

# 10032

Sample 10032 is an angular to subangular, medium light grey, fine-grained basalt. This sample originally weighed 3gm, and measured 2 X 1.5 X 0.5 cm. Sample was returned in the Contingency Sample Container.

BINOCULAR DESCRIPTION BY: Twedell & Geeslin DATE: 9-23-75

ROCK TYPE: Fine-Grained Basalt SAMPLE: 10032,20 WEIGHT: 3.1 gm

COLOR: Medium light grey DIMENSIONS: 2.0 x 1.5 x 0.5 cm

SHAPE: Angular to sub-angular

COHERENCE: Intergranular – coherent  
Fracturing – absent

FABRIC/TEXTURE: Isotropic/Equigranular

VARIABILITY: Homogeneous

SURFACE: Irregular due to cavities.

ZAP PITS: Absent

CAVITIES: Approximately 7% surface coverage. Average size is <1mm.  
Cavities are well defined.

COMPONENT	COLOR	% OF ROCK	SHAPE	SIZE (MM)	
				DOM.	RANGE
Plagioclase <sub>1</sub>	White	45	Crystalline to aphanitic	.3	.05-.5
Pyroxene <sub>2</sub>	Hon.Brown to dark	20-25	Crystalline	.1	< .1-. 3
Green <sub>3</sub>	Dk. Green	8-10	Rounded	.1	<.1-.2
Dark <sub>4</sub>	Black	20-25	Platy	<.1	.1-.1

- 1) Comes in three forms. A crystalline material, a shocked material, and a fine white material.
- 2) Well defined pyroxene crystals
- 3) Extremely dark green material, probably either olivine or dark pyroxene.
- 4) Some appears to be devitrified black glass. Some is semi-opaque material which is associated with the white crushed material.



10032,0 Original PET Photo (S-69-46006)



10032,20 (S-75-31697)

Opaque is platy ilmenite. Approximately 50% opaque and 50% lustrous material.

SPECIAL FEATURES:

The dark brown component appears in only one large area on the surface. It has a well defined crystal structure.



SECTION: 10032,26

Width of Field: 2.72 mm plane light S-76-25824

THIN SECTION DESCRIPTION

BY: Walton

DATE: 6/9/76

SUMMARY: Fine-grained intersertal basalt composed of clinopyroxene, plagioclase, and ilmenite with subordinate mesostasis. Most of the crystals are poorly formed except for the ilmenite which forms well defined subhedral crystals. Some skeletal development is also evident in the ilmenite, but to a lesser degree than in other Apollo 11 intersertal basalts. All of the plagioclase occurs as interstitial void fillings with no free standing crystals.

<u>Phase</u>	<u>% Section</u>	<u>Shape</u>	<u>Size (mm)</u>
Pyrox	53	Anhedral, irregular	0.05-0.2
Plag	21	Anhedral	0.01-0.3
Opaq	16	Subhedral to anhedral	0.005-0.3
Meso	10	-----	-----

COMMENTS:

Pyroxene – The clinopyroxene forms somewhat larger anhedral crystals which host the other phases. The color is pale brown with some crystals having a yellowish cast. Many of the crystals are zoned and optical characteristics are poor. All crystals are fresh and contacts are sharp.

Plagioclase – Unlike many intersertal basalt, this rock contains only interstitial plagioclase crystals. None of the more tabular crystals appear to have formed. The masses of plagioclase are all anhedral and irregular. They fill the void spaces in the pyroxene-ilmenite network. Very few twin planes are evident and extinctions are irregular. Some smaller, more well defined crystals are present in the rock, but these are far more uncommon than the larger poorly formed crystals. Also associated in the interstitial position are rather large masses of a brownish glass-rich mesostasis. The masses are very turbid and the boundaries are indistinct. The masses are associated more often in the pyroxene crystals than with the plagioclase crystals.

Opagues – Unlike many intersertal basalts, this rock has far less skeletal ilmenite than usual. Most of the crystals are subhedral with some nearly euhedral lathes. The crystals are nearly equant to slightly elongated. Only occasional masses of skeletal growth is encountered. Much of the ilmenite is somewhat grouped and occurs as distinct patches within the rock. Scattered throughout the section are small masses of troilite and troilite with iron-nickel. The masses are small and sparse.

TEXTURE: Fine-grained intersertal basalt consisting of a network of nearly equigranular pyroxene crystals that are intergrown with subhedral ilmenite prisms. Occurring interstitial to the pyroxene-ilmenite network are anhedral masses of plagioclase, a few nearly euhedral ilmenite prisms and irregular patches of mesostasis. Most of the crystals how poor optical characteristics.

HISTORY AND PRESENT STATUS OF SAMPLES – 10/25/75

10032 was removed from the Contingency Sample Container and split in PCTL. It was later re-examined in RSPL.

PRISTINE SAMPLES - None

RETURNED SAMPLES:

20	3.1 gm	Chip. Stored in a curator safe in a plastic pill box before going to RSPL.
21	.001 gm	Fines from ,20. Stored in returned sample lab. Has never been sent to a P.I.

NO CHEMICAL ANALYSES OR AGE DATES