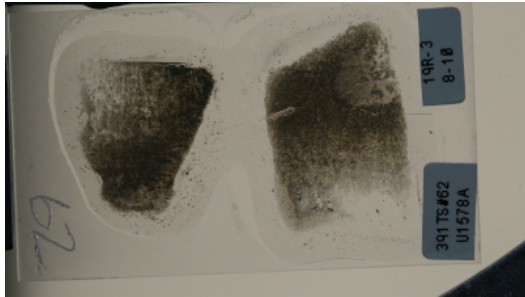
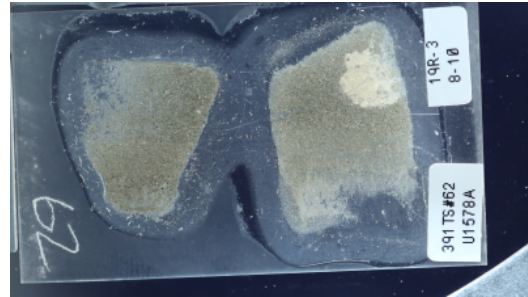


THIN SECTION LABEL ID:	391-U1578A-19R-3-W 8/10-TSB-TS# 62	Thin section no.:	62
Observer:	DB	Piece no.:	
Thin section thickness:		Unit/subunit:	II
Thin section summary:	Very altered fine vitric sandstone. Larger vitric clasts are vesicular to pumiceous, Glass is only very rarely possibly fresh. Includes rare feldspars and foraminifera.		

Plane-polarized: 61091601



Cross-polarized: 61091661



THIN SECTION LABEL ID: **391-U1578A-19R-4-W 15/19-TSB-TS# 63**

Thin section no.: 63

Observer: DB

Piece no.:

Thin section thickness:

Unit/subunit: II

Thin section summary: Very altered polymictic (?) vitric sandstone with cross-laminae. Larger vitric clasts are vesicular to pumiceous. Glass is only rarely possibly fresh. Includes feldspars, sometimes embedded in the vitric clasts, and very rare foraminifera. Some rare grains are well rounded. The lower part of the thin section includes clayey-nannofossil ooze. Cement is composed of carbonate.

Plane-polarized: 61091681



Cross-polarized: 61091701



THIN SECTION LABEL ID: **391-U1578A-19R-4-W 39/43-TSB-TS# 70**

Thin section no.: 70

Observer: DB

Piece no.:

Thin section thickness:

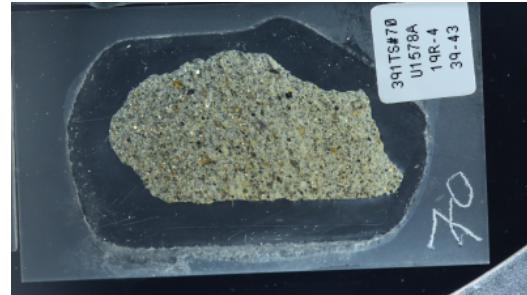
Unit/subunit: II

Thin section summary: Very altered polymictic vitric sandstone. Larger vitric clasts are vesicular to pumiceous. Glass is only rarely possibly fresh. Includes feldspars, sometimes embedded in the vitric clasts. Cement is composed of zeolites.

Plane-polarized: 61067811



Cross-polarized: 61067831



THIN SECTION LABEL ID: **391-U1578A-21R-1-W 122/125-TSB-TS# 64**

Thin section no.: 64

Observer: JLS

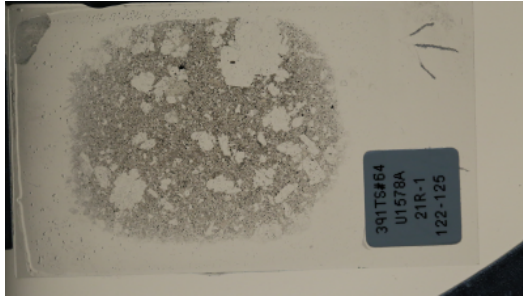
Piece no.:

Thin section thickness:

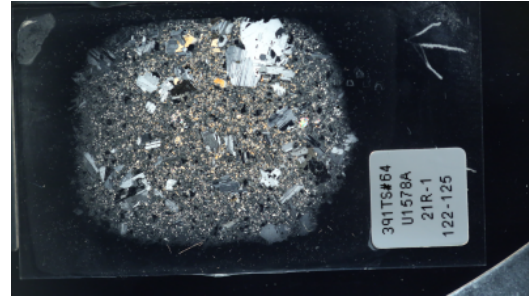
Unit/subunit:

Thin section summary: Highly plagioclase-augite-olivine phyric alkali basalt with glomeroporphyritic and ophitic textures. Most olivine phenocrysts are altered but there are some unaltered olivine phenocrysts present in the sample. Plagioclase occurs as tabular phenocrysts and glomerocrysts. It is also observed as inclusions within clinopyroxene phenocrysts. Large plagioclase phenocrysts often exhibit patchy zoning in their core and oscillatory zoning at their rims. Melt inclusions are common in plagioclase rims. Clinopyroxene often exhibits sector and oscillatory zoning. Groundmass contains plagioclase, clinopyroxene, and Fe-oxides. Fe-oxides look like titanomagnetite and ilmenite.

Plane-polarized: 61067891

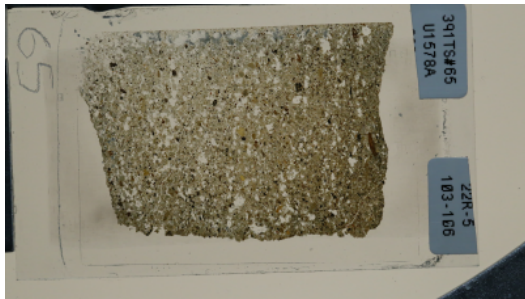


Cross-polarized: 61067911

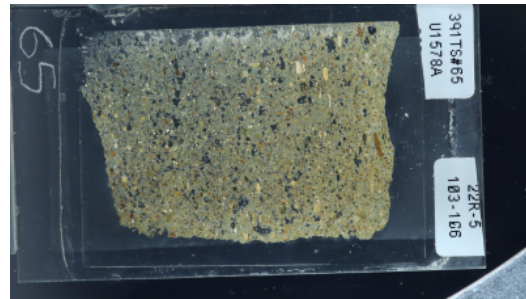


THIN SECTION LABEL ID:	391-U1578A-22R-5-W 103/106-TSB-TS# 65	Thin section no.:	65
Observer:	DB	Piece no.:	
Thin section thickness:		Unit/subunit:	III
Thin section summary:	Vitric sandstone with rare bioclasts. Vitric clasts are vesicular to pumiceous. Polymictic. The thin section includes rare rounded bioclasts and glass fragments as well as rare basalt grains. Fossils include echinoderms, benthic and planktonic foraminifera, and bryozoans. There is one occurrence of red algae and crustacean microcoprolites. Glass is only exceptionally preserved. Cement is zeolite and rare calcite.		

Plane-polarized: 61067591

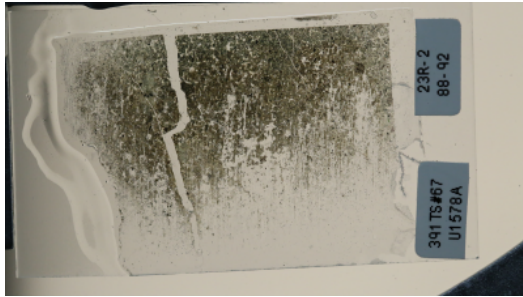


Cross-polarized: 61067611

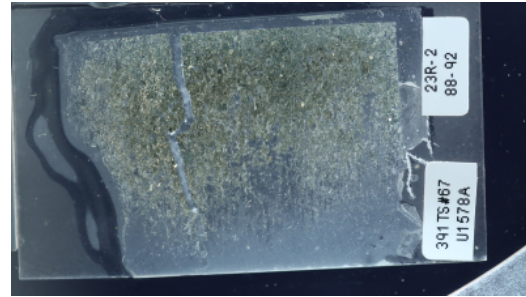


THIN SECTION LABEL ID:	391-U1578A-23R-2-W 88/92-TSB-TS# 67	Thin section no.:	67
Observer:	DB	Piece no.:	
Thin section thickness:		Unit/subunit:	III
Thin section summary:	Pervasively altered vitric sandstone. Vitric clasts are vesicular to pumiceous. The cement is zeolite. The thin section includes one possible rounded fragment of shell and one rounded fragment of basalt.		

Plane-polarized: 61091761

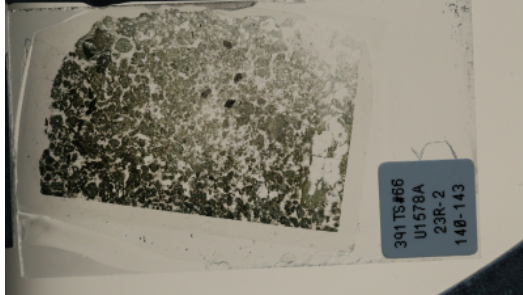


Cross-polarized: 61091781

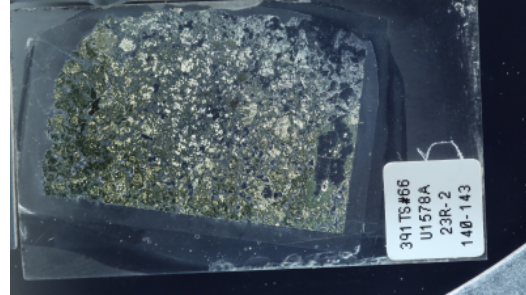


THIN SECTION LABEL ID:	391-U1578A-23R-2-W 140/143-TSB-TS# 66	Thin section no.:	66
Observer:	DB	Piece no.:	
Thin section thickness:		Unit/subunit:	III
Thin section summary:	Pervasively altered vitric sandstone. Vitric clasts are vesicular to pumiceous, but only exceptionally pumiceous. The cement is zeolite with subordinate calcite: minor remaining porosity. The thin section includes rare sub-angular fragments of microcrystalline basalt with distinct textures.		

Plane-polarized: 61091721



Cross-polarized: 61091741



THIN SECTION LABEL ID: **391-U1578A-24R-4-W 123/126-TSB-TS# 68**

Thin section no.: 68

Observer: JLS

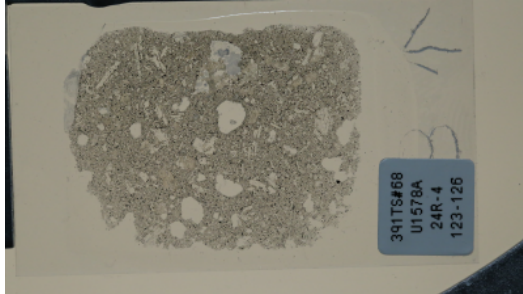
Piece no.:

Thin section thickness:

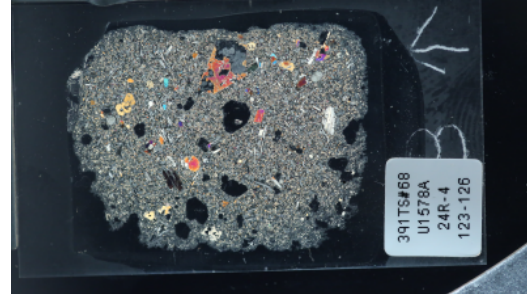
Unit/subunit:

Thin section summary: Highly plagioclase-augite-olivine phyric alkali basalt with glomeroporphyritic and ophitic textures. Olivine phenocrysts were often plucked from the thin section during the polishing process. The rim of fresh olivine and shape of the grain is the only indicator that olivine phenocrysts were present. Plagioclase occurs as tabular phenocrysts and glomerocrysts. It is also observed as inclusions within clinopyroxene phenocrysts. Clinopyroxene often exhibits sector and oscillatory zoning. Groundmass contains plagioclase, clinopyroxene, and Fe-oxides.

Plane-polarized: 61067631



Cross-polarized: 61067651



THIN SECTION LABEL ID:	391-U1578A-25R-4-W 82/85-TSB-TS# 69	Thin section no.:	69
Observer:	DB	Piece no.:	
Thin section thickness:		Unit/subunit:	III
Thin section summary:	Moderately altered vitric sandstone. The glass fragments are blocky and vesicular (not pumiceous). Fresh glass has abundant microbial microtubules.		

Plane-polarized: 61067671



Cross-polarized: 61067691



THIN SECTION LABEL ID: **391-U1578A-26R-1-W 78/82-TSB-TS# 73**

Thin section no.: 73

Observer: DB

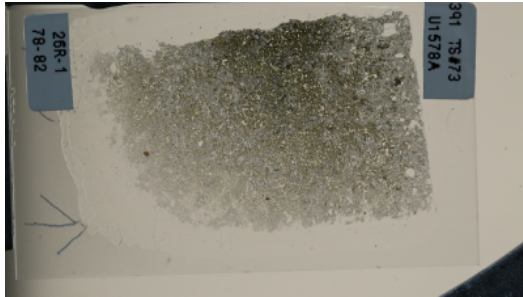
Piece no.:

Thin section thickness:

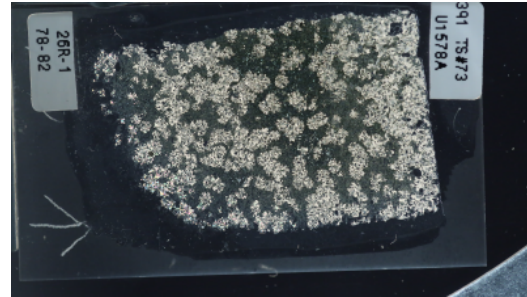
Unit/subunit: III

Thin section summary: Pervasively altered vitric sandstone with patches of calcite and zeolite cement. The glass fragments are commonly vesicular (without clear pumiceous texture).

Plane-polarized: 61092871



Cross-polarized: 61092891



THIN SECTION LABEL ID: **391-U1578A-29R-2-W 45/49-TSB-TS# 72**

Thin section no.: 72

Observer: MT

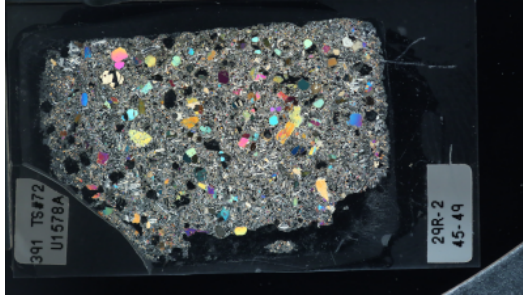
Piece no.:

Thin section thickness:

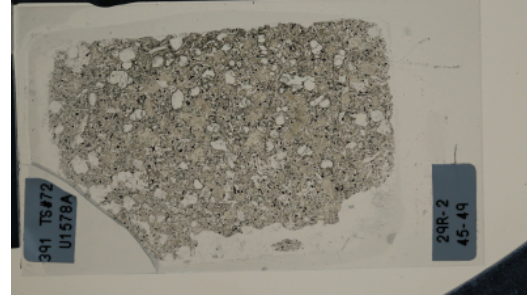
Unit/subunit:

Thin section summary: Highly phyric, augite, olivine, plagioclase basalt. The groundmass is microcrystalline, whereas the phenocrysts are fine to medium grained. Groundmass consists of plagioclase, augite, olivine and Fe-Ti Oxides. Augite phenocrysts commonly display oscillatory zoning, simple twinning and rare sub-ophitic texture.

Plane-polarized: 61112721

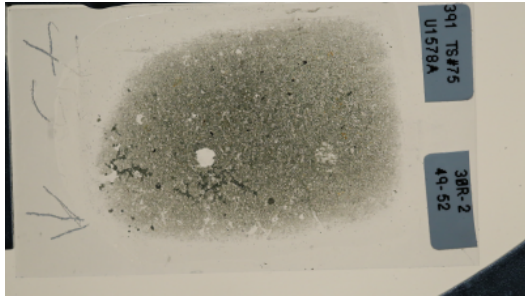


Cross-polarized: 61112701

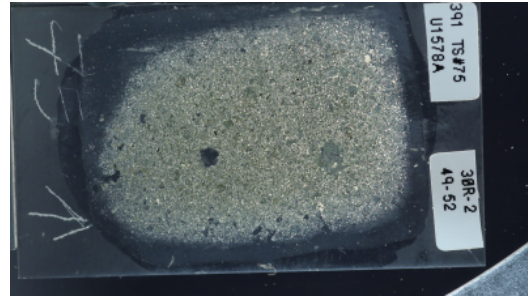


THIN SECTION LABEL ID:	391-U1578A-30R-2-W 49/52-TSB-TS# 75	Thin section no.:	75
Observer:	DB	Piece no.:	
Thin section thickness:		Unit/subunit:	III
Thin section summary:	Pervasively altered vitric sandstone with zeolite and calcite cement. The glass fragments are commonly vesicular (without clear pumiceous texture). One accidental clast of sub-angular red algae (0.5 mm in size).		

Plane-polarized: 61092911



Cross-polarized: 61092931



THIN SECTION LABEL ID: **391-U1578A-31R-2-W 50/54-TSB-TS# 74**

Thin section no.: 74

Observer: DB

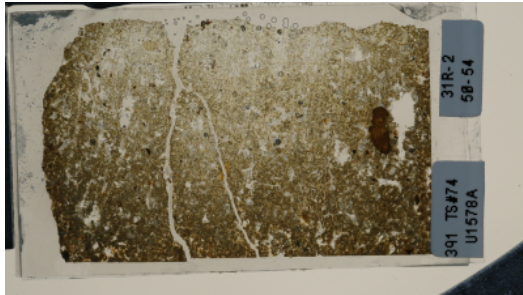
Piece no.:

Thin section thickness:

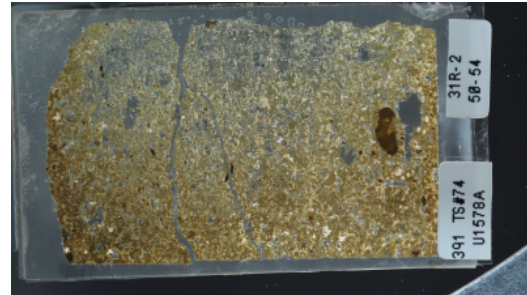
Unit/subunit: III

Thin section summary: Pervasively altered vitric sandstone with zeolite and calcite cement. The glass fragments are commonly very vesicular (with large vesicles). Rare shards with elongated vesicles or pumice texture. Rare rounded tuffaceous mudclasts.

Plane-polarized: 61112781

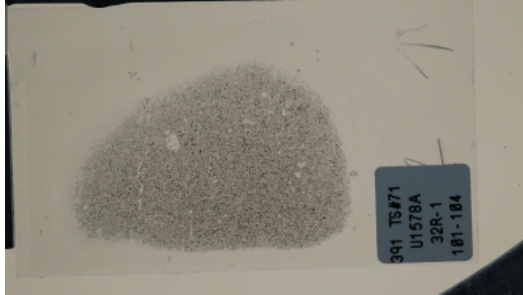


Cross-polarized: 61112801

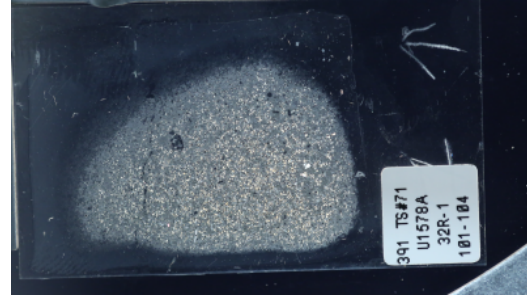


THIN SECTION LABEL ID:	391-U1578A-32R-1-W 101/104-TSB-TS# 71	Thin section no.:	71
Observer:	MT	Piece no.:	
Thin section thickness:		Unit/subunit:	
Thin section summary:	Aphyric basalt lava flow. The texture is generally equigranular, and the minerals present include plagioclase, augite and Fe-Ti Oxides. Mesostasis is also observed as well as traces of secondary calcite. The Fe-Ti oxides consists of subhedral to euhedral magnetite and elongated ilmenite grains. These oxides are dispersed in the sample.		

Plane-polarized: 61093031



Cross-polarized: 61093051



THIN SECTION LABEL ID: **391-U1578A-32R-6-W 0/3-TSB-TS# 76**

Thin section no.: 76

Observer: DB

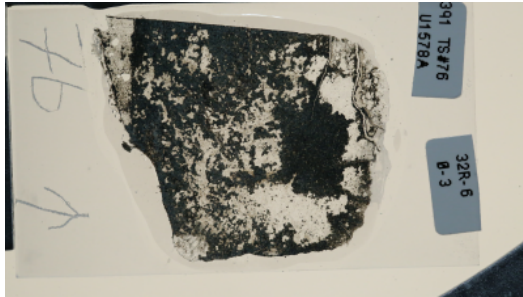
Piece no.:

Thin section thickness:

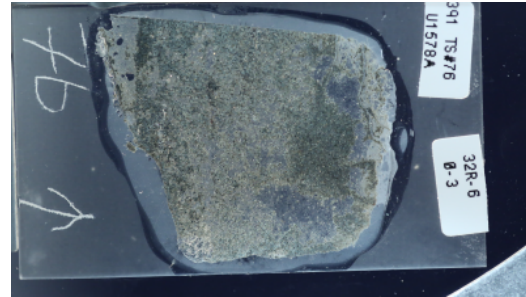
Unit/subunit: III

Thin section summary: Pervasively altered vitric silty sandstone with rare planktonic foraminifera and radiolarians. Too clayey to determine the original fabric of the volcanic shards.

Plane-polarized: 61112821

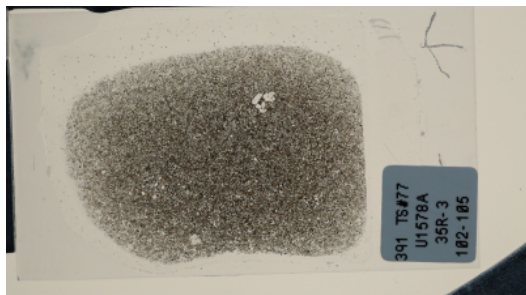


Cross-polarized: 61112841



THIN SECTION LABEL ID:	391-U1578A-35R-3-W 102/105-TSB-TS# 77	Thin section no.:	77
Observer:	JWS	Piece no.:	
Thin section thickness:		Unit/subunit:	
Thin section summary:	Aphyric basalt with fine-grained groundmass of tiny plag laths, quenched cpx, mesostasis, small Magnetite grains and tiny ilmenite needles randomly aligned. Rare microphenocrysts of plagioclase.		

Plane-polarized: 61112861



Cross-polarized: 61112881



THIN SECTION LABEL ID: **391-U1578A-39R-1-W 90/92-TSB-TS# 78**

Thin section no.: 78

Observer: JWS

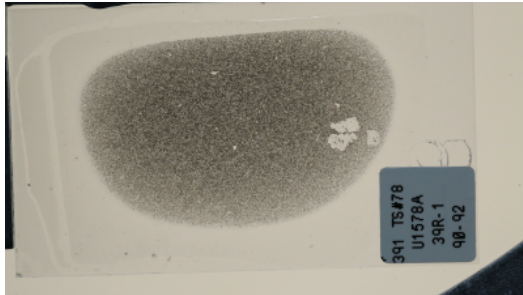
Piece no.:

Thin section thickness:

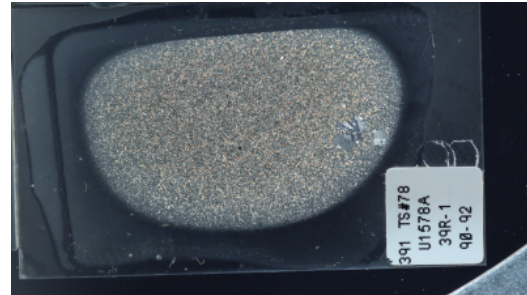
Unit/subunit:

Thin section summary: Aphyric basalt with fine-grained groundmass of tiny plag laths, quenched cpx, mesostasis, small Magnetite grains and tiny ilmenite needles randomly aligned. Rare microphenocrysts of plagioclase.

Plane-polarized: 61112901



Cross-polarized: 61112921



THIN SECTION LABEL ID: **391-U1578A-43R-1-W 47/51-TSB-TS# 79**

Thin section no.: 79

Observer: JWS

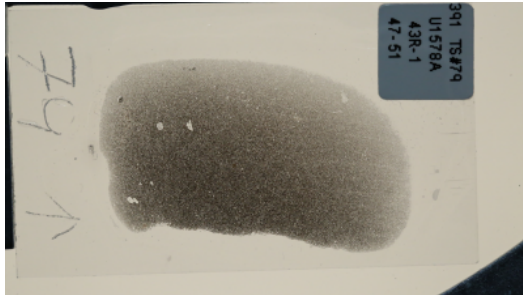
Piece no.:

Thin section thickness:

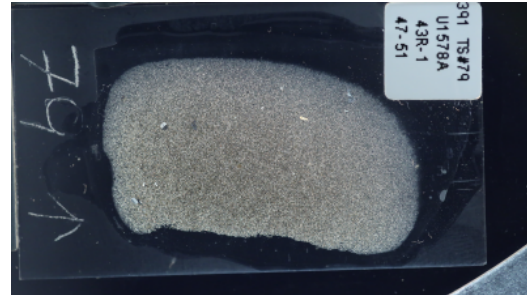
Unit/subunit:

Thin section summary: Aphyric basalt with fine-grained groundmass of tiny plag laths, quenched cpx, mesostasis, and tiny ilmenite needles randomly aligned. Rare microphenocrysts of plagioclase.

Plane-polarized: 61146331



Cross-polarized: 61146351



THIN SECTION LABEL ID: **391-U1578A-45R-2-W 45/50-TSB-TS# 80**

Thin section no.: 80

Observer: JWS

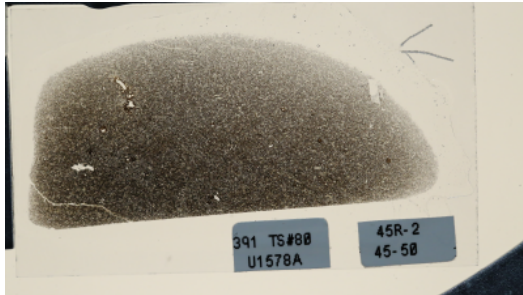
Piece no.:

Thin section thickness:

Unit/subunit:

Thin section summary: Aphyric basalt with fine-grained groundmass of tiny plag laths, quenched cpx, mesostasis, and tiny ilmenite needles randomly aligned. Rare microphenocrysts of augite, plagioclase.

Plane-polarized: 61146411



Cross-polarized: 61146471

