Page 1 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk — Core 290 Bottom Rbl Clk —

Dip of Unit: Top BX636 Bottom BX638 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

17 14 13 40 11

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 60°, 36°

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 119/290 = 41%

CORE LOG

BOX # 638 HOLE # 4 Sheet B

Depth range 1849.83 to 1852.57 meters Depth range 6065 to 6074 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,3 Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 161.5 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 66 Glass____ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness: 17 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 66 Bottom 71 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 120.5 Top Rbl Clk____ Core 121.5 Bottom Rbl Clk____

Dip of Unit: Top 71 Bottom____ Glass____ Alt1 ✓ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

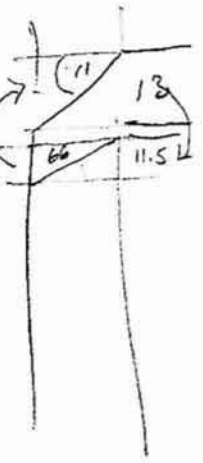
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9" here



VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top 3 Middle 5 Bottom 3

Shape: S____ R____ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz. ✓ Vert. ✓ Inclined ✓ Dip____

UNIT 3 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 0 2 100 3 0 4____ 5____

Total amt. of vesicles with filling(%): 1 0 2 70 3 0 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 30 Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.64 = 176.5/274.5 = 64%

CORE LOG

BOX # 639 HOLE # 4 Sheet B

Depth range 1852.57 to 1855.32 meters Depth range 6074 to 6083 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' here

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.95 = 261.5/274.5 = 95%

CORE LOG

BOX # 640 HOLE # 4 Sheet B

Depth range 1855.31 to 1857.06 meters Depth range 6083 to 6092 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,3,4 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate 2

UNIT 1 Thickness: 169 Top Rbl Clk — Core 169 Bottom Rbl Clk —

Dip of Unit: Top BX639 Bottom ? Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 30 Top Rbl Clk — Core 30 Bottom Rbl Clk —

Dip of Unit: Top ? Bottom 60° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness: 31 Top Rbl Clk — Core 31 Bottom Rbl Clk —

Dip of Unit: Top 60° Bottom 60° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 4 Thickness: 44 Top Rbl Clk — Core 44 Bottom Rbl Clk BX641

Dip of Unit: Top 60° Bottom BX641 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 133/274 = 49%

CORE LOG

BOX # 641 HOLE # 7 Sheet B

Depth range 1958.1 to 1961.1 meters Depth range 6092 to 6102 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk____ Core 305 Bottom Rbl Clk____

Dip of Unit: Top Bx640 Bottom Bx642 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 70-80% Dip 50°, 40°, vertical

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 4% 20/305

CORE LOG

BOX # 642 HOLE # 4 Sheet B

Depth range 1561.1 to 1563.9 meters Depth range 5122 to 6111 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 63.9 Sill____ Glass____ Other____

Other Hyaloclastite 3 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 118 Top Rbl Clk____ Core 115 Bottom Rbl Clk____

Dip of Unit: Top 15 Bottom 50° Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 25 Top Rbl Clk____ Core 25 Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom 50° Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness: 33 Top Rbl Clk____ Core 33 Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom 50° Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness: 102 Top Rbl Clk____ Core 102 Bottom Rbl Clk____

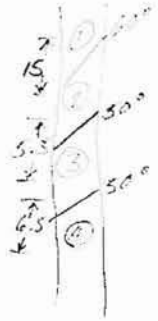
Dip of Unit: Top 50° Bottom 15 Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:



118
25
33
102
278

==========

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 0% Middle <1% Bottom <1%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2 0% 3____ 4 0% 5____

==========

FRACTURES: Yes ✓ No____ Unit 1,2,3,4 Density 1: 20% 2: 10% 3: 10% 4: 20% Dip 1: 35, 2: 30°, 3: 10°, 4: 30°, 60°

Natural ✓4 Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 31% 87/278

CORE LOG

BOX # 643 HOLE # 4 Sheet B

Depth range 1863.85 to 1866.90 meters Depth range 6111 to 6121 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk — Core 305 Bottom Rbl Clk —

Dip of Unit: Top BX642 Bottom BX644 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1 — 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 0-90°

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 92/305 = 30%

CORE LOG

BOX # 644 HOLE # 4 Sheet B

Depth range 1866.9 to 1869.7 meters Depth range 6121 to 6130 feet

Logger's Name [illegible] Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 42 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: [illegible] Top Rbl Clk____ Core [illegible] Bottom Rbl Clk____

Dip of Unit: Top [illegible] Bottom [illegible] Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness: 25 Top Rbl Clk____ Core 25 Bottom Rbl Clk____

Dip of Unit: Top 60° Bottom 70° Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2 — 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1-2 Density [illegible] Dip [illegible] to chill margin

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 63% 118/242

CORE LOG

BOX # [illegible] HOLE # 4 Sheet B

Depth range [illegible] to [illegible] meters Depth range 4730 to 6140 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike [illegible] Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia 3 Conglomerate____ Carbonate____

UNIT 1 Thickness: 60 Top Rbl Clk____ Core____ Bottom Rbl Clk ✓

Dip of Unit: Top [illegible] Bottom 60° Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 25 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 60° Bottom [illegible] Glass ✓ Alt1___ Alt2___ 0___

UNIT 3 Thickness: 104 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top [illegible] Bottom [illegible] Glass____ Alt1___ Alt2___ 0 ✓

UNIT 4 Thickness: 64 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 90° Bottom [illegible] Glass ✓ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

==========

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

==========

FRACTURES: Yes ✓ No____ Unit 1,2,3,4 Density [illegible] Dip [illegible]

Natural____ Induced ✓ Fault gouge____ Brecciation ✓3

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 42% 104/253

CORE LOG

BOX # 646 HOLE # 4 Sheet B

Depth range 1842.4 to 1875.8 meters Depth range 6140 to 6150 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1,3 Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 174 Top Rbl Clk____ Core 174 Bottom Rbl Clk____

Dip of Unit: Top 6-6 645 Bottom 40° Glass ✓ Alt1___ Alt2___ 0___

UNIT 2 Thickness: 90 Top Rbl Clk____ Core 90 Bottom Rbl Clk____

Dip of Unit: Top 50° Bottom 40° Glass___ Alt1___ Alt2___ 0 ✓

UNIT 3 Thickness: 15 Top Rbl Clk____ Core 15 Bottom Rbl Clk____

Dip of Unit: Top 40° Bottom 8x644 Glass ✓ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass___ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

==========

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 — 2 0% 3 — 4____ 5____

==========

FRACTURES: Yes ✓ No____ Unit 1,2,3 Density 1: 60% 2: 5% 3: 90% Dip 1: 30, 60°, 90° 2: 25°-30° 3: 90°, [illegible]

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 58% 162/249

55
116
174
90
15
249
2
38
41
47
36
162

CORE LOG

BOX # 647 HOLE # 4 Sheet B

Depth range 1875 75 to 1878 50 meters Depth range 6150 to 6159 feet

Logger's Name FT Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh___ Transitional___ Clk/Rubble___

Intrusive Dike 1 Sill___ Glass___ Other___

Other Hyaloclastite___ Volcaniclastic___ Pillow___

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 274.5 Top Rbl Clk___ Core 274.5 Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures ___ ___ ___ ___ ___

Degree of Alteration or Comments: 9' here

VESICLES:

UNIT 1 Size(mm): Max. 2 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S___ R ✓ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1 100 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1 25 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit___ Density 90 Dip___

Natural ✓ Induced ✓ Fault gouge___ Brecciation___

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length)___

0.08 = 23/274.5 = 8%

CORE LOG

BOX # 648 HOLE # 4 Sheet B

Depth range 1878.50 to 1881.24 meters Depth range 6159 to 6168 feet

Logger's Name FT Page___ of___

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite 2 Volcaniclastic____ Pillow 2

Ash____ Breccia____ Conglomerate____ Carbonate____

overlap Total: 274.5

UNIT 1 Thickness: 267.5 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom 83 Glass____ Alt1___ Alt2 ✓ 0___

UNIT 2 Thickness: 22 Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top 83 Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' here

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 80 Dip____

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.30 = 74/274.5 = 30%

CORE LOG

BOX # 649 HOLE # 4 Sheet B
Depth range 1881.2 to 1883.8 meters Depth range 6168 to 6176.5 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite 2 Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 20 Top Rbl Clk____ Core 20 Bottom Rbl Clk____
Dip of Unit: Top Bx648 Bottom 60° Glass ✓ Alt1___ Alt2___ 0___
UNIT 2 Thickness: 249 Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top 60° Bottom Bx650 Glass ✓ Alt1___ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures ____ ____ ____ ____ ____

7 ① 60°
7 ②
↓

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max.— Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.— Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

1
84
51
58
56
249

2
22
33
24
11
12
11
18
30
164

FRACTURES: Yes ✓ No____ Unit 1, 2 Density 1: 80% 2: 20-30% Dip 1: 30° variable 2: 30°, 30°, 40°
Natural ✓ Induced ✓ Fault gouge ✓? Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 62% 164/269

CORE LOG

BOX # 650 HOLE # 4 Sheet B

Depth range 1883.8 to 1886.7 meters Depth range 6176.5' to 6186' feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 273 Top Rbl Clk____ Core 273 Bottom Rbl Clk____

Dip of Unit: Top Bx649 Bottom Bx651 Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top 1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 10-20% Dip 30, 70, 90°

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 67% 184/273

1
13
53
30
24
60
43
273

3
48
15
15
12
33
46
15
184

CORE LOG

BOX # 651 HOLE # 1 Sheet B
Depth range 1886.7 to 1889.5 meters Depth range 6186' to 6195' feet
Logger's Name KE Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 1 Volcaniclastic____ Pillow 1
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 282 Top Rbl Clk____ Core 282 Bottom Rbl Clk____
Dip of Unit: Top Bx650 Bottom Bx652 Glass ✓ Alt1 ✓ Alt2___ 0___
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —
Density(%): Top <1% Middle " Bottom "
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 <1% 2____ 3____ 4____ 5____

1
54
50
54
61
60
282

2
48
39
56
52
51
246

FRACTURES: Yes ✓ No____ Unit 1 Density 90% Dip ⊥ to chill margin, variable
Natural ✓ Induced____ Fault gouge ✓ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 84% 246/282

CORE LOG

BOX # 652 HOLE # 4 Sheet B

Depth range 1889.5 to 1892.2 meters Depth range 6195 to 6204 feet

Logger's Name RG Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 279 Top Rbl Clk____ Core 279 Bottom Rbl Clk____

Dip of Unit: Top Bx651 Bottom Bx653 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units____

Density(%): Top 1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 90% Dip 4 to chill margin

Natural ✓ Induced____ Fault gouge ✓ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 81% 226/279

1
56
60
58
53
52
279

2
26
61
60
78
12
89
226

CORE LOG

BOX # 653 HOLE # 4 Sheet B

Depth range 1892.2 to 1894.97 meters Depth range 6204 to 6213 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 267 Top Rbl Clk____ Core 267 Bottom Rbl Clk____

Dip of Unit: Top Bx652 Bottom Bx654 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2 anhydrite 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 15-20% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 70% Dip variable, to to chilled margin

Natural ✓ Induced____ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 75% 201/267

2
5
53
54
53
59
48
267

2
38
44
43
53
23
201

CORE LOG

BOX # 654 HOLE # 4 Sheet B

Depth range 1894.9 to 1897.7 meters Depth range 6213 to 6222 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 266 Top Rbl Clk____ Core 266 Bottom Rbl Clk____

Dip of Unit: Top Rx653 Bottom Rx655 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.) ____

Degree of vesicle filling(%): Units: 1 100% 2 ✓ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 10% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 60-70% Dip 4 to chill margin, [illegible]

Natural ✓ Induced____ Fault gouge ✓ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 73% 194/266

60
55
59
51
41
266

2
37
37
36
44
40
194

CORE LOG

BOX # 655 HOLE # 4 Sheet B

Depth range 1894.4 to 1900.6 meters Depth range 6222 to 6231.5 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 890 Top Rbl Clk____ Core 890 Bottom Rbl Clk____

Dip of Unit: Top Bx 654 Bottom Bx 656 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units ——

Density(%): Top <10% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 0% 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 70-80% Dip ± to chill margin variable

Natural ✓ Induced____ Fault gouge ✓ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 74%

2
56
60
59
55
60
290

2
44
41
36
35
55
214

214/290

CORE LOG

BOX # 656 HOLE # 4 Sheet B

Depth range 1900.6 to 1903.7 meters Depth range 6231.5 to 6241.5 feet

Logger's Name KE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 293 Top Rbl Clk____ Core 293 Bottom Rbl Clk____

Dip of Unit: Top Bx655 Bottom Bx654 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units —

Density(%): Top <1% Middle " Bottom "

Shape: S____ R ✓ SR ✓ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 70-80% Dip 4 chill margin, variable

Natural ✓ Induced____ Fault gouge ✓ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 85%

2
54
61
59
58
61
293

52
54
41
51
50
248

248/293

CORE LOG

BOX # 65 HOLE # 4 Sheet B
Depth range 1918.66 to 1906.5 meters Depth range 6294.5 to 6251 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 1 Volcaniclastic____ Pillow 2
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 23.5 Top Rbl Clk — Core 23.5 Bottom Rbl Clk —
Dip of Unit: Top BX 656 Bottom BX 659 Glass____ Alt1____ Alt2 ✓ 0____
UNIT 2 Thickness: 5.5 Top Rbl Clk — Core 5.5 Bottom Rbl Clk —
Dip of Unit: Top 20-30 Bottom 20-30 Glass____ Alt1____ Alt2 ✓ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top 20 Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1,2 Density 100 Dip 0-90
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 190/290 = 67%

CORE LOG

BOX # 659 HOLE # 4 Sheet B
Depth range 1906.55 to 1907.30 meters Depth range 6251 to 6260 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 3 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 3 Sill____ Glass____ Other____
Other Hyaloclastite 1 Volcaniclastic____ Pillow 2
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 201 Top Rbl Clk — Core 201 Bottom Rbl Clk —
Dip of Unit: Top BX659 Bottom 30° Glass____ Alt1____ Alt2 ✓ 0____
UNIT 2 Thickness: 73 Top Rbl Clk — Core 73 Bottom Rbl Clk —
Dip of Unit: Top 30° Bottom BX659 Glass____ Alt1____ Alt2 ✓ 0____
UNIT 3 Thickness: 25 Top Rbl Clk — Core 25 Bottom Rbl Clk —
Dip of Unit: Top 50 Bottom 55 Glass____ Alt1____ Alt2 ✓ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____

100% brick
hp 2.12

Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present NO Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1 — 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 100 Dip 0-90
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 204/274 = 74%

CORE LOG

BOX # 69 HOLE # 4 Sheet B
Depth range 1909.30 to 1912.04 meters Depth range 6260 to 6267 feet
Logger's Name EN Page 2 of 2
Number of Units in Box 4 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 2,4 Volcaniclastic____ Pillow 1,3
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 24 Top Rbl Clk — Core 24 Bottom Rbl Clk —
Dip of Unit: Top BX 65 Bottom 20 Glass____ Alt1____ Alt2 ✓ 0____
UNIT 2 Thickness: 104 Top Rbl Clk — Core 104 Bottom Rbl Clk —
Dip of Unit: Top 20 Bottom 40 Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness: 83 Top Rbl Clk — Core 83 Bottom Rbl Clk —
Dip of Unit: Top 40 Bottom 50 Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness: 87 Top Rbl Clk — Core 87 Bottom Rbl Clk —
Dip of Unit: Top 50 Bottom BX 60 Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

34
50
45
50
27
60

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
ND UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present no Continuous____ Discontinuous____
Length____ Dip____
Voids Present no Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 — 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 — 2____ 3____ 4____ 5____

41
19
85
5
27

FRACTURES: Yes ✓ No____ Unit 2,4 Density 100 Dip 0-70°
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 193/274 = 70%

CORE LOG

BOX # 660 HOLE # 1 Sheet B
Depth range 1912 to 1914.8 meters Depth range 6269 to 6278 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 2 Sill____ Glass____ Other____
Other Hyaloclastite 1 Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 10 cm Top Rbl Clk____ Core 10 cm Bottom Rbl Clk____
Dip of Unit: Top Bx 659 Bottom 65° Glass____ Alt1___ Alt2___ 0 ✓
UNIT 2 Thickness: 261 cm Top Rbl Clk____ Core 261 Bottom Rbl Clk____
Dip of Unit: Top 65° Bottom Bx 661 Glass ✓ Alt1 ✓ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures ____ ____ ____ ____ ____

10 ① 65° 2

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. <1mm Min. <1mm Ave. <1mm # of Vesiculation Units____
Density(%): Top <1% Middle " Bottom "
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

57
52
42
58
52
241

33
40
32
47
52
204

FRACTURES: Yes ✓ No____ Unit R Density 10% Dip 60°-90°
Natural____ Induced ✓ Fault gouge ✓ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 75% 204/241

CORE LOG

BOX # 661 HOLE # 4 Sheet B

Depth range 1914.8 to 1917.5 meters Depth range 6278 to 6287 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 62 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 226 Top Rbl Clk____ Core 226 Bottom Rbl Clk____

Dip of Unit: Top Bx662 Bottom 75° Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 62 Top Rbl Clk____ Core 62 Bottom Rbl Clk____

Dip of Unit: Top 75° Bottom Bx663 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

T 18+ ↓ ① 75° ②

VESICLES:

UNIT 1 Size(mm): Max. 2mm Min. <1mm Ave. 1mm # of Vesiculation Units 1/2

Density(%): Top 2% Middle 2% Bottom 1%

Shape: S____ R ✓ SR ✓ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 100% 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1 100% 2 — 3____ 4____ 5____

2
58
59
59
50
226
62
288

3
58
59
41
38
36
232

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 81% 232/288

CORE LOG

BOX # 662 Depth range 1917.54 to 1920.43 meters HOLE # 4 Sheet B
Depth range 6287 to 6296.5 feet
Logger's Name FT Page 2 of 2
Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite 2 Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 289.5 Top Rbl Clk____ Core 289.5 Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1 ✓ Alt2____ 0____
UNIT 2 Thickness: 11 Top Rbl Clk____ Core 11 Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments: 9.5' here

VESICLES:
UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S____ R____ SR ✓ SA ✓ A ✓
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 0 2 100 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1 0 2 70 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____
Natural ✓ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length)____

0.59 = 170/289.75 = 59%

CORE LOG

BOX # 663 HOLE # 4 Sheet B

Depth range 1920.43 to 1922.87 meters Depth range 6296.5 to 6304.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 244 Top Rbl Clk____ Core 244 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 8' of Core here
2nd half of Core Sawed or Sliced

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density 95 Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____ DISKING

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.05 = 13/244 = 5%

CORE LOG

BOX # 664 HOLE # 4 Sheet B

Depth range 1922.87 to 1925.62 meters Depth range 6304.5 to 6313.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' here Core sand-like + disking present

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VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0% = 0/274.5 = 0%

CORE LOG

BOX #665 HOLE #4 Sheet B

Depth range 1925.62 to 1928.21 meters Depth range 6315.5 to 6322 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 259.25 Top Rbl Clk____ Core 259.25 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____

Degree of alteration or Comments: 8.5' here

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.04 = 11.5/259.25 = 4%

CORE LOG

BOX # 666 # 4 Sheet B

Depth range 1928.21 to _____ meters Depth range 6322 to 6332 feet

Logger's Name FT Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk____ Core 305 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 10' here olivine still pristine

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VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge ✓ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.63 = 193/305 = 63%

CORE LOG

BOX # 667 HOLE # 4 Sheet B
Depth range 1932.45 to 1934.31 meters Depth range 6332 to 6342 feet
Logger's Name FT Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 305 Top Rbl Clk____ Core 305 Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____
Primary textures ____ ____ ____ ____ ____
Degree of alteration or Comments: 10' here

VESICLES:
UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1
Density(%): Top <1 Middle <1 Bottom <1
Shape: S____ R ✓ SR____ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____
Natural____ Induced ✓ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length)____

0.29 = 88/305 = 29%

CORE LOG

BOX # 168 HOLE # 4 Sheet B

Depth range 1934.3 to 1937.1 meters Depth range 6342 to 6351 feet

Logger's Name RE Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 286 Top Rbl Clk____ Core 286 Bottom Rbl Clk____

Dip of Unit: Top Bx667 Bottom Bx669 Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.— Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1— 2____ 3____ 4____ 5____

2
57
60
59
58
55
286
2
48
60
34
50
38
230

FRACTURES: Yes ✓ No____ Unit 1 Density 10% Dip 10-20°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No____ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 80% 230/286

CORE LOG

BOX # 669 HOLE # 4 Sheet B

Depth range 1937.1 to 1939.8 meters Depth range 6351 to 6360 feet

Logger's Name RE Page___ of___

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 2(?) Sill___ Glass____ Other____

Other Hyaloclastite 1,2 Volcaniclastic____ Pillow 2

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 55 Top Rbl Clk____ Core 55 Bottom Rbl Clk____

Dip of Unit: Top 13x66S Bottom 85° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 2 Thickness: 230 Top Rbl Clk____ Core 230 Bottom Rbl Clk____

Dip of Unit: Top 85° Bottom 13x6'10 Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

1 85°
35
2

VESICLES:

UNIT 1 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

3
58
53
57
58
57
285

2
38
34
56
58
50
236

285
-55
230

FRACTURES: Yes ✓ No____ Unit 1,2 Density 1-5% 2/10-20% Dip 85°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 236/285

CORE LOG

BOX # 670 HOLE # 4 Sheet B

Depth range 1939.8 to 1942.9 meters Depth range 6360' to 6370' feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Pah____ Transitional____ Clk/Rubble____

Intrusive Dike (?) Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 288 Top Rbl Clk____ Core 288 Bottom Rbl Clk____

Dip of Unit: Top Bx669 Bottom Bx671 Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

2
56
60
57
58
54
288

53
13
40
106

FRACTURES: Yes ✓ No____ Unit 1 Density 70% Dip 10-30° + 90°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 37% 106/288

CORE LOG

BOX # 671 HOLE # 4 Sheet B

Depth range 1942.85 to 1944.59 meters Depth range 6370 to _____ feet

Logger's Name EN Page___ of___

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a_____ Phh_____ Transitional_____ Clk/Rubble_____

Intrusive Dike 1 Sill_____ Glass_____ Other_____

Other Hyaloclastite_____ Volcaniclastic_____ Pillow_____

Ash_____ Breccia_____ Conglomerate_____ Carbonate_____

UNIT 1 Thickness: 274 Top Rbl Clk — Core 274 Bottom Rbl Clk —

Dip of Unit: Top BX670 Bottom BX672 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:_____ Top Rbl Clk_____ Core_____ Bottom Rbl Clk_____

Dip of Unit: Top_____ Bottom_____ Glass____ Alt1___ Alt2___ 0___

Primary textures _____ _____ _____ _____ _____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant,_____ Horiz._____ Vert._____ Inclined____ Dip_____

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant._____ Horiz._____ Vert._____ Inclined____ Dip_____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant._____ Horiz._____ Vert._____ Inclined____ Dip_____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant._____ Horiz._____ Vert._____ Inclined____ Dip_____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units_____

Density(%): Top_____ Middle_____ Bottom_____

Shape: S_____ R_____ SR_____ SA_____ A_____

Aspect ratio Equant,_____ Horiz._____ Vert._____ Inclined____ Dip_____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

NO UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

UNIT__ Shear Planes: Dip_____ Depth(%)_____ Spacing: Max._____ Min._____

Bubble Entrails Present NO Continuous_____ Discontinuous_____

Length_____ Dip_____

Voids Present NO Size(max.vs.min.)_____

Degree of vesicle filling(%): Units: 1 — 2_____ 3_____ 4_____ 5_____

Total amt. of vesicles with filling(%): 1 — 2_____ 3_____ 4_____ 5_____

FRACTURES: Yes ✓ No_____ Unit 1 Density 100 Dip 0-90

Natural____ Induced ✓ Fault gouge ✓ Brecciation_____

Presence of Plant Molds: Yes_____ No ✓ Type_____

Rock Quality(# of pieces >4in. long/Total Box length) 55/274 = 20%

CORE LOG

BOX # 6T2 HOLE #____ Sheet B
Depth range 1945.59 to 1948.49 meters Depth range_____ to_____ feet
Logger's Name EN Page___ of___
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike 1 Sill____ Glass____ Other____
Other Hyaloclastite____ Volcaniclastic____ Pillow____
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 290 Top Rbl Clk — Core 290 Bottom Rbl Clk —
Dip of Unit: Top BX289 Bottom BX291 Glass____ Alt1___ Alt2___ 0 ✓
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass 1 Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures ____ ____ ____ ____ ____
Degree of Alteration or Comments:

VESICLES:
UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
NO UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present NO Continuous____ Discontinuous____
Length____ Dip____
Voids Present NO Size(max.vs.min.)____
Degree of vesicle filling(%): Units: 1 — 2 — 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

%
5
31
40
20
26
15
15

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____
Natural____ Induced____ Fault gouge____ Brecciation____
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 192/290 = 66%

CORE LOG

BOX # 673 HOLE # 4 Sheet B

Depth range 1948.5 to 1950.8 meters Depth range 6388.5 to 6396 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 229 Top Rbl Clk____ Core 229 Bottom Rbl Clk____

Dip of Unit: Top Bx672 Bottom Bx644 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

2
57
55
60
39
51
262

2
34
31
25
48
140

2
54
27
52
49
37
229

FRACTURES: Yes ✓ No____ Unit 1 Density 80% Dip 30°, 60°, 80°, 90°

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 62% 141/229

CORE LOG

BOX # 674 HOLE # 4 Sheet B

Depth range 1950.72 to 1953.52 meters Depth range 6396 to 6405 feet

Logger's Name EN Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk — Core 274 Bottom Rbl Clk —

Dip of Unit: Top BX 673 Bottom BX 675 Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min. — Ave. — # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

no UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present no Continuous____ Discontinuous____

Length____ Dip____

Voids Present no Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1 — 2 — 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes____ No ✓ Unit____ Density____ Dip____

Natural____ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 62/274 = 23%

CORE LOG

BOX # 675 HOLE # 4 Sheet B

Depth range_____ to_____ meters Depth range 6405 to 6414.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike 1 Sill____ Glass____ Other____

Other Hyaloclastite____ Volcaniclastic____ Pillow____

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 289.75 Top Rbl Clk____ Core 289.75 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9.5' here

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

$0.75 = 216/289.75 = 75\%$

CORE LOG

BOX # 646 HOLE # ___ Sheet B

Depth range 1956.1 to 1959.3 meters Depth range 6414.5 to 6424 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh___ Transitional___ Clk/Rubble___

Intrusive Dike 1 Sill___ Glass___ Other___

Other Hyaloclastite 2 Volcaniclastic___ Pillow___

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 195 Top Rbl Clk___ Core 195 Bottom Rbl Clk___

Dip of Unit: Top Bx675 Bottom 80° Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 2 Thickness: 83 Top Rbl Clk___ Core 83 Bottom Rbl Clk___

Dip of Unit: Top 80° Bottom Bx677 Glass ✓ Alt1 ✓ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures ___ ___ ___ ___ ___

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max. — Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units:1___ 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1___ 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit 1,2 Density 1: 70% 2: 30% Dip 1: 0°, 60°, 75°, 90° 2: 60°, 90°

Natural___ Induced ✓ Fault gouge___ Brecciation ✓

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length) 61% 140/248

CORE LOG

BOX # 677 HOLE # 4 Sheet B

Depth range 1959.09 to 1962.07 meters Depth range 6424 to 6433 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR ✓ SA ✓ A____ — one region w/ hi vesicle ρ

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.83 = 229/274.5 = 83%

CORE LOG

BOX # 678 HOLE # 4 Sheet B

Depth range 1962.07 to 1964.81 meters Depth range 6433 to 6442 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: Core is of Hyaloclastite + Pillow Fragments. Ratio: 70:30

VESICLES:

UNIT 1 Size(mm): Max. <1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R ✓ SR____ SA____ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

$0.88 = 240.5 / 274.5 = 88\%$

CORE LOG

BOX # 679 HOLE # 4 Sheet B

Depth range 1964.81 to 1967.56 meters Depth range 6442 to 6451 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' of core here

Box consists of Pillows & hyaloclastite

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR____ SA ✓ A____

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural X Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

081 = 222.5/274.5 = 81%

CORE LOG

BOX # 680 HOLE # 1 Sheet B

Depth range 1967.6 to 1970.6 meters Depth range 6451 to 6461 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 293 Top Rbl Clk____ Core 293 Bottom Rbl Clk____

Dip of Unit: Top Bx679 Bottom Bx681 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 20% Dip 0-30°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No____ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 92% 271/293

39
54
59
60
58
293

1
53
53
55
60
50
271

CORE LOG

BOX # 681 HOLE # 4 Sheet B

Depth range 1940.6 to 1973.4 meters Depth range 6461 to 6470 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 2

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 276 Top Rbl Clk____ Core 276 Bottom Rbl Clk____

Dip of Unit: Top Bx680 Bottom Bx682 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

1 45 56 61 54 60 276

2 64 34 28 47 173

FRACTURES: Yes ✓ No____ Unit 1 Density 20% Dip 0-30°

Natural____ Induced____ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No____ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 63% 173/276

CORE LOG

BOX # 682 HOLE # 7 Sheet B

Depth range 1973.35 to 1976.10 meters Depth range 6470 to 6479 feet

Logger's Name FT Page 2 of 2

Number of Units in Box ✓ Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill✓ Glass____ Other____

Other Hyaloclastite✓ Volcaniclastic____ Pillow✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top (Rbl) Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9% here Pillows + Hyaloclastite

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VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R✓ SR✓ SA✓ A____

Aspect ratio Equant.✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes✓ No____ Unit____ Density____ Dip____

Natural✓ Induced✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.91 = 248.5 / 274.5 = 91%

CORE LOG

BOX # 683 HOLE # 4 Sheet B

Depth range 1976.10 to 1978.99 meters Depth range 6479 to 6488.5 feet

Logger's Name FT Page___ of___

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh___ Transitional___ Clk/Rubble___

Intrusive Dike___ Sill___ Glass___ Other___

Other Hyaloclastite ✓ Volcaniclastic___ Pillow ✓

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 289.75 Top Rbl (Clk)___ Core 289.75 Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2 ✓ 0___

UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures ___ ___ ___ ___ ___

Degree of Alteration or Comments: 9.5' here Hyaloclastite + Pillows

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VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S___ R___ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1___ 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1___ 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit___ Density___ Dip___

Natural ✓ Induced___ Fault gouge___ Brecciation___

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length)___

$0.75 = 218.5 / 289.75 = 75\%$

CORE LOG

BOX # 684 HOLE # 4 Sheet B

Depth range 1978.99 to 1981.74 meters Depth range 6488.5 to 6497.5 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2 ✓ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 5' here

Pillow + hyaloclastite

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. 1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR — SA — A____

Aspect ratio Equant. — Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.94 = 259/274.5 = 94%

CORE LOG

BOX # 685 HOLE # 4 Sheet B

Depth range 1981.7 to 1984.6 meters Depth range 6497.5 to 6507 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 293 Top Rbl Clk____ Core 293 Bottom Rbl Clk____

Dip of Unit: Top B x 684 Bottom B x 686 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max. — Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit 1 Density 10% Dip 0-30°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 71% 209/293

2
69
53
62
60
59
293

54
38
43
41
33
209

CORE LOG

BOX # 686 HOLE # 4 Sheet B

Depth range 1984.64 to 1987.38 meters Depth range 6507 to 6516 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' here Pillows + Hyaloclastite

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VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced____ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

$0.82 = 225.5 / 274.5 = 82\%$

CORE LOG

BOX # 687 HOLE # 4 Sheet B

Depth range 1987.4 to 1990.1 meters Depth range 6516 to 6525 feet

Logger's Name RE Page 2 of 2

Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite 1 Volcaniclastic____ Pillow 1

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274 Top Rbl Clk____ Core 274 Bottom Rbl Clk____

Dip of Unit: Top Bx686 Bottom Bx688 Glass ✓ Alt1 ✓ Alt2____ 0____

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

VESICLES:

UNIT 1 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

3
69
58
57
59
61
244

2
51
47
57
46
10
211

FRACTURES: Yes ✓ No____ Unit 1 Density 10% Dip 0-20°

Natural____ Induced ✓ Fault gouge____ Brecciation ✓

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length) 77% 211/274

CORE LOG

BOX # 688 HOLE # 4 Sheet B

Depth range 1990 13 to 1993 18 meters Depth range 6525 to 6535 feet

Logger's Name FT Page___ of___

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a___ Phh___ Transitional___ Clk/Rubble___

Intrusive Dike___ Sill___ Glass___ Other___

Other Hyaloclastite ✓ Volcaniclastic___ Pillow ✓

Ash___ Breccia___ Conglomerate___ Carbonate___

UNIT 1 Thickness: 305 Top Rbl Clk___ Core 305 Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0 ✓

UNIT 2 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 3 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 4 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

UNIT 5 Thickness:___ Top Rbl Clk___ Core___ Bottom Rbl Clk___

Dip of Unit: Top___ Bottom___ Glass___ Alt1___ Alt2___ 0___

Primary textures ___ ___ ___ ___ ___

Degree of Alteration or Comments: 10' here

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S___ R___ SR ✓ SA — A —

Aspect ratio Equant. ✓ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 2 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 3 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 4 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT 5 Size(mm): Max.___ Min.___ Ave.___ # of Vesiculation Units___

Density(%): Top___ Middle___ Bottom___

Shape: S___ R___ SR___ SA___ A___

Aspect ratio Equant.___ Horiz.___ Vert.___ Inclined___ Dip___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

UNIT__ Shear Planes: Dip___ Depth(%)___ Spacing: Max.___ Min.___

Bubble Entrails Present___ Continuous___ Discontinuous___

Length___ Dip___

Voids Present___ Size(max.vs.min.)___

Degree of vesicle filling(%): Units: 1___ 2___ 3___ 4___ 5___

Total amt. of vesicles with filling(%): 1___ 2___ 3___ 4___ 5___

FRACTURES: Yes ✓ No___ Unit___ Density___ Dip___

Natural ✓ Induced ✓ Fault gouge___ Brecciation___

Presence of Plant Molds: Yes___ No ✓ Type___

Rock Quality(# of pieces >4in. long/Total Box length)___

0.62 = 189/305 = 62%

CORE LOG

BOX # 689 HOLE # 4 Sheet B

Depth range 1993'8 to 1995'92 meters Depth range 6535 to 6544 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 274.5 Top Rbl Clk____ Core 274.5 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 9' here Pillow + Hyaloclastite

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VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R — SR — SA — A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural____ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.93 = 255.5 / 274.5 = 93%

CORE LOG

BOX # 690 HOLE # 1 Sheet B
Depth range 1995.9 to 1998.97 meters Depth range 6544 to 6554 feet
Logger's Name RE Page 2 of 2
Number of Units in Box 1 Fill in blanks using appropriate unit number.

Type of Sample:
Flow A'a____ Phh____ Transitional____ Clk/Rubble____
Intrusive Dike____ Sill____ Glass____ Other____
Other Hyaloclastite 1 Volcaniclastic____ Pillow 1
Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 282 Top Rbl Clk____ Core 282 Bottom Rbl Clk____
Dip of Unit: Top 8x68 Bottom 8x68 Glass ✓ Alt1 ✓ Alt2___ 0___
UNIT 2 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____
Dip of Unit: Top____ Bottom____ Glass____ Alt1___ Alt2___ 0___
Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments:

3
59
58
56
52
57
282

VESICLES:
UNIT 1 Size(mm): Max. 1mm Min. <1mm Ave. <1mm # of Vesiculation Units____
Density(%): Top est Middle — Bottom <1%
Shape: S____ R ✓ SR ✓ SA____ A____
Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 2 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 3 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 4 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT 5 Size(mm): Max.___ Min.___ Ave.____ # of Vesiculation Units____
Density(%): Top____ Middle____ Bottom____
Shape: S____ R____ SR____ SA____ A____
Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____
Bubble Entrails Present____ Continuous____ Discontinuous____
Length____ Dip____
Voids Present____ Size(max.vs.min.)____
Degree of vesicle filling(%): Units:1____ 2____ 3____ 4____ 5____
Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

-50
232

FRACTURES: Yes ✓ No____ Unit 1 Density 10% Dip 0-30°, 60°
Natural____ Induced ✓ Fault gouge____ Brecciation ✓
Presence of Plant Molds: Yes____ No ✓ Type____
Rock Quality(# of pieces >4in. long/Total Box length) 82%

232/282

CORE LOG

BOX # 691 HOLE # 4 Sheet B

Depth range 1998.97 to 2001.41 meters Depth range 6554 to 6562 feet

Logger's Name FT Page 2 of 2

Number of Units in Box 2 Fill in blanks using appropriate unit number.

Type of Sample:

Flow A'a____ Phh____ Transitional____ Clk/Rubble____

Intrusive Dike____ Sill____ Glass____ Other____

Other Hyaloclastite ✓ Volcaniclastic____ Pillow ✓

Ash____ Breccia____ Conglomerate____ Carbonate____

UNIT 1 Thickness: 235 Top Rbl Clk ✓ Core 235 Bottom Rbl Clk 1

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 2 Thickness: 9 Top Rbl Clk 1 Core 9 Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0 ✓

UNIT 3 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 4 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

UNIT 5 Thickness:____ Top Rbl Clk____ Core____ Bottom Rbl Clk____

Dip of Unit: Top____ Bottom____ Glass____ Alt1____ Alt2____ 0____

Primary textures ____ ____ ____ ____ ____

Degree of Alteration or Comments: 8' here

PILLOW - MOSTLY TINY AMY HYALOCLASTITE

VESICLES:

UNIT 1 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 2 Size(mm): Max. 1 Min. <1 Ave. <1 # of Vesiculation Units 1

Density(%): Top <1 Middle <1 Bottom <1

Shape: S____ R____ SR ✓ SA ✓ A ✓

Aspect ratio Equant. ✓ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 3 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 4 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT 5 Size(mm): Max.____ Min.____ Ave.____ # of Vesiculation Units____

Density(%): Top____ Middle____ Bottom____

Shape: S____ R____ SR____ SA____ A____

Aspect ratio Equant.____ Horiz.____ Vert.____ Inclined____ Dip____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

UNIT__ Shear Planes: Dip____ Depth(%)____ Spacing: Max.____ Min.____

Bubble Entrails Present____ Continuous____ Discontinuous____

Length____ Dip____

Voids Present____ Size(max.vs.min.)____

Degree of vesicle filling(%): Units: 1____ 2____ 3____ 4____ 5____

Total amt. of vesicles with filling(%): 1____ 2____ 3____ 4____ 5____

FRACTURES: Yes ✓ No____ Unit____ Density____ Dip____

Natural ✓ Induced ✓ Fault gouge____ Brecciation____

Presence of Plant Molds: Yes____ No ✓ Type____

Rock Quality(# of pieces >4in. long/Total Box length)____

0.83 = 202.5/244 = 83%