



THIN SECTION:	324-U1346A-4R-1-W 0_4-TS1		Piece No:		Unit: 3	OBSERVER:THIN SECTION:TS1	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Volcaniclast in sedimentary rock						
GRAINSIZE:	cryptocrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
plagioclase	3	80	0.1x0.3	0.3x1	0.2x0.3	subhedral	
VESICLES	15		0.1	2	1	moderate, subrounded	
GROUNDMASS	100						
plagioclase	12	80		0.1x0.3	0.05x0.2	acicular	
glass	83	100					
Opaque Minerals	2	0		0.1	0.02	euohedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
clays	100					glass	problem with polishing?
green clays	80					plagioclase	nontronite occurs in halos around veins
calcite	100					vesicle	
STRUCTURE	One irregular vein, no structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Volcaniclastic Basalt Clast; Crystallinity: 17%; Alteration Degree: 95%; Veins: Calcite, green clay and pyrite filling; Vesicle Filling: Calcite; Structure: One irregular vein, no structure in groundmass.						



THIN SECTION:	324-U1346A-4R-1-W 24_31-TS39		Piece No:		Unit:4	OBSERVER:THIN SECTION:TS39	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Volaniclast in sedimentary rock						
GRAINSIZE:	glassy [324]						
TEXTURE:	hypohyaline						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
plagioclase	1	60		0.2x0.5	0.05x0.2	subhedral	too altered to determine
VESICLES							too altered to determine
GROUNDMASS	100						
glass	99	100					too altered to determine
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
pyrite	2					glass	
greenish clay	32					glass	
white clay	60					plagioclase	
Fe oxyhydroxide	32					glass	
calcite	34					glass	
Fe oxyhydroxide	8					vesicle	
calcite	90					vesicle	
pyrite	2					vesicle	
STRUCTURE	The contact between basalt and lime mudstone is not chilled margin. Basalt is a clast in a debris flow.						
COMMENTS							
SUMMARY DESCRIPTION	Glassy Aphyric Volcaniclastic Basalt Clast in Sedimentary Rock; Crystallinity: 1%; Alteration Degree: 99%; Veins: None; Vesicle Filling: Calcite, Fe-oxyhydroxide and pyrite; Structure: The contact between basalt and lime mudstone is not chilled margin. Basalt is a clast in a debris flow.						



THIN SECTION:	324-U1346A-4R-1-W 48_51-TS3		Piece No:		Unit:5	OBSERVER:THIN SECTION:TS3	
ROCK NAME:	amygdadoidal basalt						
WHERE SAMPLED:	Volaniclast in sedimentary rock.						
GRAINSIZE:	microcrystalline [324]						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
plagioclase	3	40	0.1x0.3	0.3x1.2	0.2x0.5	subhedral	
VESICLES	20			2	0.8	Moderate, subrounded	
GROUNDMASS	100						
glass	70	100					
plagioclase	20	30		0.05x0.6	0.02x0.2	acicular	
Opaque Minerals	7	0		0.1	0.05	euhedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
brown clay	70					glass	
white clay	30					plagioclase	
white clay	30					plagioclase	commonly skeletal
brown clay	100					pyroxene	no pyroxene remains in the slide
green clay	30					glass	
calcite	10					plagioclase	
opaque non reflective mineral	5					vesicle	
calcite	60					vesicle	late infill
green clay	20					vesicle	grows over brown clay
brown clay	10					vesicle	
pyrite	5					vesicle	
STRUCTURE	One planar vein, no structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 30%; Alteration Degree: 77%; Veins: Filled with calcite, brown and green clays, and pyrite; Vesicle Filling: Calcite, green and brow clay, and oxides; Structure: One planar vein, no structure in groundmass.						



THIN SECTION:	324-U1346A-4R-1-W 70_76-TS40		Piece No:		Unit:6	OBSERVER:THIN SECTION:TS40
ROCK NAME:	amygdaloidal basalt					
WHERE SAMPLED:	Volcaniclast in sedimentary rock.					
GRAINSIZE:	cryptocrystalline					
TEXTURE:	hypohyaline					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					COMMENTS
MICROPHENOCRYST						
plagioclase	7	80		0.5x1	0.2x1	euhedral and acicular
VESICLES	20			8	2	moderately spherical, subrounded
GROUNDMASS	100					
glass	96	100				
plagioclase	2	90			0.01x0.2	acicular
opaque Minerals	2	0			0.01	subhedral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
white clay	90					plagioclase
white clay	80					plagioclase
gray clay	94					glass
nontronite	1					glass
pyrite	5					glass
calcite	60					vesicle
nontronite	40					vesicle
STRUCTURE	Sedimentary bedding is grading layer, without chilled margin contact with basalt. This rock is not peperite. The basalt is just volcanic debris.					
COMMENTS						
SUMMARY DESCRIPTION	Volcaniclast in sedimentary rock of glassy amygdaloidal basalt; Crystallinity: 4%; Alteration Degree: 97%; Veins: None; Vesicle Filling: Calcite and nontronite; Structure: Sedimentary bedding is grading layer, without chilled margin contact with basalt. This rock is not peperite. The basalt is just volcanic debris.					



THIN SECTION:	324-U1346A-4R-1-W 114_121-TS5					Piece No:		Unit:	OBSERVER:THIN SECTION:TS5
ROCK NAME:	aphyric basalt								
WHERE SAMPLED:	Clastic basalt part of a volcanoclastic debris flow								
GRAINSIZE:	very fine grained								
TEXTURE:	aphyric, variolitic								
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)						
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS		
PHENOCRYSTS	0								
MICROPHENOCRYST									
plagioclase	1	30		0.4	0.2	anhedral to subhedral			
VESICLES	5			2	0.2	highly spherical			
GROUNDMASS	100								
plagioclase	3	30		0.2	0.1	euhedral to anhedral			
glass	96	100							
SECONDARY									
MINERALOGY			SIZE(mm)						
			min.	max.	mode.	REPLACING/FILLING	COMMENTS		
calcite	10					plagioclase	occasional calcite pseudomorphs after plagioclase		
clay	95					pyroxene			
brown clay	60					glass	nontronite occurs in halos around veins		
clay	20					plagioclase			
clay	30					plagioclase			
green clay	30					glass	certain regions in the groundmass show nontronite dominant alteration, other regions are dominated by brown clays		
pyrite	10					glass			
calcite	5					pyroxene	occasional calcite pseudomorphs after possible pyroxene, see picture		
brown clay	10					vesicle			
green clay	30					vesicle			
calcite	70					vesicle	saponite is not present in vesicles away from saponite groundmass alteration		
calcite	50					vesicle	carbonate and saponite occur in vesicles in saponite rich areas		
pyrite	10					vesicle	commonly on the rim of vesicles		
brown clay	10					vesicle	brown clay rims the vesicles		
pyrite	15					vesicle			
STRUCTURE	Plagioclase microphenocrysts are aligned in the chilled margin.								
COMMENTS									
SUMMARY DESCRIPTION	Variolitic Aphyric Basalt Clast in Volcanoclastic Debris Flow; Crystallinity: 4%; Alteration Degree: 98%; Veins: Have the same filling as the vesicles with calcite, green and brown clays and pyrite; Vesicle Filling: Two types, one with calcite, green and brown clays and pyrite, and another type with calcite, brown clay and pyrite; Structure: Plagioclase microphenocrysts are aligned in the chilled margin.								



THIN SECTION:	324-U1346A-4R-2-W 23_26-TS6		Piece No:		Unit:7		OBSERVER:THIN SECTION:TS6	
ROCK NAME:	sparsely phyric basalt							
WHERE SAMPLED:	Lower chilled contact (?) of vesicular basalt							
GRAINSIZE:	cryptocrystalline							
TEXTURE:	intersertal, sparsely phyric							
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)					
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS	
PHENOCRYSTS	5							
MICROPHENOCRYST								
plagioclase	5	30	0.2x0.6	0.5x1.2	0.7x0.3	subhedral		
VESICLES	20			2.5	0.8	high, rounded		
GROUNDMASS	95							
Opaque Minerals	5	0		0.1	0.05	euohedral		
plagioclase	25	30		0.1x0.4	0.05x0.2	acicular		
glass	65	100						
SECONDARY								
MINERALOGY			SIZE(mm)					
			min.	max.	mode.	REPLACING/FILLING	COMMENTS	
greenish brown clay	100					glass		
clay	30					plagioclase	The cores of plagioclase are typically missing, possibly calcite that has been plucked out.	
pyrite	100					?		
greenish brown clay	100					pyroxene	No pyroxene is evident in the slide.	
greenish brown clay	30					plagioclase		
calcite	85					vesicle		
pyrite	5					vesicle	Pyrite commonly forms large near – circular blobs surrounded by calcite.	
brown clay	10					vesicle	Clay rims the vesicles	
STRUCTURE	Plagioclase microphenocrysts aligned parallel to chilled margin. Amygdaloidal structure, vesicles have not preferred orientation. Plagioclase phenocrysts are oriented showing flow structure.							
COMMENTS								
SUMMARY DESCRIPTION	Intersertal Sparsely Phyric Plagioclase Basalt; Crystallinity: 35%; Alteration Degree: 74%; Veins: None; Vesicle Filling: Calcite, brown clay and pyrite; Structure: Glassy at rim. Plagioclase microphenocrysts aligned parallel to chilled margin. amygdaloidal structure, vesicles have no preferred orientation, but plagioclase phenocrysts are mainly oriented showing flow structure.							



THIN SECTION:	324-U1346A-6R-1-W 53_55-TS13		Piece No:		Unit:19	OBSERVER:THIN SECTION:TS13
ROCK NAME:	aphyric amygdaloidal basalt					
WHERE SAMPLED:	highly vesicular basaltic flow					
GRAINSIZE:	microcrystalline [324]					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					COMMENTS
MICROPHENOCRYST						
VESICLES	20		0.5	4	1.5	moderate
GROUNDMASS	80					
plagioclase	20	50		0.5	0.3	acicular to columnar
Opaque Minerals	1	0		0.2	0.1	euohedral
glass	64	100				
pyroxene	15	100		0.8	0.4	anhedral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
magnetite						vesicle
calcite						vesicle
white clay						vesicle
STRUCTURE	One irregular vein connected to vesicle, no structure in groundmass.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 40%; Alteration Degree: 89%; Vesicles: Filled with calcite, white clays and magnetite; Veins: A single irregular vein; Structure: None					



THIN SECTION:	324-U1346A-6R-1-W 115_118-TS14		Piece No:		Unit:20	OBSERVER:THIN SECTION:TS14	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Lower part of vesicular basaltic flow						
GRAINSIZE:	cryptocrystalline						
TEXTURE:	intersertal,aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	10			0.2	0.02	low sphericity	
GROUNDMASS	100						
plagioclase	35	50		0.08x0.01	0.04x0.01	euedral	acicular
glass	50	100					
pyroxene	5	100					pseudomorphed, now calcite
Opaque Minerals	10	100		0.02x0.01	0.01x0.01	subhedral	
SECONDARY	SIZE(mm)						
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
white clay ?	30					vesicle	
calcite	70					vesicle	
STRUCTURE	Planar calcite vein (2 mm thickness) with thick alteration halo (2mm thickness). No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 50%; Alteration Degree: 83%; Vesicle Filling: Calcite, White Clay; Veins: 2 mm thick Calcite veins rimmed with 2 mm halo of Celadonite and Brown Clay; Structure: None.						



THIN SECTION:	324-U1346A-7R-1-W 22_24-TS15		Piece No:			Unit:22	OBSERVER:THIN SECTION:TS15
ROCK NAME:	aphyric						
WHERE SAMPLED:	amygdaloidal basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	10			0.8	0.2	low sphericity	
GROUNDMASS	100						
olivine	1	100		0.2x0.2	0.1x0.1	subhedral	
plagioclase	49	10		0.4x0.2	0.2x0.1	euohedral	acicular
glass	50	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	Thin and thick irregular veins with alteration halo, no structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 50%; Alteration Degree: 56%; Veins: Thin and thick irregular veins with alteration halos, calcite filling with green and brown clays; Vesicle Filling: Calcite, White Clay; Structure: No structure in groundmass.						



THIN SECTION:	324-U1346A-7R-1-W 30_34-TS16			Piece No:		Unit:22	OBSERVER:THIN SECTION:TS16
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	amygdaloidal basalt						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	20			2	0.2	low sphericity	
GROUNDMASS	100						
glass	49	100					
olivine	tr	100		0.2x0.2	0.2x0.1	subhedral	
plagioclase	50	40		0.4x0.1	0.3x0.1	euhedral	
opaque Minerals	1	0		0.2x0.1	0.1x0.1	subhedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	Plagioclase spherulites surround mainly large or connected vesicles. No structure around small vesicles (approximately less than 1 mm in diameter).						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Partly Hyaloophytic Basalt; Crystallinity: 51%; Alteration Degree: 69%; Veins: Calcite with Green, Dark Green and Brown Clay rims; Vesicle Filling: Calcite, White Clay; Structure: None						



THIN SECTION:	324-U1346A-7R-1-W 52_54-TS17		Piece No:			Unit:22	OBSERVER:THIN SECTION:TS17
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Lower part of amygdaloidal basalt						
GRAINSIZE:	cryptocrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	20			0.15	0.02	low sphericity	
GROUNDMASS	100						
Opaque Minerals	1	0		0.04x0.02	0.01x0.01	subhedral	
glass	79	100					
plagioclase	20	50		0.08x0.01	0.04x0.01	euohedral	acicular
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	50					vesicle	Is the fibrous mineral calcite or another mineral that intergrows with calcite?
fibrous mineral	50					vesicle	rim of brown clay around vesicles
STRUCTURE	Heterogeneously distributed calcite veins connecting vesicles, no structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Partially Hyalo-ophitic and Variolitic Basalt; Crystallinity: 21%; Alteration Degree: 89%; Veins: Heterogeneously distributed calcite veins connecting vesicles; Vesicle Filling: Calcite, White Clay; Structure: No structure in groundmass.						



THIN SECTION:	324-U1346A-7R-1-W 81_83-TS18		Piece No:		Unit:23	OBSERVER:THIN SECTION:TS18	
ROCK NAME:	amygdaloidal basalt						
WHERE SAMPLED:	pillow basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	1	100	0.5	1.2	0.8	anhedral	replaced by calcite. contains glass and spinel inclusions
VESICLES	10		0.5	3	2	moderate to low	coalesced vesicles
GROUNDMASS	90						
pyroxene	10	100		0.5	0.3	anhedral	
plagioclase	20	50		0.3	0.2	acicular to columnar	
glass	70	100					
Opaque Minerals	0.1	0		0.1	0.1	euhedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite						vesicle	
brown clay						vesicle	as rim
STRUCTURE	Plagioclase spherulites surround vesicles, one thick vein of calcite and oxide.						
COMMENTS							
SUMMARY DESCRIPTION	Amygdaloidal Intersertal Aphyric Basalt; Crystallinity: 30%; Alteration Degree: 91%; Veins: One thick vein of calcite and oxide; Vesicle Filling: Calcite, White Clay; Structure: Plagioclase spherulites surround vesicles.						



THIN SECTION:	324-U1346A-7R-1-W 139_141-TS19		Piece No:		Unit:23	OBSERVER:THIN SECTION:TS19	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of amygdaloidal basalt						
GRAINSIZE:	cryptocrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	5			0.28	0.02	low sphericity	
GROUNDMASS	100						
plagioclase	50	40		0.08x0.01	0.04x0.01	euohedral	acicular
Opaque Minerals	1	0		0.02x0.01	0.01x0.01	subhedral	
glass	49	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	90					vesicle	
fibrous white clay ?	10					vesicle	
brown clay						vesicle	as rim
STRUCTURE	Plagioclase spherulites partly surround vesicles.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 51%; Alteration Degree: 70%; Veins: None; Vesicle Filling: Calcite, White Clay; Structure: Plagioclase spherulites partly surround vesicles.						



THIN SECTION:	324-U1346A-7R-2-W 10_12-TS20		Piece No:		Unit:22	OBSERVER:THIN SECTION:TS20	
ROCK NAME:	aphyric amigdaloidal basalt						
WHERE SAMPLED:	pillow marginal zone						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	20		1	6	3-4	rounded to subangular	contains vesicle blisters
GROUNDMASS	80						
plagioclase	20	50		0.4	0.3	acicular to columnar	
Opaque Minerals	0.1	0					
pyroxene	20	98		0.5	0.4	anhedral	
glass	60	100				euohedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
white fibrous mineral						vesicle	
brown clay						vesicle	as rim
calcite						vesicle	
STRUCTURE	Irregular calcite veins are heterogeneously distributed and connecting vesicles. Plagioclase spherulites surround vesicles.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Amigdaloidal Basalt; Crystallinity: 40%; Alteration Degree: 90%; Veins: Irregular calcite veins are heterogeneously distributed and connecting vesicles; Vesicle Filling: Calcite, White Clay; Structure: Contains vesicle blisters, Plagioclase spherulites surround vesicles.						



THIN SECTION:	324-U1346A-7R-2-W 77_80-TS21		Piece No:		Unit:23	OBSERVER:THIN SECTION:TS21	
ROCK NAME:	aphyric amygdaloidal basalt						
WHERE SAMPLED:	pillow marginal zone						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	40		1	2	1.5	subrounded to angular	presence of coalescend vesicles angular in form
GROUNDMASS	60						
plagioclase	20	40		0.6	0.4	acicular to columnar	
glass	60	100					
pyroxene	20	100		0.8	0.5	anhedral	
Opaque Minerals	0.1	0		0.2	0.2	euohedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	Thick calcite veins heterogeneously distributed and connecting vesicles. No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 40%; Alteration Degree: 88%; Vesicles: Large vesicle blisters and pipe vesicles. Filled with calcite, green and brown clays, Fe-oxyhydroxides and a blue prismatic mineral; Veins: Same filling as in vesicles; Structure: Thick calcite veins heterogeneously distributed and connecting vesicles. No structure in groundmass.						



THIN SECTION:	324-U1346A-7R-2-W 99_102-TS22			Piece No:		Unit:	OBSERVER:THIN SECTION:TS22
ROCK NAME:							
WHERE SAMPLED:							
GRAINSIZE:							
TEXTURE:							
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
MICROPHENOCRYST							
GROUNDMASS							
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	Massive structure with calcite veins of polycrystalline filling pattern, late en echelon veins acrosscut early wide vein.						
COMMENTS							
SUMMARY DESCRIPTION							



THIN SECTION:	324-U1346A-7R-3-W 33_35-TS24		Piece No:		Unit:24	OBSERVER:THIN SECTION:TS24
ROCK NAME:	amygdaloidal basalt					
WHERE SAMPLED:	basalt pillow, contact with gas blister					
GRAINSIZE:	microcrystalline					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					COMMENTS
MICROPHENOCRYST						
VESICLES	40		1	8		subrounded to angular coalesced vesicles
GROUNDMASS	60					
Opaque Minerals	0.1	0				euhedral
glass	60	100				
pyroxene	10	100		0.8	0.3	anhedral
plagioclase	30	40		1	0.6	acicular to columnar
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
calcite	80					vesicle
dark brown clays	20					vesicle
STRUCTURE	Thick vein or large bubbles filled with alteration minerals. No structure in groundmass.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 40%; Alteration Degree: 82%; Vesicles: Gas blisters are filled with calcite, green clays and in one also Fe-oxyhydroxide. Normal vesicles are filled with calcite and dark brown clays; Veins: Filled with calcite mainly; Structure: Thick vein or large (blister) vesicles filled with alteration minerals. No structure in groundmass.					



THIN SECTION:	324-U1346A-7R-3-W 67_70-TS23		Piece No:			Unit:24	OBSERVER:THIN SECTION:TS23
ROCK NAME:	aphyric amygdaloidal basalt						
WHERE SAMPLED:	top of basalt pillow						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	0.1	100	0.4				Only trace of a few olivine crystals,
VESICLES	<5		0.4	0.9	0.8	subrounded to angular	
GROUNDMASS	100						
pyroxene	20	100		0.5	0.4	anhedral	
plagioclase	20	30		0.4	0.3	acicular to columnar	rare microphenocrysts or glomerocrysts
glass	60	100		0.2	0.1		
Opaque Minerals	0.1	0				euherdal	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
dark brown clay	40					vesicle	altered segregation vesicles
calcite	60					vesicle	
STRUCTURE	One planar joint. One irregular calcite vein. Thick vein (~3 mm) filled with oxides and calcite. No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt with a few olivine microphenocrysts replaced entirely with calcite; Crystallinity: 40%; Alteration Degree: 86%; Vesicles: Filled with calcite and dark brown clays; Veins: Filled with calcite, Fe-oxyhydroxide and green clays; Structure: One irregular calcite vein and one thick vein (3 mm) filled with oxides and calcite. No structure in groundmass.						



THIN SECTION:	324-U1346A-7R-4-W 30_34-TS25		Piece No:		Unit:26	OBSERVER:THIN SECTION:TS25	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	interior of pillow basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	20			4.5	0.6	moderately spherical	
GROUNDMASS	100						
plagioclase	25	40		0.5	0.3	acicular to columnar	
opaque Minerals	0.1	0		0.1			
clinopyroxene	15	100		0.5	0.3	anhedral	
glass	60	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	100					olivine	
brown clays	40					plagioclase	
brown clays	98					glass	
opaques	2					glass	
brown clays	10					calcite	
calcite	100					pyroxene	
dark brown clays						vesicle	as rim around vesicles. Thickness: 0.02 mm
calcite	100					vesicle	
opaques						vesicle	as rim around vesicles
STRUCTURE							
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 40%; Alteration Degree: 85%; Veins: None; Vesicle Filling: Calcite with dark brown clays and oxide minerals in rims; Structure: Plagioclase spherulites surround mainly large or connected vesicles. No structure around small vesicles (approximately less than 1 mm in diameter).						



THIN SECTION:	324-U1346A-8R-1-W 28_29-TS27		Piece No:		Unit:28	OBSERVER:THIN SECTION:TS27	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of vesicular basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	2	100		0.3x0.2	0.2x0.1	subhedral	
VESICLES	5			8	0.2	highly spherical	
GROUNDMASS	100						
glass	67	100					
clinopyroxene	7	90		0.1x0.1	0.1x0.1	subhedral	
plagioclase	25	30		0.6x0.1	0.2x0.1	euohedral	acicular
Opaque Minerals	1	0		0.1x0.1	0.1x0.1	subhedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	99					vesicle	
pyrite	1					vesicle	
STRUCTURE	Calcite vein connecting vesicles. Vesicles are partly surrounded by plagioclase spherulite.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 33%; Alteration Degree: 81%; Vesicles: Filled with calcite and pyrite; Veins: Filled with calcite and pyrite; Structure: Calcite vein connecting vesicles. Vesicles are partly surrounded by plagioclase spherulite.						



THIN SECTION:	324-U1346A-8R-1-W 56_60-TS28		Piece No:		Unit:28-29	OBSERVER:THIN SECTION:TS28
ROCK NAME:	amygdaloidal aphyric basalt					
WHERE SAMPLED:	chilled contact of two pillow units					
GRAINSIZE:	cryptocrystalline					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					
MICROPHENOCRYST						
olivine	2	100		0.3	0.1	euohedral
VESICLES	15		1	4		low, subangular
GROUNDMASS	100					
plagioclase	15	20		0.1x0.5	0.02x0.2	acicular, subhedral
glass	83	99				fresh glass fragment (1x2mm) preserved at the contact
opaque Minerals	0.1	0			0.01	euohedral within olivine (cr-spinel)
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
white clay	20					plagioclase
brown clay	98					glass
saponite	1					glass
calcite	100					olivine
calcite	100					vesicle
						vesicles in pillow rim and in glassy basalt both contain 100% calcite
STRUCTURE	Amygdaloidal structure with veins.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 17%; Alteration Degree: 87%; Vesicles: Filled with calcite; Veins: Filled with calcite, nontronite and brown clays; Structure: Chilled contact of two pillow units. Amygdaloidal structure with veins.					



THIN SECTION:	324-U1346A-8R-1-W 85_87-TS29		Piece No:		Unit:29	OBSERVER:THIN SECTION:TS29	
ROCK NAME:	amygdaloidal basalt						
WHERE SAMPLED:	upper part of pillow basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	3	100		0.3	0.1	subhedral	
VESICLES	20			4	1.5	low, subangular	
GROUNDMASS	100						
glass	57	100					
plagioclase	43	40		0.05x0.5	0.02x0.2	acicular	
opaque Minerals	0.1	0		0.03	0.01	euhedral	near and within olivine
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
brown mineral	50					vesicle	brown low birifringence mineral
calcite	50					vesicle	
STRUCTURE	Plagioclase spherulite surrounds amygdules. One irregular and composite vein (~1.5 mm thickness).						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt in upper part of pillow; Crystallinity: 43%; Alteration Degree: 74%; Vesicles: Filled with calcite and brown clays; Veins: Two vein generations each with calcite and Fe oxyhydroxide fillings; Structure: Plagioclase spherulite surrounds amygdules. One irregular and composite vein (~1.5 mm thickness).						



THIN SECTION:	324-U1346A-8R-2-W 30_34-TS30		Piece No:		Unit:31	OBSERVER:THIN SECTION:TS30	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of vesicular basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	intersertal, aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	3	100		0.2x0.4	0.2x0.2	subhedral	
plagioclase	0.1	10		0.2x0.8		subhedral	
VESICLES	3			1	0.2	low sphericity	
GROUNDMASS	100						
Opaque Minerals	1	0		0.05x0.05	0.05x0.05	subhedral	
plagioclase	20	10		0.5x0.05	0.2x0.05	acicular	
glass	79	100					
SECONDARY			SIZE mm				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
brown clay	10					pyroxene	
opaques	2					glass	
brown clay	10					plagioclase	
light brown clay	98					glass	saponite
calcite	90					pyroxene	
STRUCTURE	Amygdaloidal structure, vein is filled with cross-fiber calcite.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 21%; Alteration Degree: 81%; Veins: Two vein generations; one with calcite, red-brown clays and Fe-oxyhydroxide filling and one with calcite, light brown and dark brown clays and opaques in the filling; Vesicle Filling:10% calcite filling; Structure: Amygdaloidal structure, vein is filled with cross-fiber calcite.						



THIN SECTION:	324-U1346A-9R-1-W 45_49-TS31			Piece No:		Unit:32	OBSERVER:THIN SECTION:TS31
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of vesicular amygdaloidal basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	0.1	100		0.2x0.2	0.2x0.2	subhedral	
VESICLES	10			3	0.5	moderately spherical	
GROUNDMASS	100						
glass	78	100					
plagioclase	20	10		0.4x0.02	0.2x0.02	subhedral	
Opaque Minerals	2	0		0.02x0.02	0.02x0.02	subhedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	Amygdaloidal structure with two kinds of mineral filling pattern, one is cross-fiber, another one is polycrystalline.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 22%; Alteration Degree: 80%; Veins: None; Vesicle Filling: Calcite, radial brown clays; Structure: Amygdaloidal structure with two kinds of mineral filling pattern, one is cross-fiber, another one is polycrystalline.						



THIN SECTION:	324-U1346A-9R-2-W 73_76-TS33			Piece No:		Unit:32	OBSERVER:THIN SECTION:TS33
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of vesicular amygdaloidal basalt						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	2	100		0.3	0.1	subhedral	
VESICLES	5			2	0.2	high to moderate	
GROUNDMASS	100						
glass	70	100					
clinopyroxene	10	100		0.2x0.1	0.1x0.1	subhedral	
plagioclase	20	40		0.6x0.1	0.3x0.1	euohedral	acicular
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	No structure.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt with pseudomorphic microcrysts of olivine now entirely replaced by calcite; Crystallinity: 30%; Alteration Degree: 88%; Vesicles: 5% highly spherical vesicles; Veins: None; Structure: None						



THIN SECTION:	324-U1346A-9R-2-W 85_89-TS32		Piece No:			Unit:32	OBSERVER:THIN SECTION:TS32
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of vesicular amygdaloidal basalt						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	0.1	100		0.3x0.2	0.1x0.1	subhedral	
VESICLES	15			3	0.2	low sphericity	
GROUNDMASS	100						
glass	69	100					
Opaque Minerals	1	0		0.2x0.1	0.1x0.1	subhedral	
plagioclase	30	50		0.6x0.1	0.2x0.1	euohedral	acicular
SECONDARY	SIZE(mm)						
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	Thick irregular calcite veins are heterogeneously distributed. No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 30%; Alteration Degree: 85%; Vesicles: 15% low sphericity vesicles filled with calcite, white clays and magnetite; Veins: Filled with calcite, white, brown and green clays, and some oxide mineral; Structure: Thick irregular calcite veins are heterogeneously distributed. No structure in groundmass.						



THIN SECTION:	324-U1346A-9R-2-W 94_96-TS26			Piece No:		Unit:32	OBSERVER:THIN SECTION:TS26
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of basaltic flow						
GRAINSIZE:	cryptocrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
pyroxene	2	100		0.3x1	0.2	subhedral	plagioclase intergrown
VESICLES	5		0.2	1		low, subangular	
GROUNDMASS	100						
opaque Minerals	0.1	0			0.04	subhedral	spinel
plagioclase	20	20		0.1x1.2	0.05x0.5	acicular	
glass	76	100					
pyroxene	2	100			0.1	subhedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite						olivine	Either calcite pseudomorphs after olivine or micro vesicles.
brown clay						pyroxene	
white clay						plagioclase	
Fe oxyhydroxide						magnetite	
saponite						glass	
brown clay						glass	
calcite	80					vesicle	
saponite	20					vesicle	
STRUCTURE	Massive structure.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 24%; Alteration Degree: 84%; Veins: Calcite; Vesicle Filling: Calcite, saponite; Structure: No structure in groundmass, massive.						



THIN SECTION:	324-U1346A-9R-2-W 117 118-TS34		Piece No:		Unit:32	OBSERVER:THIN SECTION:TS34	
ROCK NAME:	amygdaloidal aphyric basalt						
WHERE SAMPLED:	Core part of large inflation unit						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	2			2	0.5	low, subrounded	heterogeneous distribution
GROUNDMASS	100						
plagioclase	20	20		0.1x0.5	0.05x0.3		
Opaque Minerals	2	0		0.1	0.03		
glass	76	100					
pyroxene	2	90		0.25	0.05		
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
STRUCTURE	Thin irregular calcite vein. No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Core part of large inflation unit consisting of Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 24%; Alteration Degree: 82%; Vesicles: Very low vesicularity at 2% filled with calcite, white clays and magnetite; Veins: Filled with calcite; Structure: Thin irregular calcite vein. No structure in groundmass.						



THIN SECTION:	324-U1346A-9R-3-W 54_56-TS35			Piece No:		Unit:	OBSERVER:THIN SECTION:TS35
ROCK NAME:							
WHERE SAMPLED:							
GRAINSIZE:							
TEXTURE:							
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
MICROPHENOCRYST							
GROUNDMASS							
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
light brown clay	10					olivine	along the rim
calcite	85					pyroxene	
brown clays	98					glass	
light brown clays	20					pyroxene	
calcite	90					olivine	
light brown clays	10					plagioclase	
opaques	2					glass	
radial brown clays	10					vesicle	
opaques						vesicle	alteration halo: 0.01 mm
brown clays						vesicle	
calcite	90					vesicle	
STRUCTURE							
COMMENTS							
SUMMARY DESCRIPTION							



THIN SECTION:	324-U1346A-10R-1-W 24_25-TS36		Piece No:		Unit:34	OBSERVER:THIN SECTION:TS36
ROCK NAME:	aphyric basalt					
WHERE SAMPLED:	middle part of amygdaloidal basalt					
GRAINSIZE:	microcrystalline					
TEXTURE:	aphyric, variolitic					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					
MICROPHENOCRYST						
VESICLES	20			2.5	0.4	moderately spherical
GROUNDMASS	100					
glass	40	100				
pyroxene	29	95		0.2	0.1	subhedral
plagioclase	25	30		0.2	0.1	euohedral
magnetite	5	0		0.2	0.05	euohedral
olivine	1	100				
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
brown mineral	50					vesicle
calcite	50					vesicle
STRUCTURE	No structure.					
COMMENTS						
SUMMARY DESCRIPTION	Variolitic Amygdaloidal Aphyric Basalt; Crystallinity: 60%; Alteration Degree: 76%; Vesicles: Filled with calcite and brown clays; Veins: None; Structure: None					



THIN SECTION:	324-U1346A-10R-2-W 16_18-TS37			Piece No:		Unit:35	OBSERVER:THIN SECTION:TS37
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of amygdaloidal basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
VESICLES	10			3	0.4	moderately spherical	
GROUNDMASS	100						
Opaque Minerals	1	0		0.05x0.05	0.05x0.05	subhedral	
plagioclase	25	50		0.8x0.1	0.2x0.1	euohedral	acicular
glass	74	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
brown clay	50					plagioclase	
brown clay	100					pyroxene	complete replacement of calcite by brown clays
brown clays	98					glass	
opaque phases	2					glass	magnetite
brown clays						vesicle	
calcite						vesicle	
light brown clay						vesicle	as rim with fibers perpendicular to the rim
opaque phases						vesicle	forming large coronas around the vesicles
STRUCTURE	Plagioclase spherulites partly surround vesicles.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Amygdaloidal Aphyric Basalt; Crystallinity: 25%; Alteration Degree: 87%; Vesicles: Filled with calcite, brown clays and magnetite; Veins: None; Structure: Plagioclase spherulites partly surround vesicles.						



THIN SECTION:	324-U1346A-11R-1-W 34 35-TS38		Piece No:		Unit:36	OBSERVER:THIN SECTION:TS38
ROCK NAME:	amygdaloidal aphyric basalt					
WHERE SAMPLED:	middle part of inflation unit					
GRAINSIZE:	microcrystalline					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					
MICROPHENOCRYST						
VESICLES	3			2.5	0.8	low, subrounded
GROUNDMASS	100					
pyroxene	4	90		0.15	0.05	subhedral
glass	86	100				
plagioclase	10	15		0.8x0.1	0.04x0.2	acicular, subhedral
opaque Minerals	0.1	0			0.01	euohedral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
calcite	100					olivine
brown clay	80					glass
brown clay	90					pyroxene
brown clay	15					plagioclase
Fe-oxyhydroxides	100					magnetite
calcite	20					glass
STRUCTURE	Irregular calcite veins heterogeneously distributed. No structure in groundmass.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 14%; Alteration Degree: 91%; Vesicles: Filled with calcite, white clays and magnetite; Veins: Calcite and pyrite filling; Structure: Irregular calcite veins heterogeneously distributed. No structure in groundmass.					



THIN SECTION:	324-U1346A-13R-1-W 15_19-TS42		Piece No:		Unit:37	OBSERVER:THIN SECTION:TS42
ROCK NAME:	moderately phyric basalt					
WHERE SAMPLED:	middle of inflation unit					
GRAINSIZE:	very fine grained					
TEXTURE:	moderately phyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	7					
pyroxene	7	15		1x1.5	0.4x1	subhedral
Plagioclase*	0.1	100	0.1	0.3	0.1	subhedral
MICROPHENOCRYST						
olivine	0.1	100	0.1	0.3	0.1	subhedral
VESICLES	1		0.5	1		high, rounded
GROUNDMASS	93					
plagioclase	15	15		0.2x0.8	0.05x0.5	acicular
opaque Minerals	tr	0			0.01	euhedral
glass	75	100				
pyroxene	3	15			0.1	subhedral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
opaque phases	2					Glass
brown clays	98					Glass
brown clays	15					pyroxene
brown clays	15					plagioclase
STRUCTURE	Subophitic structure. Some irregular and Y-shaped veins are heterogeneously distributed.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Moderately Phyric Basalt from the middle of an inflation unit; Crystallinity: 25%; Alteration Degree: 79%; Vesicles: Filled with calcite, white clays and magnetite; Veins: Filled with calcite and pyrite; Structure: Subophitic structure. Some irregular and Y-shaped veins are heterogeneously distributed.					



THIN SECTION:	324-U1346A-13R-1-W 42_45-TS43		Piece No:		Unit:37	OBSERVER:THIN SECTION:TS43	
ROCK NAME:	amygdoloidal aphyric basalt						
WHERE SAMPLED:	middle of inflation unit						
GRAINSIZE:	microcrystalline						
TEXTURE:	intersertal,aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	5	100		0.2	0.1	subhedral	
VESICLES	10			>10	>10	elongate subrounded	
GROUNDMASS	100						
pyroxene	5	100		0.2	0.1	subhedral	
plagioclase	20	70		0.05x1.1	0.02x0.2	acicular	
glass	70	100					
opaque Minerals	tr	0			0.01	euohedral	within olivine
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
opaques phases	2					glass	
calcite	100					pyroxene	
brown clays	98					glass	
brown clays	70					plagioclase	
gray clay						vesicle	saponite
green clay						vesicle	nontronite
calcite						vesicle	
STRUCTURE	Irregular vein (~0.5 mm thickness) with thick alteration halo (~2 mm thickness). No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdoloidal Aphyric Basalt; Crystallinity: 30%; Alteration Degree: 94%; Vesicles: Filled with calcite and green/gray clays; Veins: Filled with calcite and green clays, replacing previous glass shards and forming an alteration halo around the vein; Structure: Irregular vein (~0.5 mm thickness) with thick alteration halo (~2 mm thickness). No structure in groundmass.						



THIN SECTION:	324-U1346A-13R-1-W 61_65-TS44		Piece No:		Unit:38	OBSERVER:THIN SECTION:TS44	
ROCK NAME:	amygdaloidal basalt						
WHERE SAMPLED:	upper margin of inflation unit						
GRAINSIZE:	cryptocrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
Plagioclase*	3	100		0.3	0.2	subhedral	
MICROPHENOCRYST							
olivine	3	100		0.3	0.2	subhedral	
VESICLES	25			4	1	moderate, subrounded	
GROUNDMASS	100						
plagioclase	17	90		0.05x0.5	0.02x0.2	acicular	
glass	80	100					
opaque Minerals	0.1	0		0.05	0.03	euohedral	within olivine
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
brown clays	90					plagioclase	
brown clays	98					glass	
oxides	2					glass	
calcite	100					olivine	pseudomorphs of calcite
calcite	100					pyroxene	
calcite						vesicle	
calcite						vesicle	connection of the vein and vesicles as rim
brown clay						vesicle	
calcite						vesicle	
STRUCTURE	Some irregular veins connecting amygdules. Green irregular vein (~0.5 mm thickness) with the thick alteration halo (~4 mm thickness). No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 20%; Alteration Degree: 97%; Veins: One vein type with calcite and green clay, another with calcite, green clay and hematite; Vesicle Filling: Three types, with the first filled by calcite and brown clay, and the other two types filled with calcite alone; Structure: Some irregular veins connecting amygdules. Green irregular vein (~0.5 mm thickness) with the thick alteration halo (~4 mm thickness). No structure in groundmass.						



THIN SECTION:	324-U1346A-13R-1-W 79_82-TS45		Piece No:			Unit:38	OBSERVER:THIN SECTION:TS45
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	lower part of pillow amygdaloidal basalt						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	5	100		0.4x0.2	0.1x0.1	subhedral	
VESICLES	15			4	0.6	moderately spherical	
GROUNDMASS	100						
Opaque Minerals	0.1	0		0.03	0.03	subhedral	
plagioclase	20	75		0.4x0.05	0.3x0.05	euohedral	acicular
glass	80	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	100					pyroxene	
green-brown clays	75					plagioclase	
green-brown clays	98					glass	
tiny opaques	2					glass	
calcite	100					olivine	presence of spinel
calcite						vesicle	
STRUCTURE	Some irregular veins connecting amygdules. Small calcites (less than 0.1 mm in diameter) sparsely surround amygdules.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal or Hyaloophytic Aphyric Basalt; Crystallinity: 20%; Alteration Degree: 95%; Veins: Calcite, white-brown clay and green clay; Vesicle Filling: Calcite; Structure: Some irregular veins connecting amygdules. Small calcites (less than 0.1 mm in diameter) sparsely surround amygdules.						



THIN SECTION:	324-U1346A-13R-1-W 85_88-TS46		Piece No:		Unit:39	OBSERVER:THIN SECTION:TS46	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Top of amygdaloidal basalt						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	5	100		0.4x0.3	0.1x0.1	subhedral	
VESICLES	15			0.3	0.1	moderately spherical	
GROUNDMASS	100						
Opaque Minerals	0.1	0		0.02	0.02	subhedral	
glass	80	100					
plagioclase	20	70		0.6x0.05	0.4x0.05	euhedral	acicular
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	3					Glass	
opaques	2					Glass	
calcite	100					pyroxene	
green-brown clays	95					Glass	
brown clays	70					plagioclase	
calcite						vesicle	alteration halo of brown clays and opaques, and a rim of green clay for some vesicles.
STRUCTURE	Plagioclase spherulites surround amygdules. Some irregular veins connect amygdules.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 20%; Alteration Degree: 95%; Veins: Calcite and green clay filling; Vesicle Filling: Calcite; Structure: Plagioclase spherulites surround amygdules. Some irregular veins connect amygdules.						



THIN SECTION:	324-U1346A-13R-1-W 102_105-TS47		Piece No:		Unit:39	OBSERVER:THIN SECTION:TS47
ROCK NAME:	aphyric basalt					
WHERE SAMPLED:	Lower part of amygdaloidal basalt					
GRAINSIZE:	very fine grained					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					
MICROPHENOCRYST						
olivine	2	100		0.4x0.3	0.2x0.1	subhedral
VESICLES	5			0.2	0.02	moderately spherical
GROUNDMASS	100					
plagioclase	15	20		0.6x0.05	0.4x0.05	euhedral
Opaque Minerals	0.1	0		0.03	0.03	subhedral
glass	85	100				
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
calcite	80					vesicle
saponite	5					vesicle
nontronite	10					vesicle
STRUCTURE	Plagioclase spherulites partly surrounds amygdules. Thick planar vein.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 15%; Alteration Degree: 88%; Vesicles: Filled with calcite, white clays and magnetite; Veins: Filled with calcite, saponite, nontronite and Fe-oxyhydroxide; Structure: Plagioclase spherulites partly surrounds amygdules. Thick planar vein.					



THIN SECTION:	324-U1346A-13R-2-W 35_36-TS48			Piece No:		Unit:39	OBSERVER:THIN SECTION:TS48
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	middle part of amygdaloidal basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	intersertal,aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	2	100		0.4x0.2	0.2x0.1	subhedral	
VESICLES	10			2	0.6	moderately spherical	
GROUNDMASS	100						
plagioclase	12	20		0.6x0.05	0.4x0.05	euhedral	acicular
glass	88	100					
Opaque Minerals	0.1	0		0.1x0.05	0.05x0.05		
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	80					pyroxene	
brown clays	20					plagioclase	
calcite	100					olivine	
brown clays	20					pyroxene	
brown clays	98					Glass	
opaques	2					Glass	
calcite						vesicle	
STRUCTURE	Networked irregular veins. No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 12%; Alteration Degree: 90%; Veins: Calcite filling with another fibrous mineral; Vesicle Filling: Calcite; Structure: Networked irregular veins. No structure in groundmass.						



THIN SECTION:	324-U1346A-14R-1-W 124_126-TS49		Piece No:		Unit:44	OBSERVER:THIN SECTION:TS49
ROCK NAME:	aphyric basalt					
WHERE SAMPLED:	pillow rim and interpillow breccia					
GRAINSIZE:	glassy [324]					
TEXTURE:	aphyric, vesicular					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					COMMENTS
MICROPHENOCRYST						
olivine	3	100	0	1	0.3	euhedral
VESICLES	25			6	1	elongate, subangular
GROUNDMASS	100					radial distribution to rim
glass	95	100				
plagioclase	5	20		0.04x0.4	0.01x0.4	acicular
opaque Minerals	0.1	0		0.02	0.01	euhedral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
brown clays						plagioclase
calcite						glass
nontronite						glass
calcite						olivine
brown clays						glass
Fe oxyhydroxide						glass
calcite	20					vesicle
nontronite	80					vesicle
calcite	100					vesicle
STRUCTURE	No structure in groundmass.					
COMMENTS						
SUMMARY DESCRIPTION	Highly Vesicular Glassy Basalt; Crystallinity: 5%; Alteration Degree: 97%; Veins: Filled with calcite, nontronite and Fe-oxyhydroxides; Vesicle Filling: Calcite only or calcite with nontronite; Structure: No structure in groundmass, but pillow rim has been completely altered and replaced with nontronite, calcite, brown clays and calcite.					



THIN SECTION:	324-U1346A-14R-2-W 36_37-TS50		Piece No:		Unit:46	OBSERVER:THIN SECTION:TS50
ROCK NAME:	aphyric basalt					
WHERE SAMPLED:	middle part of amygdaloidal basalt					
GRAINSIZE:	very fine grained					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					COMMENTS
MICROPHENOCRYST						
olivine	3	100		0.3x0.2	0.1x0.1	subhedral
VESICLES	10			3	0.2	moderately spherical
GROUNDMASS	100					
clinopyroxene	4	99		0.4x0.2	0.2x0.2	subhedral
plagioclase	10	20		0.6x0.05	0.3x0.05	euohedral
glass	86	100				some surviving cpx are observed acicular
Opaque Minerals	tr	0		0.02	0.02	euohedral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
calcite	5					Glass
brown clays	20					plagioclase
opaques	2					Glass
pyrite	1					?
calcite	95					pyroxene
brown clays	5					pyroxene
light brown to dark brown clays	93					Glass
calcite						vesicle
						relics of pyroxene and second generation of brown clays around the halo
STRUCTURE	Relatively large amygdules (larger than 0.2 mm in diameter) are surrounded by spherulitic plagioclase. Subophitic structure. Irregular,					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 14%; Alteration Degree: 95%; Veins: All filled with calcite only; Vesicle Filling: Calcite; Structure: Relatively large amygdules (larger than 0.2 mm in diameter) are surrounded by spherulitic plagioclase. Subophitic structure. Irregular, networked and Y-shaped veins heterogeneously distributed.					



THIN SECTION:	324-U1346A-14R-2-W 66_70-TS51		Piece No:		Unit:46	OBSERVER:THIN SECTION:TS51	
ROCK NAME:	amygdaloidal basalt						
WHERE SAMPLED:	center part of pillow basalt						
GRAINSIZE:	cryptocrystalline						
TEXTURE:	intersertal, aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
olivine	0.1	100			1x2	subhedral	
MICROPHENOCRYST							
plagioclase	0.1	20			0.3x0.8	euhedral	
spinel	0.1	0		0.03	0.02	euhedral	within olivine
olivine	5	100		0.3	0.1	subhedral	
VESICLES	5			0.5	0.3	moderate, subrounded	
GROUNDMASS	95						
glass	65	100					
plagioclase	30	20		0.07x0.2	0.02x0.2	acicular	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	100					olivine	
white clay	20					plagioclase	gray alteration
brown clay	99					pyroxene	
white clay	20					plagioclase	brown alteration: the brown and gray alteration are observed in the slide separated by a calcite vein.
brown clay	99					pyroxene	
calcite	10					glass	
calcite	100					olivine	
brown clay	85					glass	
Fe oxyhydroxide	5					glass	
calcite	100					vesicle	
STRUCTURE	Two generations of veins, with an early wide vein filled with cross-fiber calcite. A late veinlet cuts the early wide vein.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Basalt; Crystallinity: 35%; Alteration Degree: 76%; Veins: Four generations, with v1 filled with nontronite only, v2 with calcite and Fe-oxyhydroxides, v3 with nontronite, calcite and Fe-oxyhydroxides, and v4 with calcite only; Vesicle Filling: Calcite; Structure: Four generations of veins, with an early wide vein filled with cross-fiber calcite clearly cut by a late veinlet.						



THIN SECTION:	324-U1346A-14R-2-W 97_98-TS52		Piece No:		Unit:46	OBSERVER:THIN SECTION:TS52	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Lower part of amygdaloidal aphyric basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	intersertal, aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	5	100		0.5x0.2	0.2x0.1	subhedral	
VESICLES	5			3	0.4	moderately spherical	
GROUNDMASS	100						
plagioclase	25	60		0.4x0.05	0.2x0.01	euhedral	acicular
glass	70	100					
Opaque Minerals	0.1	0		0.1x0.1	0.01x0.01	subhedral	
SECONDARY				SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
brown clays	60					plagioclase	
calcite	80					pyroxene	
brown clays	100					Glass	
brown clays	20					pyroxene	
brown clays	20					vesicle	
calcite	80					vesicle	
calcite	1					vesicle	
STRUCTURE	Irregular and networked veins heterogeneously distributed. No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 30%; Alteration Degree: 90%; Veins: Filled with calcite only; Vesicle Filling: Calcite, brown clay; Structure: Irregular and networked veins heterogeneously distributed. No structure in groundmass.						



THIN SECTION:	324-U1346A-14R-2-W 107_108-TS53			Piece No:		Unit:47	OBSERVER:THIN SECTION:TS53
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	near chilled margin						
GRAINSIZE:	microcrystalline						
TEXTURE:	variolitic,aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	3	100		0.3x0.3	0.2x0.2	euohedral	Most crystals have spinel (picotite). Completely replaced by calcite and saponite.
VESICLES	5			5	0.5	moderately spherical	most vesicles are filled by calcite
GROUNDMASS	100						
glass	37	100					
plagioclase	30	40		0.2x0.05	0.1x0.05	subhedral	
augite	30	100		0.2x0.1	0.1x0.05	subhedral	fibrous
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
tiny opaques	5					Glass	
brown clays	40					plagioclase	
calcite	2					Glass	
calcite	80					pyroxene	
light brown clays	93					Glass	
brown clays	20					pyroxene	
brown clays						vesicle	
calcite						vesicle	
STRUCTURE	Single irregular vein connecting amygdules. No structure in groundmass.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 63%; Alteration Degree: 82%; Veins: Filled with some fibrous-radial shape clay; Vesicle Filling: Calcite, brown clay; Structure: Single irregular vein connecting amygdules. No structure in groundmass.						



THIN SECTION:	324-U1346A-14R-3-W 34_36-TS54		Piece No:		Unit:48	OBSERVER:THIN SECTION:TS54	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Bottom of amygdaloidal basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	intersertal,aphyric						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	5	100		0.6x0.2	0.2x0.2	subhedral	
VESICLES	5			1.4	0.4	moderately spherical	
GROUNDMASS	100						
plagioclase	25	30		0.8x0.05	0.2x0.05	euhedral	
Opaque Minerals	1	0		0.2x0.1	0.1x0.1	subhedral	
glass	69	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
opaques	2					Glass	
brown clays	98					Glass	
brown clays	30					plagioclase	
calcite	100					pyroxene	
light brown clays	100					vesicle	
calcite	80					vesicle	alteration halo of orange clays as rim and
orange clays						vesicle	alteration halo around the vesicles
brown clays	20					vesicle	
STRUCTURE	One planar, vuggy and intravenous vein of 1.5 mm thickness with thick alteration halo (~2.5 mm thickness). Partly plagioclase spherulites surround amygdules.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 30%; Alteration Degree: 82%; Veins: In one type of vein only orange clay minerals, in a second type calcite, brown clays, dark green clay minerals and a red unknown mineral; Vesicle Filling: Calcite and brown clay in one group and light brown and orange clays in a second group of vesicles; Structure: One planar, vuggy and intravenous vein of 1.5 mm thickness with thick alteration halo (~2.5 mm thickness). Partly plagioclase spherulites surround amygdules.						



THIN SECTION:	324-U1346A-14R-3-W 53_57-TS55			Piece No:		Unit:49	OBSERVER:THIN SECTION:TS55
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	Bottom of amygdaloidal basalt						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	5	100		0.4x0.3	0.2x0.2	subhedral	
VESICLES	15			5	0.6	low sphericity	
GROUNDMASS	100						
plagioclase	20	40		0.6x0.05	0.2x0.05	euhedral	
glass	75	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	100					pyroxene	
brown clays	40					plagioclase	
brown clays	90					glass	
calcite	8					glass	
opaques	2					glass	
calcite	100					olivine	
brown clay	20					vesicle	
calcite	80					vesicle	rim of dark brown clays and opaques
STRUCTURE	Partly plagioclase spherulites surround amygdules.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 25%; Alteration Degree: 88%; Veins: Filled with calcite and brown clay; Vesicle Filling: Calcite, brown clay; Structure: Partly plagioclase spherulites surround amygdules.						



THIN SECTION:	324-U1346A-15R-1-W 91_94-TS56		Piece No:		Unit:52	OBSERVER:THIN SECTION:TS56
ROCK NAME:	aphyric basalt					
WHERE SAMPLED:	middle part of amygdaloidal basalt					
GRAINSIZE:	microcrystalline					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					COMMENTS
MICROPHENOCRYST						
olivine	3	100		0.3x0.3	0.2x0.1	subhedral
VESICLES	5			2	0.3	moderately spherical
GROUNDMASS	100					
glass	77	100				
Opaque Minerals	0.1	0		0.1x0.1	0.05x0.05	subhedral
plagioclase	20	70		0.6x0.05	0.3x0.05	euheral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
brown clays	70					plagioclase
brown clays	98					glass
calcite	100					pyroxene
calcite	100					olivine
opaques	2					glass
calcite						vesicle
						Halo of brown clay and opaques
STRUCTURE	Irregular veins are heterogeneously distributed. A thick vein (~1mm thickness) is composite structure. No structure in groundmass.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 23%; Alteration Degree: 94%; Vein Filling: Nontronite, dark brown clay and saponite; Vesicle Filling: Calcite; Structure: Irregular veins are heterogeneously distributed. A thick vein (~1mm thickness) is composite structure. No structure in groundmass.					



THIN SECTION:	324-U1346A-16R-1-W 25_28-TS57		Piece No:		Unit:52	OBSERVER:THIN SECTION:TS57	
ROCK NAME:	aphyric basalt						
WHERE SAMPLED:	upper part of vesicular basalt						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
olivine	3	100		1.4x1.2	0.4x0.3	subhedral	skeletal
MICROPHENOCRYST							
VESICLES	5			1.4	0.2	moderately spherical	
GROUNDMASS	100						
plagioclase	25	20		0.5x0.1	0.3x0.05	euohedral	
glass	75	100					
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
saponite	15					glass	
brown clay	80					glass	
nontronite	5					glass	nontronite occurs in halos around veins
calcite	100					olivine	
white clay	20					plagioclase	
STRUCTURE	Some irregular veins are heterogeneously distributed. Fine vesicles are partly concentrated.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 25%; Alteration Degree: 80%; Veins: Four different veins in this thin section with various filling combinations of calcite, nontronite, saponite and Fe-oxyhydroxide; Vesicle Filling: None; Structure: Some irregular veins are heterogeneously distributed. Fine vesicles are partly concentrated.						



THIN SECTION:	324-U1346A-16R-2-W 10_14-TS58		Piece No:		Unit:54	OBSERVER:THIN SECTION:TS58	
ROCK NAME:	amygdaloidal aphyric basalt						
WHERE SAMPLED:	within parallel zones of amygdules at top of Section 16-R2, about 10 cm below upper pillow margin						
GRAINSIZE:	very fine grained						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	3	100	0.2	0.6	0.5	euohedral	pseudomorphed to calcite
VESICLES	30		0.6	6	2	low to highly elongate	
GROUNDMASS	100						
glass	55	100					
plagioclase	30	20		0.4	0.2	euohedral	acicular
pyroxene	5	100		0.2	0.1	subhedral	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	100					olivine	
nontronite	5					glass	nontronite occurs in halos around veins
white clay	20					plagioclase	
saponite	15					glass	
brown clay	80					glass	
calcite	100					vesicle	
nontronite	40					vesicle	nontronite is found as rims to vesicles close to the vein
calcite	60					vesicle	
STRUCTURE	One irregular vein connects amygdules. Partly plagioclase spherulites around amygdules.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Amygdaloidal Aphyric Basalt; Crystallinity: 45%; Alteration Degree: 69%; Veins: Filled with calcite and nontronite; Vesicle Filling: Filled with calcite or with calcite and nontronite; Structure: One irregular vein connects amygdules. Partly plagioclase spherulites around amygdules.						



THIN SECTION:	324-U1346A-16R-2-W 30_31-TS59		Piece No:		Unit:54	OBSERVER:THIN SECTION:TS59
ROCK NAME:	aphyric basalt					
WHERE SAMPLED:	middle part of vesicular basalt					
GRAINSIZE:	very fine grained					
TEXTURE:	aphyric, intersertal					
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)			
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY
PHENOCRYSTS	0					
olivine	3	100		1.4x0.5	0.2x0.2	subhedral
MICROPHENOCRYST						
VESICLES	5			2	0.3	moderately spherical
GROUNDMASS	100					
glass	75	100				
plagioclase	22	40		0.8x0.05	0.3x0.05	euohedral
SECONDARY			SIZE(mm)			
MINERALOGY			min.	max.	mode.	REPLACING/FILLING
saponite	30					glass
						saponite occurs as the dominant ground - mass clay in the top left of the slide, where the saponite - brown clay boundary is sharply defined by a calcite vein
calcite	100					olivine
white clay	40					plagioclase
						nontronite occurs in halos around veins
brown clay	70					glass
calcite	100					vesicle
						brown clay region of the slide
calcite	95					vesicle
saponite	5					vesicle
						saponite region of the slide
STRUCTURE	Y-shaped and vuggy calcite vein of 0.5 mm thickness. No structure in groundmass.					
COMMENTS						
SUMMARY DESCRIPTION	Intersertal Variolitic Aphyric Basalt; Crystallinity: 25%; Alteration Degree: 88%; Veins: One generation filled with nontronite and Fe-oxyhydroxides, a second generation filled with calcite, nontronite, Fe-oxyhydroxides and pyrite; Vesicle Filling: Calcite and saponite, or just only calcite; Structure: Y-shaped and vuggy calcite vein of 0.5 mm thickness. No structure in groundmass.					



THIN SECTION:	324-U1346A-16R-2-W 85_88-TS61		Piece No:			Unit:56	OBSERVER:THIN SECTION:TS61
ROCK NAME:	aphyric amygdaloidal basalt						
WHERE SAMPLED:	pillow basalt						
GRAINSIZE:	microcrystalline						
TEXTURE:	aphyric, intersertal						
PRIMARY	PERCENT	REL. VOL.	SIZE(mm)				
MINERALOGY	ORIGINAL	REPLACED	min.	max.	mode.	MORPHOLOGY	COMMENTS
PHENOCRYSTS	0						
MICROPHENOCRYST							
olivine	2	100	0.1	0.4	0.3	euhedral	contains many spinel and melt inclusions
VESICLES	30		1	3	1.5	moderately spherical	
GROUNDMASS	70						
Opaque Minerals	0.5	0		0.05	0.05	euhedral	
pyroxene	15	100		0.2	0.15	anhedral	
glass	60	100					
plagioclase	25	40		0.3	0.1	acicular	
SECONDARY			SIZE(mm)				
MINERALOGY			min.	max.	mode.	REPLACING/FILLING	COMMENTS
calcite	100					olivine	nontronite occurs in halos around veins
saponite	20					glass	
brown clay	80					glass	
white clay	40					plagioclase	
saponite	10					vesicle	
calcite	90					vesicle	
STRUCTURE	Plagioclase spherulites surround amygdules. One irregular vein connects amygdules.						
COMMENTS							
SUMMARY DESCRIPTION	Intersertal Aphyric Basalt; Crystallinity: 40%; Alteration Degree: 86%; Veins: Calcite and nontronite filling; Vesicle Filling: Calcite, saponite; Structure: Plagioclase spherulites surround amygdules. One irregular vein connects amygdules.						