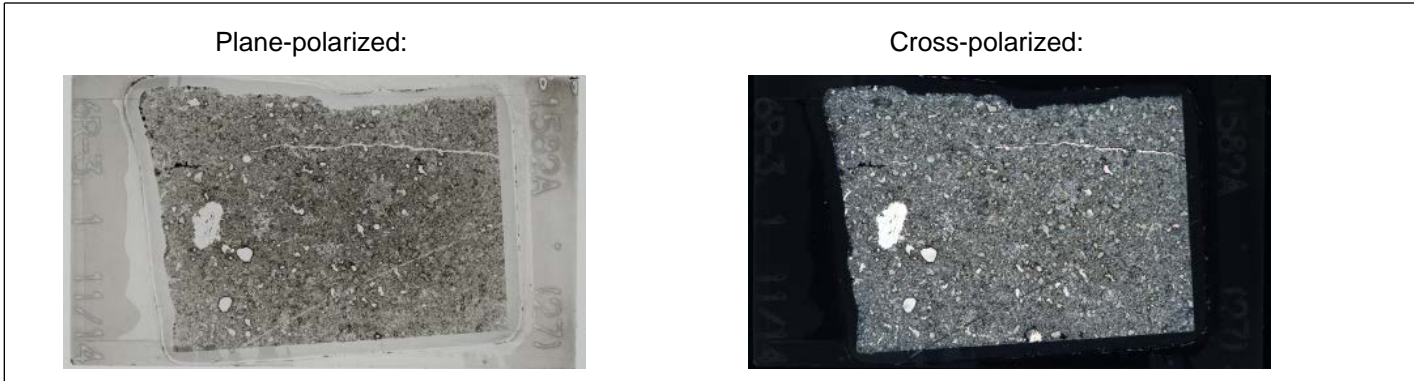


THIN SECTION LABEL ID: **392-U1582A-6R-3-W 11/14-TSB-TS 27** Thin section no.: 27
 Observer: PD Piece no.: 1
 Unit/subunit: 6

Thin section summary: Sample 392-U1582A-6R-3W 11/14 is a plagioclase-phyric basalt. One large plagioclase phenocryst is present with a thin reaction rim around the edge, and many tiny melt inclusions within zones. The groundmass is highly altered and consists of only plagioclase and some mostly altered clinopyroxenes. No other identifiable phases are present. Much of the alteration is clay minerals, but there is also calcite filling vesicles.



Igneous Petrology

Lithology: plagioclase-clinopyroxene phyric basalt

Groundmass grain size (avg.): fine-grained

Texture 1: sparsely phyric

Texture 2:

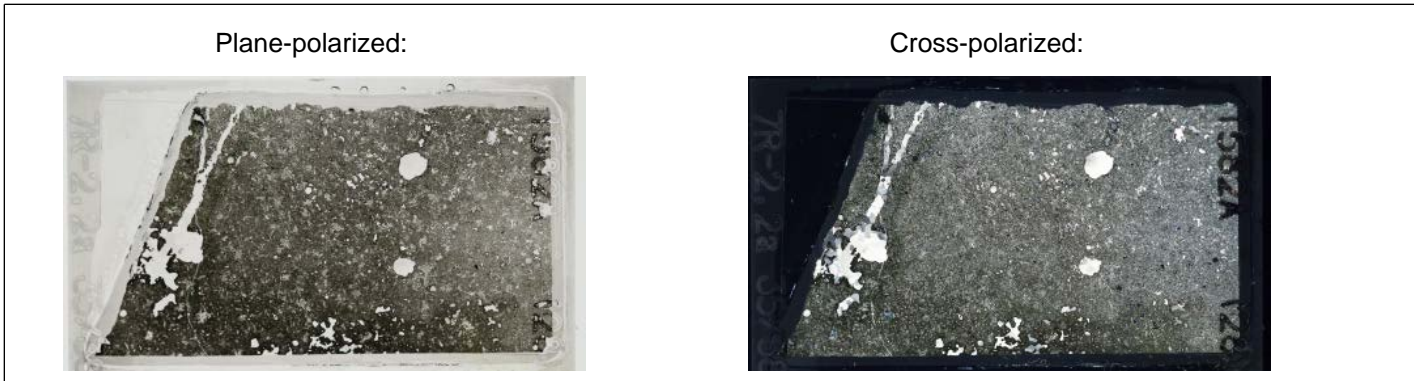
Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Plagioclase	3	5	4	4	euhedral	thin reaction rim and many tiny melt inclusions
Clinopyroxene	1	5		1.5	subhedral	very fractured

Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Comments
Plagioclase	35	50	0.2	euhedral-subhedral	
Clinopyroxene	20	80	0.05	0.05	
Opagues	5	0	0.05	anhedral	granular or dendritic
Mesostasis	40	100			

Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Vesicle	15	100	0.4	1.5	irregular	small vesicles filled with clay, larger ones filled with calcite

THIN SECTION LABEL ID: **392-U1582A-7R-2-W 35/38-TSB-TS 28** Thin section no.: 28
 Observer: PD Piece no.: 2
 Unit/subunit: 8

Thin section summary: Sample 392-U1582A-7R-2W 35/38 is an olivine plagioclase phyric basalt. Several small euhedral mineral pseudomorphs replaced with calcite are present throughout the thinsection with one larger example looking clearly like olivine given its habit. Several other small plagioclase phenocrysts are present, most are heavily altered. The groundmass is nearly completely altered and much of it looks like former mesostasis. Only plagioclase and some clinopyroxene are identifiable in the groundmass. Much of the alteration is clay minerals but there is also calcite present mostly filling veins and vesicles.



Igneous Petrology

Lithology: plagioclase-olivine phyric basalt

Groundmass grain size (avg.): microcrystalline

Texture 1: sparsely phyric

Texture 2:

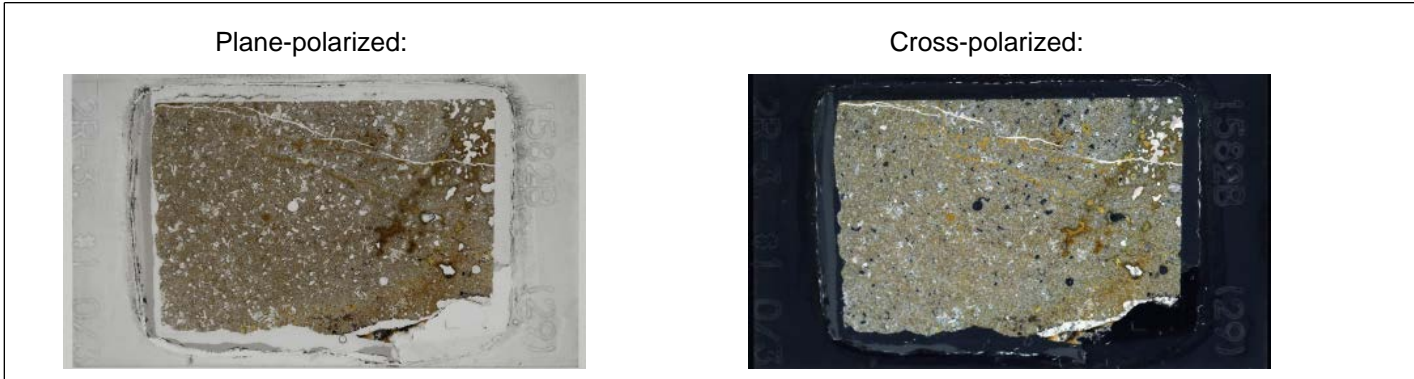
Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Olivine	1	100	0.2	0.5	euhedral	replaced with calcite
Plagioclase	1	90	0.5	1.5	euhedral	

Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Comments
Plagioclase	20	90	0.15	euhedral-subhedral	
Clinopyroxene	5	90	0.05	0.05	
Opaques	8				granular
Mesostasis	67	100			

Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Vesicle	10	100	1	4	irregular	filled mostly with calcite but also clay

THIN SECTION LABEL ID: **392-U1582B-2R-3-W 0/3-TSB-TS 29** Thin section no.: 29
 Observer: PD Piece no.: 1
 Unit/subunit: 2

Thin section summary: Sample 392-U1582B-2R-3W 0/3 is a highly altered plagioclase clinopyroxene olivine phyric basalt. Phenocrysts are composed of predominantly plagioclase and clinopyroxene glomerocrysts with occasional olivine pseudomorphs (replaced with calcite). The groundmass is nearly completely replaced with only some of the plagioclase remaining and very little of the clinopyroxenes. Vesicles are present in two groups, larger irregular vesicles are generally filled with calcite and smaller, round vesicles are either unfilled or filled with clay minerals.



Igneous Petrology

Lithology: plagioclase-clinopyroxene-olivine phyric basalt

Groundmass grain size (avg.): fine-grained

Texture 1: sparsely phyric

Texture 2:

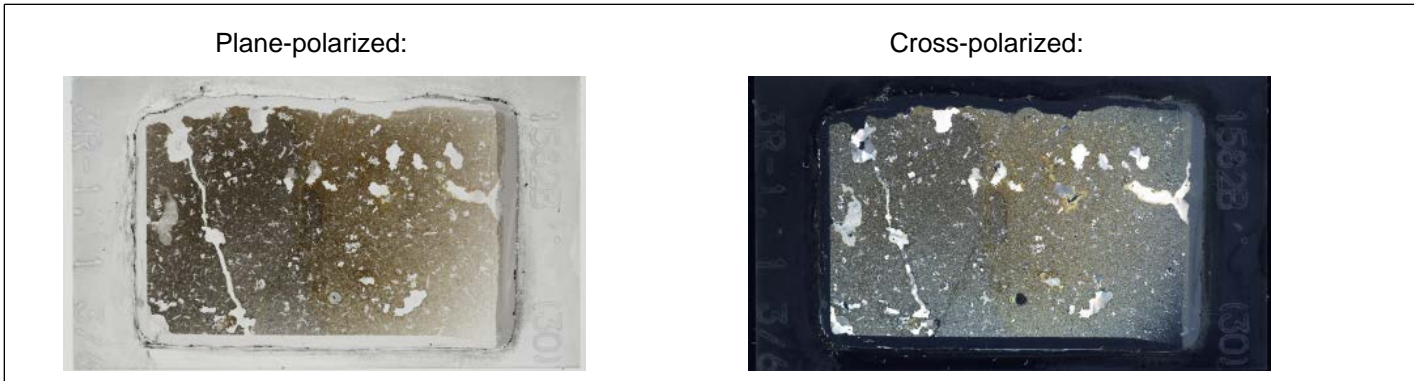
Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Olivine	1	100	0.3	0.6	euhedral	pseudomorphs are replaced with calcite
Plagioclase	2	5	0.5	1	euhedral	glomerocrysts with clinopyroxene
Clinopyroxene	1	35		0.3	subhedral	glomerocrysts with plagioclase

Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Comments
Plagioclase	40	50	0.1	euhedral-subhedral	
Clinopyroxene	25	90	0.05	0.05	
Opaques	3	0	0.02		

Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Vesicle	5	50	1	3	irregular	two distributions, small 0.5-1mm round vesicles generally unfilled or filled with clay, and larger irregular vesicles filled with calcite

THIN SECTION LABEL ID: **392-U1582B-3R-1-W 3/6-TSB-TS 30** Thin section no.: 30
 Observer: PD Piece no.: 1
 Unit/subunit: 3

Thin section summary: Sample 392-U1582B-3R-1W 3/6 is a highly altered plagioclase clinopyroxene olivine phyric basalt. Several larger phenocrysts of fresh plagioclase are present in addition to glomerocrysts of smaller plagioclase (but still larger than the groundmass plagioclase), clinopyroxene, and replaced olivine. Olivines are all pseudomorphs replaced with calcite. The groundmass is very fine grained and nearly completely altered, with only a small amount of plagioclase remaining but no other phases. Two main types of vesicles are present, larger irregular vesicles are largely filled with calcite and small, round vesicles are mostly filled with clay minerals.



Igneous Petrology

Lithology: plagioclase-clinopyroxene-olivine phyric basalt

Groundmass grain size (avg.): fine-grained

Texture 1: sparsely phyric

Texture 2:

Phenocrysts	Original (%)	Replaced (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Olivine	1	100	0.4	0.6	euhedral	pseudomorphs are replaced with calcite
Plagioclase	2	2	0.5	2	euhedral	both single crystal phenocrysts and glomerocrysts with clinopyroxene and olivine (replaced)
Clinopyroxene	1	35		0.3	subhedral	glomerocrysts with plagioclase

Groundmass	Original (%)	Replaced (%)	Size mode (mm)	Shape	Comments
Plagioclase	20	90	0.05	euhedral-subhedral	
Opaques	2	0	0.01		

Vesicle	Original (%)	Filled (%)	Size mode (mm)	Size max. (mm)	Shape	Comments
Vesicle	10	75	0.5	4	irregular	two distributions, small 0.5-1mm round vesicles generally unfilled or filled with clay, and larger irregular vesicles filled with calcite

THIN SECTION LABEL ID: **392-U1582B-3R-2-W 52/55-TSB-TS 31**

Thin section no.: TS30

Unit/Subunit:

Observer: PC, HCC

Thin section summary: Sample 392-U1582B-3R-2-W 52/55 is a limestone, with altered plagioclase feldspars, clay minerals and dominantly calcareous minerals. Microcrystalline calcite is dominant, and calcite spar and ooids/peloids are present. Heavy/opaque minerals occur in trace abundance.

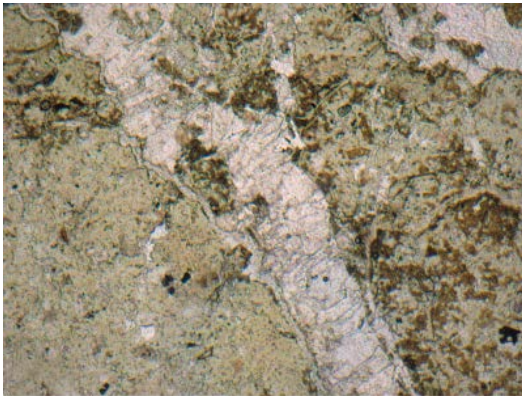
Plane-polarized:



Cross-polarized:

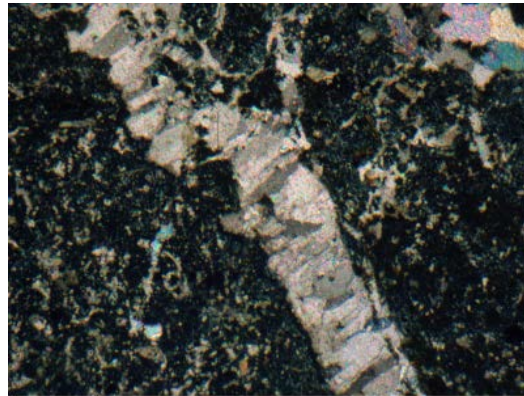


Photomicrograph (Plane-pol.)



10.1 mm

Photomicrograph (Cross-Pol.)



10.1 mm