

THIN SECTION LABEL ID:	395E-U1561A-9X-1-W 8/11-TSB-TS65	Thin section no.:	
Observer:	PDK, EC	Piece no.:	
Thin section thickness:	standard	Unit/subunit:	1
Thin section summary:	<p>Sediment interlayer in glassy chilled margin: This sample is the palagonitized glassy margin of a pillow lava flow that has been invaded by pelagic sediment. This description is for the glassy margin (domain 2). The glass is sparsely olivine phyric, containing equant euhedral olivines that are only slightly altered, The unaltered glass is pale brown in color. Much of the glass has been palagonitized and consists of fracture/vein-bounded triangular to polygonal domains that are concentrically zoned. The fracture bounded edges of the polygons are a strong orange-red brown, whereas the inner areas are more golden yellow (external addition or oxidation of Fe?). The palagonite is mostly cryptocrystalline with rare layers of slightly more ordered material that show spherulitic/radial texture. There is a peculiar structure in one part of the altered glass that has numerous parallel dark lines that create a chambered appearance. It is mostly dark in XPL with a bright line adjacent to each of the dark lines (zeolite?). This is partly overgrown by irregular blots of dusty opaque clay and red-brown Fe oxyhydroxides. The sediment, which forms the bulk of this thin section, is pelagic, because it contains a lot of fossils. Note: the drop down menus had not names relevant to this sample.</p>		

Plane-polarized: 63052501



Cross-polarized: 63052481



Igneous Petrology

Lithology:

Style of emplacement: lava flow

Major groundmass texture: glass

Sample domain name (if >1) 2

Rock texture:

hypohyaline

Groundmass grain size (avg.):

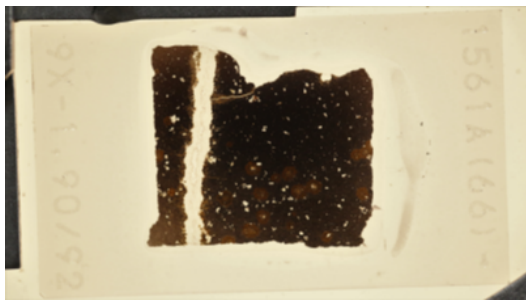
glass

Minor groundmass Texture:

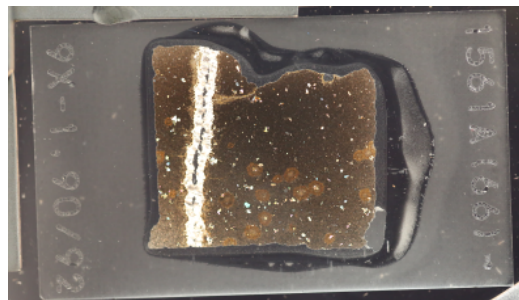
Domain relative abundance (%) 20

THIN SECTION LABEL ID: **395E-U1561A-9X-1-W 90/92-TSB-TS66** Thin section no.:
 Observer: PDK, EC Piece no.:
 Thin section thickness: standard Unit/subunit: 1
 Thin section summary: Sparsely olivine microphyric basalt crosscut by a carbonate vein: This is a very sparsely olivine phyric basalt with a cryptocrystalline groundmass texture. The olivine microphenocrysts range from euhedral equant to skeletal, including some lantern and hopper crystals. Groundmass olivines may also be skeletal, with hollow centers and acicular extensions from the apices of the crystals. Most olivines are only slightly altered. Groundmass plagioclase is restricted to tiny needles that lie at the heart of the brown plumose quench growth. Across the section, the groundmass is pocked by isolated circular areas of red-brown altered groundmass with a bulls-eye like structure of concentric zonation. At least some of the colour change within these patches is likely due to replacement of cryptocrystalline olivine by smectites and Fe oxyhydroxides. The bulls-eyes always centre on a heterogeneity in the rock such as a cluster of radiating crystals or a phenocryst. However, many similar features do not have a bulls-eye around them, suggesting that those which do have simply acted as fortuitous sites for nucleation of alteration. There is a thick carbonate vein and a thinner yellow-orange smectite + zeolite vein cutting the slide. The thick carbonate vein is lined by dusty brown clay and filled by sparry to bladed calcite crystals that grow perpendicular to the vein wall. It has significant voids along its centre line with no evidence for any material having been lost during polishing. There is a narrow halo of lighter coloured groundmass around the thin smectite + zeolite vein. The area is too fine grained to be sure quite what it's doing to the groundmass.

Plane-polarized: 63052541



Cross-polarized: 63052521



Igneous Petrology

Lithology:	sparsely olivine phyric basalt	Rock texture:	hypocrystalline
Style of emplacement:	lava flow	Groundmass grain size (avg.):	cryptocrystalline
Major groundmass texture:	dendritic or skeletal	Minor groundmass Texture:	
Sample domain name (if >1)	1	Domain relative abundance (%)	95