

67766
Polymict Breccia
5.5 grams



Figure 1: Photo of 67766. Sample is 1.5 cm long. S72-51257

Introduction

67766 is a rake sample collected from the rim of North Ray Crater – see section on 67701. It is a coherent, plagioclase-rich breccia with a granular matrix. It has a measured age of 3.82 b.y.

Petrography

Steele and Smith (1973) noted that their section of 67766 had olivine (figure 3), but no pyroxene, while Stoffler et al. (1985) found pyroxene but no olivine. However, they do agree that 67766 is a “recrystallized breccia” (figure 2).

Chemistry

None

Radiogenic age dating

Stoffler et al. (1985) dated this small rock at about 3.82 – 3.83 b.y. by Ar/Ar (figure 4). They noted an older age for the included plagioclase grains.

Processing

There is only one thin section.

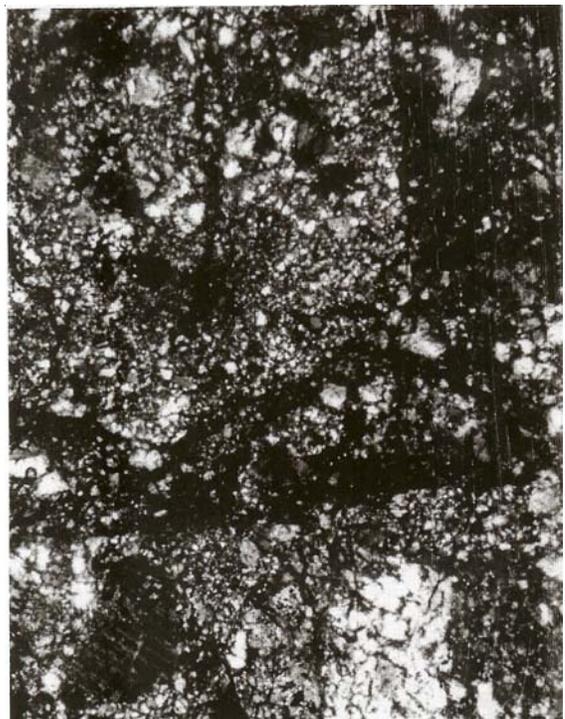


Figure 2: Photomicrograph of thin section of 67766 (from Ryder and Norman 1980).

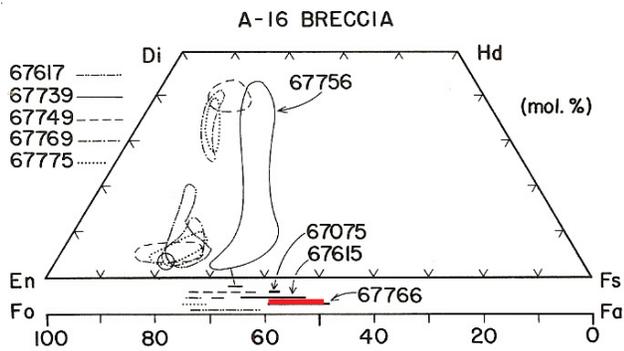


Figure 3: Olivine composition of 67766 (no pyroxene found!). Diagram from Steele and Smith 1973.

Mineralogical Mode 67766

Stoffler et al. 1985	
Plagioclase	90.5 %
Pyroxene	9
Opagues	0.6

References for 67766

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Ryder G. and Norman M.D. (1980) Catalog of Apollo 16 rocks (3 vol.). Curator's Office pub. #52, JSC #16904

Smith J.V. and Steele I.M. (1972c) Apollo 16 rake samples 67515 to 68537: Sample classification, description and inventory. Curator Catalog, JSC

Steele I.M. and Smith J.V. (1973) Mineralogy and petrology of some Apollo 16 rocks and fines: General petrologic model of the moon. *Proc. 4th Lunar Sci. Conf.* 519-536.

Stöffler D., Bischoff A., Borchardt R., Burghele A., Deutsch A., Jessberger E.K., Ostertag R., Palme H., Spettel B., Reimold W.U., Wacker K. and Wanke H. (1985) Composition and evolution of the lunar crust in the Descartes highlands. *Proc. 15th Lunar Planet. Sci. Conf.* in *J. Geophys. Res.* **90**, C449-C506.

Sutton R.L. (1981) Documentation of Apollo 16 samples. In *Geology of the Apollo 16 area, central lunar highlands.* (Ulrich et al.) U.S.G.S. Prof. Paper 1048.

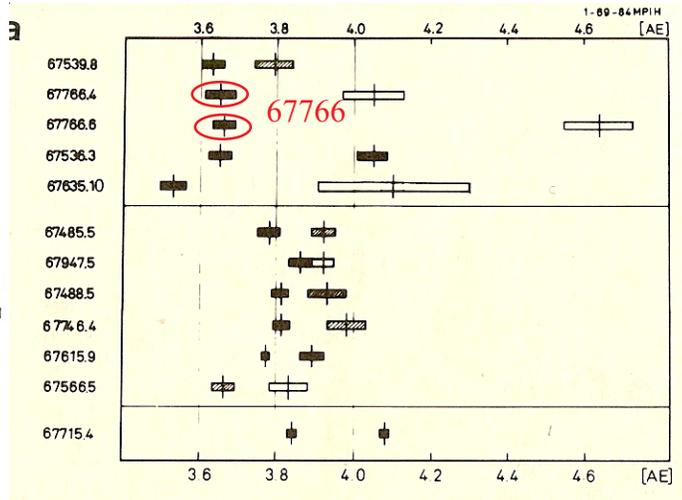


Figure 4: Ar/Ar ages of Apollo 16 samples (from Stoffler et al. 1985). They have two ages 'cause plagioclase clasts are older!

