

Information in this section, for all sites, represents field notes taken aboard ship. Some of this information has been refined in accord with post-cruise findings, but production schedules prohibit definitive correlation of these forms with subsequent findings. Thus, the reader should be alerted to ambiguities or discrepancies in this unedited material.

163-988A-1R-02 (Piece 3C, 22-28 cm)

OBSERVER: SAU

WHERE SAMPLED: Unit 1

ROCK NAME: Highly plagioclase-clinopyroxene-olivine phyric basalt.

GRAIN SIZE: Fine-grained.

TEXTURE: Porphyritic, intergranular, intersertal.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
<b>PHENOCRYSTS</b>						
Olivine	0	0.3	0.3-1.0		Subhedral-euhedral.	Replaced by brown clay and iron oxyhydroxides.
Plagioclase	8.3	8.3	0.5-1.0	Labradorite/ Bytownite.	Subhedral.	Some show strong zoning.
Clinopyroxene	4.1	4.1	0.5-3	Augite.	Anhedral.	Pale green-pink pleochroism, some faint zoning.
<b>GROUNDMASS</b>						
Plagioclase	45.1	45.1	0.05-0.2		Laths.	Skeletal in places.
Clinopyroxene	19.1	19.1	0.02-0.2		Anhedral.	
Fe-Ti oxide	9.1	9.1	0.05-0.2		Anhedral.	
Mesostasis	13.8				Interstitial.	Some are fresh. Most are 100% replaced by orange-brown smectite and iron oxyhydroxides.
<b>SECONDARY MINERALOGY</b>						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	13.8	Mesostasis.				
Clays	0.3	Olivine.				

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	<1	Random.	2.0	Mg-saponite.	Spherical.	Filling restricted to rim of vesicle and then filled with clay.

COMMENTS: Clinopyroxene and plagioclase phenocrysts commonly occur as glomerocrysts. Mode estimated by point counting (1000 points). Plagioclase (and to a lesser extent clinopyroxene) shows seriate texture. Rock is moderately altered.

163-988A-2R-01 (Piece 5, 36-38 cm)

OBSERVER: SAU

WHERE SAMPLED: Unit 1

ROCK NAME: Moderately plagioclase-clinopyroxene-olivine phyric basalt.

GRAIN SIZE: Fine-grained.

TEXTURE: Porphyritic, intergranular, intersertal.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
<b>PHENOCRYSTS</b>						
Olivine	0	0.3	0.5-1.5		Subhedral.	Replaced by brown clay and iron oxyhydroxides.
Plagioclase	4.3	4.3	0.5-3.0	Ca-rich.	Subhedral.	Some show strong resorption.
Clinopyroxene	2.5	2.5	0.3-1.5	Augite.	Anhedral.	Pale green-pink pleochroism, faint zoning.
<b>GROUNDMASS</b>						
Plagioclase	49.6	49.6	0.05-0.2		Laths.	Skeletal in places.
Clinopyroxene	20.1	20.1	0.02-0.1		Anhedral.	
Fe-Ti oxides	13.7	13.7	0.05-0.2		Anhedral.	Good exsolution textures.
<b>SECONDARY MINERALOGY</b>						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clays	0.3	Olivine.				
Clays	9.1	Mesostasis.				Iron staining along grain boundaries and fractures.
<b>VESICLES/ CAVITIES</b>						
Vesicles	None.					

COMMENTS: Clinopyroxene phenocrysts commonly intergrown with plagioclase phenocrysts to form glomerocrysts up to 8 mm across. Mode based on counting 1000 points. Mesostasis extensively altered to brown clay and iron oxyhydroxides. Rock is slightly altered.

SITE 988

163-988A-3R-03 (Piece 3C, 104-108 cm)

OBSERVER: SSP

WHERE SAMPLED: Unit 1

ROCK NAME: Moderately plagioclase-clinopyroxene phyric basalt.

GRAIN SIZE: Fine-grained.

TEXTURE: Porphyritic, intergranular, intersertal.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
<b>PHENOCRYSTS</b>						
Plagioclase	4-5	4-5	0.5-2.0		Subhedral-euhedral.	
Clinopyroxene	2-3	2-3	0.5-1.5		Subhedral-euhedral.	
<b>GROUNDMASS</b>						
Plagioclase	45	50	<0.5		Subhedral laths.	
Clinopyroxene	25	30	<0.3		Anhedral.	
Fe-Ti oxides	12	12	<0.4		Anhedral.	
Mesostasis	10	10				
<b>SECONDARY MINERALOGY</b>						
Clays	10	REPLACING/ FILLING Mesostasis.				COMMENTS

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	None.					

COMMENTS: Part of the section consists of a highly vesicular, highly clay altered patch. Diffuse trails of brown clay and ubiquitous iron staining of grain boundaries and fractures within phenocrysts. Rock is slightly to moderately altered.

163-988A-4R-01 (Piece 9, 84-87 cm)

OBSERVER: SAU

WHERE SAMPLED: Unit 1

ROCK NAME: Moderately plagioclase-clinopyroxene phyric basalt.

GRAIN SIZE: Fine-grained.

TEXTURE: Porphyritic, intergranular, intersertal.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
<b>PHENOCRYSTS</b>						
Olivine	0.2	0.5	0.5-1.5		Subhedral-euhedral.	Partly fresh, partly altered to brown clay.
Plagioclase	8.0	8.0	0.4-2.0	Ca-rich.	Subhedral-euhedral.	Some zoned, some stained by iron oxyhydroxides.
Clinopyroxene	1.3	1.3	0.3-1.8	Augite.	Subhedral.	Pale green-pink pleochroism, faint zoning.
<b>GROUNDMASS</b>						
Plagioclase	39.1	39.1	0.02-0.2		Laths.	Several skeletal grains, abundant inclusions (fluid?).
Clinopyroxene	30.8	30.8	0.02-0.2		Anhedral.	
Fe-Ti oxides	7.2	7.2	0.05-0.2		Anhedral.	
Mesostasis	0	12.8				
<b>SECONDARY MINERALOGY</b>						
Clay	0.3	REPLACING/ FILLING Olivine.				COMMENTS Brown clay and iron oxyhydroxides.
Clay	12.8	Mesostasis.				Brown clay and iron oxyhydroxides.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	2	Random.	1.5-6.0	Orange clay.	Elongate, irregular.	

COMMENTS: Clinopyroxene and plagioclase phenocrysts commonly form glomerocrysts. Mode achieved by counting 1000 points. Rock is moderately altered.

163-988A-5R-02 (Piece 2, 20-23 cm)

OBSERVER: ARN

WHERE SAMPLED: Unit 2

ROCK NAME: Moderately plagioclase-clinopyroxene-olivine phyric basalt.

GRAIN SIZE: Fine-grained.

TEXTURE: Fragmental.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
<b>PHENOCRYSTS</b>						
Olivine	0	<1	0.5		Euhedral.	
Plagioclase	0	5	0.01-0.4		Subhedral.	Skeletal in places.
Clinopyroxene	1	3	0.1-0.7	Augite.	Subhedral.	Isolated and in clusters.
<b>GROUNDMASS</b>						
Mesostasis	0	71				Completely altered to clay and iron oxyhydroxides.
<b>SECONDARY MINERALOGY</b>						
Clays	PERCENT 99	REPLACING/ FILLING Phenocrysts, mesostasis and vesicles.				COMMENTS
<b>VESICLES/CAVITIES</b>						
Vesicles	PERCENT 20	LOCATION In fragments.	SIZE (mm) 0.01-0.6	FILLING Mesostasis.	SHAPE Round to irregular.	COMMENTS

COMMENTS: Fragments range from 0.1 mm to &gt;3 cm and show a variety of textures from moderately vesicular to fine-grained intersertal. Rock is very highly to completely altered.

163-988A-5R-02 (Piece 6, 95-97 cm)

OBSERVER: ARN

WHERE SAMPLED: Unit 2

ROCK NAME: Moderately plagioclase-clinopyroxene-olivine phyric basalt.

GRAIN SIZE: Fine-grained.

TEXTURE: Fragmental.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
<b>PHENOCRYSTS</b>						
Olivine	0	1-2	0.5		Subhedral.	
Plagioclase	0	3-5	to 0.4		Subhedral.	
Clinopyroxene	Trace	1	to 0.5		Euhedral.	
<b>GROUNDMASS</b>						
Mesostasis	0	78				Originally glassy matrix, intersertal texture.
<b>SECONDARY MINERALOGY</b>						
Clays	PERCENT 99	REPLACING/ FILLING All phases and vesicles.				COMMENTS
<b>VESICLES/CAVITIES</b>						
Vesicles	PERCENT 15	LOCATION	SIZE (mm) 0.01-0.4	FILLING Clay.	SHAPE Spherical to irregular.	COMMENTS

COMMENTS: Section consists of one big (2 cm) and abundant smaller (0.1-2 mm) fragments with moderately vesicular to intersertal texture. Rock is very highly to completely altered.