THIN SECTION LABEL ID:
 371-U1506A-29R-3-W 45/48-TSB-TS02
 Thin section no.: 2

 Observer:
 MG / Li
 Unit/subunit:
 Unit II

 Thin section summary:
 Microcrystaline ophitic basalt with plagioclase and oxides. Crystals are highly fractured. Common opaque crystals with polygonal profile and completely black in color (possible magnetite?). Common amygdaloidal carbonate filling (15%). The contact between the dominant rock and the filling is sharp, with no evidence of alteration.

Plane-polarized: 42336031







Igneous F	Petrology				
Lithology:	basalt		Avg. g	grain size: r	nicrocrystalline
Texture:	ophitic		Max g	jrain size: f	ine grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase			50	0.5	
Fe-Ti Oxide	N/A	N/A	15	0.3	
Vesicles	Vesicle size (mm)	Vesicle shape			
	5	irregular			

Alteration Alteration comment: Crystals are highly fractured. Common opaque crystals with polygonal profile and completely black in color (possible magnetite?). Common amygdaloidal carbonate filling (15%). The contact between the dominant rock and the filling is sharp, with no evidence of alteration.

THIN SECTION LABEL ID:	371-U1506A-30R-2-W 45/47-TSB-TS03	Thin section no.:	3
Observer:	MG / Li	Unit/subunit:	Unit II
Thin section summary:	Fine grained ophitic basalt with plagioclase, or especially pyroxene, are fractured. A pleochr frequently at the margin of the cavities, with a with calcite or chlorite.	clinopyroxene and oxides. Cryst oic green mineral, probably chlo a colloform structure. The cavitie	als, prite, occurs es are filled
Plane-p	olarized: 42391991 C	ross-polarized: 42392011	



Alteration Alteration comment: Crystals, especially pyroxene, are fractured. A pleochroic green mineral, probably chlorite, occurs frequently at the margin of the cavities, with a colloform structure. The cavities are filled with calcite or chlorite.

 THIN SECTION LABEL ID:
 371-U1506A-30R-3-W 27/30-TSB-TS04
 Thin section no.: 4

 Observer:
 MG / Li
 Unit/subunit:
 Unit II

 Thin section summary:
 Fine grained ophitic basalt, with plagioclase, clinopyroxene, and oxides. Crystals, especially pyroxene, are fractured. Sporadic presence of calcite (10%), possibly associated with amygdaloidal fillings. Pleochroic greenish obfuscated crystals, probably colloform chlorite, occur in part of the section.

 Plane-polarized:
 42336111
 Cross-polarized: 42336131



Igneous F	Petrology				
Lithology:	basalt		Avg. g	grain size: f	fine grained
Texture:	ophitic		Max g	grain size: r	medium grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase			30	1	
Clinopyroxene			25	0.6	
Fe-Ti Oxide	N/A	N/A	20	0.5]
Vesicles	Vesicle size (mm)	Vesicle shape			
	3	irregular			

Alteration

Alteration comment:

Vesicle layer in fresh basalt. A pleochroic green mineral, probably chlorite, occurs frequently at the margin of the cavities, with a colloform structure. The cavities are filled with calcite and, in only few cases, with a translucent material, probably of carbonate composition. Rare, pleochroic green, bad shaped crystals occur also randomly within the rock. A few large, grayish, highly fractured crystals, are present, probably calcite.

371-U1506A-30R-3-W 27/30-TSB-TS04 Page 1 of 1

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THIN SECTION LABEL ID:	371-U1506A-30R-3-W 127/129-TSB-TS05	Thin section no.: 5	
Observer:	MG / Li	Unit/subunit: Unit	II
Thin section summary:	Vesicle layer in fresh basalt. Fine grained ophitic be and oxides. A pleochroic green mineral, probably of margin of the cavities, with a colloform structure. T in only few cases, with a translucent material, prob pleochroic green, bad shaped crystals occur also r grayish, highly fractured crystals, are present, prob	asalt with plagioclase, clinopyro hlorite, occurs frequently at the ne cavities are filled with calcite ably of carbonate composition. andomly within the rock. A few ably calcite.	and, Rare, large,
Plane-p	olarized: 42440131 Cross-p	olarized: 42440181	



Igneous F	Petrology				
Lithology:	basalt		Avg. g	grain size:	fine grained
Texture:	ophitic		Max g	grain size:	medium grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase	15	2	30	1	
Clinopyroxene			20	0.6	
Fe-Ti Oxide	N/A	N/A	15	0.4	

Alteration	
Ci	rystals, especially pyroxene, are fractured. Sporadic presence of calcite (10%), possibly
Alteration comment: as	ssociated with amygdaloidal fillings. Pleochroic greenish obfuscated crystals, probably
co	olloform chlorite, occur in part of the section.

THIN SECTION LABEL ID:	371-U1506A-31R-1-W 55/58-TSB-TS06	Thin section no.:	6
Observer:	MG / Li	Unit/subunit:	Unit II
Thin section summary:	Microcrystalline prorphyritic basalt, with plagiolcase and o phenocrysts are present and amygdaloidal calcite. Contac Red algae, bryozoans, brachiopods, and small foraminifer variety of bioclasts. Few extraclasts are also present. Gra several mm. Although many bioclasts are recrystallized, th preserved. A small part towards the margin of the section matrix.	xides. Few plagioc of with a bioclastic a are recognizable in size ranges from ne micritic matrix lo shows cement ins	clase packstone. a among a n <1mm to poks well tead of





Igneous	Petrol	ogy
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Lithology:	basalt		Avg. g	grain size:	microcrystal
Texture:	porphyritic	/ porphyry	Max g	jrain size:	fine grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase	10	0.8	40	0.4	
Fe-Ti Oxide	N/A	N/A	25	0.2	
Vesicles	Vesicle size (mm)	Vesicle shape			
	5	irregular			

Alteration comment:

Amygdaloidal calcite (10%). Contact with a bioclastic packstone. Red algae, bryozoans, brachiopods, and small foraminifera are recognizable among a variety of bioclasts. Few extraclasts are also present. Grain size ranges from <1mm to several mm. Although many bioclasts are recrystallized, the micritic matrix looks well preserved. A small part towards the margin of the section shows cement instead of matrix.

THIN SECTION LABEL ID:	371-U1506A-32R-1-W 125/1	27-TSB-TS07	Thin section no.:	7
Observer:	MG / Li		Unit/subunit:	Unit II
Thin section summary:	Fine grained ophitic basalt wi especially pyroxene, are fract occurs preferentially around t material. Sporadic cavities fill	th plagioclase, clinopyroxene ured. A pleochroic greenish r he oxides. Common cavities ed with calcite, in a case turn	, and oxides. Crys nineral, probably filled with dark, bli ing into chlorite.	stals, chlorite, urry
Plane-r	oolarized: 42440241	Cross-polarized	d: 42440341	



Igneous Petrology					
Lithology:	basalt		Avg. g	grain size:	fine grained
Texture:	ophitic	Max grain size: fine grained			
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase	2	1	25	0.4	
Clinopyroxene			25	0.6	
Fe-Ti Oxide	N/A	N/A	20	0.2	

Alteration	
Alteration comment:	Crystals, especially pyroxene, are fractured. A pleochroic greenish mineral, probably chlorite, occurs preferentially around the oxides. Common cavities filled with dark, blurry material. Sporadic cavities filled with calcite, in a case turning into chlorite.

THIN SECTION LABEL ID:	371-U1506A-32R-2-W 15/18-TSB-TS08	Thin section no.:	: 8
Observer:	MG / Li	Unit/subunit:	Unit II
Thin section summary:	Fine grained ophitic basalt, with plagioclase, clinopyroxe pyroxene crystals and few phenocristals of probably alka observable. Crystals are highly fractured. Amygdaloidal of contact between the dominant rock and the filling is shar alteration, although a replaced colloform structure is obs 0.5cm wide fracture filled with micritic carbonate is obser section	ne, and oxides. Alte aline feldspars are s calcite present (5% p, with no evidence erved in one of the vable in the upper	ered still). The ≥ of cavities. A part of the





Igneous Petrology

Lithology:	basalt		Avg. g	grain size:	fine grained
Texture:	ophitic		Max g	jrain size:	fine grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase			35	0.8	
Clinopyroxene			15	0.7	
Fe-Ti Oxide	N/A	N/A	20	0.5	
Vesicles	Vesicle size (mm)	Vesicle shape			
	4	rounded			

Alteration

Alteration comment:

Altered pyroxene crystals and few phenocristals of probably alkaline feldspars are still observable. Crystals are highly fractured. Amygdaloidal calcite present (5%). The contact between the dominant rock and the filling is sharp, with no evidence of alteration, although a replaced colloform structure is observed in one of the cavities. A 0.5cm wide fracture filled with micritic carbonate is observable in the upper part of the section

THIN SECTION LABEL ID:	371-U1506A-32R-3-W 50/53-TSB-TS09	Thin section no.:	9
Observer:	MG / Li	Unit/subunit:	Unit II
Thin section summary:	Microcrystalline ophitic basalt, with plagioclase, clinopyropyroxene crystals and few probably calcite replaced olivinare highly fractured. Amygdaloidal calcite present (15%). dominant rock and the filling is sharp, with a very thin alter displays a 1cm wide fracture filled with laminated micritic fibrous calcite crystals in the upper part.	xene, and oxides. And exides. And exides are still observable the contact betwee exact on rim. Half of the carbonate in the low	Altered ble. Crystals on the he section wer part and





Cross-polarized: 42440421

Igneous P	etrology			
Lithology:	basalt		Avg. ç	grain size:
Texture:	ophitic		Max g	grain size:
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)
Plagioclase			35	0.3
Clinopyroxene			10	0.3
Fe-Ti Oxide	N/A	N/A	25	0.2
Vesicles	Vesicle size (mm)	Vesicle shape	 !	
	8	irregular		

Alteration

Alteration comment:

Altered pyroxene crystals and few probably calcite replaced olivine are still observable. Crystals are highly fractured. Amygdaloidal calcite present (15%).The contact between the dominant rock and the filling is sharp, with a very thin alteration rim. Half of the section displays a 1cm wide fracture filled with laminated micritic carbonate in the lower part and fibrous calcite crystals in the upper part.

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THIN SECTION LABEL ID:	371-U1506A-34R-1-W 54/56-TSB-TS10	Thin section no.:	10
Observer:	MG / Li	Unit/subunit:	Unit II
Thin section summary:	Fine grained ophitic basalt, with plagioclase, clinopyroxen fresh basalt. Altered pyroxene crystals are still observable Few small vesicles, empty or with amygdaloidal carbonate the dominant rock and the filling is sharp, sometimes with Pleochroic greenish crystals, probably chlorite, occur thro lithology is crossed by thin sinuous veins filled with fibrous	e, and oxides. Alte Crystals are high filling. The contact a very thin alteration ughout the section s calcite.	red part in ly fractured. t between on rim. . The





Igneous Petrology

Lithology:	basalt		Avg. grain size: fi		fine gra
Texture:	ophitic		Max grain size: fi		fine gr
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase			35	0.8	
Clinopyroxene			20	0.6	1
Fe-Ti Oxide	N/A	N/A	20	0.4	

Alteration	
Alteration comment:	Altered part in fresh basalt. Altered pyroxene crystals are still observable. Crystals are highly fractured. Few small vesicles, empty or with amygdaloidal carbonate filling. The contact between the dominant rock and the filling is sharp, sometimes with a very thin alteration rim. Pleochroic greenish crystals, probably chlorite, occur throughout the section. The lithology is crossed by thin sinuous veins filled with fibrous calcite.

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THIN SECTION LABEL ID:	371-U1506A-34R-3-W 65/68-TSB-TS11	Thin section no.	.: 11
Observer:	MG / Li	Unit/subunit:	Unit II
Thin section summary:	Microcrystalline ophitic basalt, with plagioclase and c composed dominantly by plagioclase and ox-hyroxid of pyroxenes. No pyroxene crystals still observable. vesicles and veins filled with blocky calcite. The cont the filling is sharp, sometimes with a very thin alterat	oxides. Rock with micro es, probably derived for Crystals are highly frac- act between the dominion rim.	olithic texture, rom alteration ctured. Few nant rock and





Igneous P	etrology				
Lithology:	basalt		Avg. g	grain size:	microcrystalline
Texture:	ophitic		Max g	Jrain size:	fine grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase			50	0.7	
Fe-Ti Oxide	N/A	N/A	40	0.3	

Alteration	
Alteration comment:	Rock with microlithic texture, composed dominantly by plagioclase and ox-hyroxides, probably derived from alteration of pyroxenes. No pyroxene crystals still observable. Crystals are highly fractured. Few vesicles and veins filled with blocky calcite. The contact between the dominant rock and the filling is sharp, sometimes with a very thin alteration rim.

 THIN SECTION LABEL ID:
 371-U1506A-34R-4-W 32/34-TSB-TS12
 Thin section no.: 12

 Observer:
 MG / Li
 Unit/subunit:
 Unit II

 Thin section summary:
 Fine grained ophitic basalt, with plagioclase, clinopyroxene, and oxides. Ox-hyroxides are generally dark brown, barely transparent, but also orange in some cases. Small relics of pyroxene crystals are still observable. Crystals are highly fractured. Few small cavities are present, and a sinuous thin vein filled with calcite.

Plane-polarized: 42440971

Cross-polarized: 42441021





Igneous Petrology					
Lithology:	basalt		Avg. g	grain size:	Fine graine
Texture:	ophitic		Max g	jrain size:	fine grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase			50	0.8	
Clinopyroxene			10	0.6	
Fe-Ti Oxide	N/A	N/A	30	0.5	

Alteration	
O	Dx-hyroxides are generally dark brown, barely transparent, but also orange in some cases.
Alteration comment: Si	Small relics of pyroxene crystals are still observable. Crystals are highly fractured. Few small
ca	cavities are present, and a sinuous thin vein filled with calcite.

THIN SECTION LABEL ID: 371-U1506A-35R-1-W 75/77-TSB-TS13 Thin section no.: 13 MG / Li Unit/subunit: Observer: Unit II

Thin section summary:

Microcrystalline ophitic basalt, with plagioclase and oxides. Altered pyroxene crystals are still observable. Crystals are highly fractured. Large (>1mm) rounded cavities filled with oxides and plagioclase are present, possible replacement of phenocystals.

Plane-polarized: 42441041

Cross-polarized: 42441061





Igneous P	etrology				
Lithology:	basalt		Avg. g	grain size:	microcrys
Texture:	ophitic		Max g	grain size:	fine grained
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)	
Plagioclase			50	0.4	
Clinopyroxene			10	0.3]
Fe-Ti Oxide	N/A	N/A	30	0.3]

Alteration

Alteration comment:

Altered pyroxene crystals are still observable. Crystals are highly fractured. Large (>1mm) rounded cavities filled with oxides and plagioclase are present, possible replacement of phenocystals.

THIN SECTION LABEL ID:	371-U1506A-35R-3-W 83/85-TSB-TS14	Thin section no.:	14
Observer:	MG / Li	Unit/subunit:	Unit II
Thin section summary:	Highly altered rock composed of yellowish to brownish-or with just few original plagioclase crystals visible. Sporadic crystals are also present. Pervasive large (several mm) a second-generation calcite replacing the original isopach f	ange oxidized grou c dark brown and o nd irregular cavities illing.	Indmass, paque s, filled with



Alteration

Alteration comment:

Highly altered rock composed of yellowish to brownish-orange oxidized groundmass, with just few original plagioclase crystals visible. Sporadic dark brown and opaque crystals are also present. Pervasive large (several mm) and irregular cavities, filled with second-generation calcite replacing the original isopach filling.

 THIN SECTION LABEL ID:
 371-U1506A-36R-2-W 10/12-TSB-TS15
 Thin section no.:
 15

 Observer:
 MG / Li
 Unit/subunit:
 Unit II

Thin section summary: Microcrystalline ophitic basalt, with plagioclase and oxides. Altered pyroxene crystals are still observable. Crystals are highly fractured. Few cavities with irregular shape, highly oxidized rim, and filled with carbonate or empty.

Plane-polarized: 42441231

Cross-polarized: 42441251

Igneous F	Petrology			
Lithology:	basalt		Avg. g	grain size:
Texture:	ophitic		Max g	grain size:
Mineralology	Phenocrysts (%)	Phenocryst size (mm)	Groundmass (%)	Groundmass size (mm)
Plagioclase			50	0.4
Clinopyroxene			10	0.3
Fe-Ti Oxide	N/A	N/A	30	0.3

Alteration

Alteration comment: Altered pyroxene crystals are still observable. Crystals are highly fractured. Few cavities with irregular shape, highly oxidized rim, and filled with carbonate or empty.