

144-873A-15R-1 (Piece 3, 23–26 cm)

OBSERVER: DMC

WHERE SAMPLED: Isolated piece, Unit 4.

ROCK NAME: Hawaiiite.

GRAIN SIZE: Fine to medium-grained.

TEXTURE: Subophitic.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	5	0.5–1		Euhedral.	Altered to green clay.
GROUNDMASS						
Plagioclase	20	40	0.5	An ₃₀₋₄₀	Laths.	Subophitic, weak preferred orientation.
Clinopyroxene	10	10	0.02–0.06		Prisms and interstitial.	Altered to light brown clay.
Biotite	1	1	0.05		Flakes.	Light brown/yellow pleochroism.
Magnetite	15	15	0.1–0.2		Cubes and octahedra.	Ilmenite exsolution common, some hematite.
Matrix	30	-	0.1–0.5		Interstitial.	Light green clay.
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Brown clay	40	Clinopyroxene				
Clay	20	Plagioclase				Colorless, cloudy.
Iddingsite	1	Olivine				
Dark green clay	4	Olivine				

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE
Vesicles	<1		0.2–4	Green-brown clay	Round

COMMENTS: Classification based on tentative optically determined plagioclase composition. Too altered to date.

144-873A-17R-1 (Piece 8, 22–28 cm)

OBSERVER: DMC

WHERE SAMPLED: Isolated piece, Unit 5.

ROCK NAME: Basalt

GRAIN SIZE: Microcrystalline.

TEXTURE: Intersertal, weak flow lineation.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	<1	0.5		Euhedral.	Altered to green clay.
Magnetite	2–3	2–3	0.1–0.3		Skeletal to octahedral.	
GROUNDMASS						
Plagioclase	40	40	0.1–1	An ₆₅	Laths and interstitial.	Weak preferred orientation.
Biotite	<1	<1	0.02		Flakes.	
Magnetite	10	10	0.01–0.02		Cubes.	
Clinopyroxene	15	20	0.01		Prisms.	Light green.
Apatite	<1	<1	<0.04		Needles.	
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Green-brown clay	20	Matrix				
VESICLES/ CAVITIES						
Vesicles	<1		0.2	Brown clay	Round	

COMMENTS: Plagioclase quite fresh, datable.

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144-873A-17R-1 (Piece 11, 35–40 cm)
 ROCK NAME: Altered Aphyric Basalt
 GRAIN SIZE: Aphanitic.
 TEXTURE: Trachytic.

OBSERVER: DMC

WHERE SAMPLED: Isolated piece. Unit 6.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Titanaugite	<2	<2	0.2		Elongate prisms.	Orange color. Very strong dispersion.
GROUNDMASS						
Plagioclase	15	50	0.2–0.4		Laths and interstitial.	Partially altered to cloudy clays.
Titanaugite	1–2	10	0.02–0.05		Prisms.	Orange color. Partly altered to green clays.
Magnetite	2	10	0.02		Cubes	Exsolving ilmenite.
SECONDARY MINERALOGY						
Opaque minerals	PERCENT 30–40	REPLACING/ FILLING All mafics and matrix				COMMENTS Pervasive alteration. Only small regions preserve original mineralogy. Mottled extinction.
Light brown clay	3	Plagioclase				
VESICLES/CAVITIES						
Vesicles	PERCENT 0–50	LOCATION Layers	SIZE (mm) 0.5–3	FILLING Brown clay	SHAPE Irregular, elongate, parallel	COMMENTS Concentrated in narrow 2–3 mm layers.

COMMENTS: Severely altered, purplish in hand specimen, residual mineralogy appears basaltic.

144-873A-18R-1 (Piece 2, 19–22 cm)
 ROCK NAME: Alkali basalt
 GRAIN SIZE: Microcrystalline.
 TEXTURE: Pilotaxitic, aphyric.

OBSERVER: DMC

WHERE SAMPLED: Near top, 1 m thick flow. Unit 8.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Olivine	0	1–2	0.5–1		Subhedral.	Completely altered to green clay.
Titanaugite.	<<1	<<1	1		Prisms.	Unaltered.
Plagioclase	<<1	<<1	1	An ₅₀	Prisms.	
Magnetite	<5	<5	0.5		Cubes, some skeletal.	Homogeneous magnetite.
GROUNDMASS						
Plagioclase	45	50	0.1–0.2		Laths and interstitial.	Partially altered to cloudy clay.
Titanaugite	10	15	0.05–0.1		Prisms.	Partially altered to green clay.
Magnetite	15	15	0.01–0.02		Cubes.	
Matrix	20	-	<0.5			Green clay.
Apatite	1–2	1–2	<0.02		Needles.	
SECONDARY MINERALOGY						
Clay	PERCENT 20	REPLACING/ FILLING Matrix				COMMENTS Dark green.
Clay	5	Plagioclase				Colorless, cloudy, mottled extinction.
VESICLES/CAVITIES						
Vesicles	PERCENT None	LOCATION	SIZE (mm)	FILLING	SHAPE	

COMMENTS: Least altered sample for this hole. OK for dating??.

144-873A-18R-1 (Piece 11, 91-93 cm)

OBSERVER: DMC

WHERE SAMPLED: 1 m thick massive flow, Unit 8.

ROCK NAME: Altered Clinopyroxene Phyric Basalt

GRAIN SIZE: Microcrystalline.

TEXTURE: Microporphyrictic, pilotaxitic, vesicular.

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm)	COMPOSITION	MORPHOLOGY	COMMENTS
PHENOCRYSTS						
Clinopyroxene	10	10	0.1-1		Euhedral and broken.	Unaltered.
GROUNDMASS						
Altered Matrix	60	0	<0.5		Interstitial.	Mostly brown clay.
Plagioclase	<5	30	0.1-0.2		Acicular.	Mostly altered to clay.
Magnetite	0	10	0.05		Skeletal.	Altered to hematite.
Pyrite	<<1	-	0.01		Anhedral.	
Spinel	<<1	<<1	0.01		Cubes.	In olivine pseudomorphs.
SECONDARY MINERALOGY						
	PERCENT	REPLACING/ FILLING				COMMENTS
Clay	25	Plagioclase				Colorless, cloudy, mottled extinction.
Clay	60	Matrix, vesicles				Bright green, brown.
Calcite	5-10	Vesicles				
VESICLES/CAVITIES						
	PERCENT	LOCATION	SIZE (mm)	FILLING	SHAPE	COMMENTS
Vesicles	50		0.1-1	Clay	Round to irregular	Green and brown clay, some calcite.

COMMENTS: Remarkable fresh clinopyroxene in almost completely altered matrix.