

67757 – 4.8 grams
67759 – 4.6 grams
Impact-melt Breccia

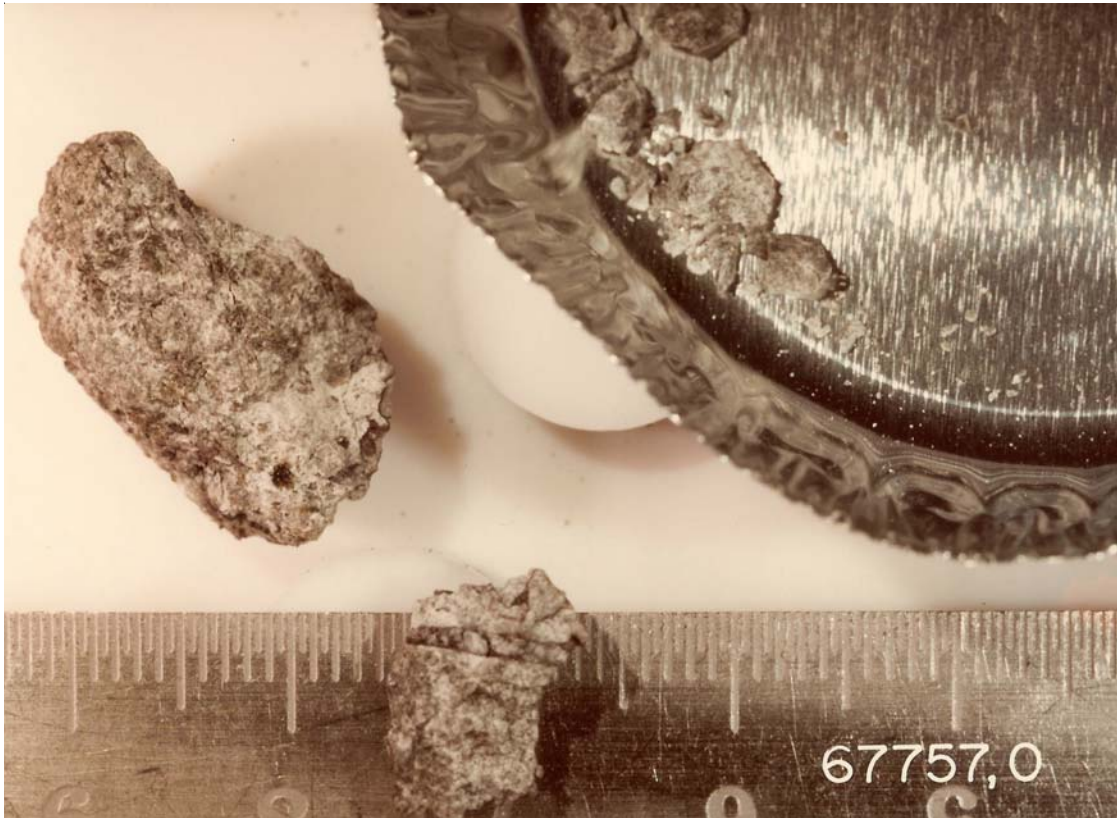


Figure 1: Photo of 67757. S81-32698

Introduction

67757 and 67759 are rake samples collected from the rim of North Ray Crater – see section on 67701. They are feldspathic breccias with micropoikilitic texture, probably formed by impact melting and recrystallization.

Petrography

67757 is an impact melt with fine-grained subophitic and poikilitic textures. According to Ryder and Norman (1980) the poikilitic areas have a greater proportion of mafic material than the subophitic areas. 67759 appears similar (Stoffler et al. 1985). Both have glass veins.

Chemistry

These two particles have the same chemical composition (Stoffler et al. 1985).

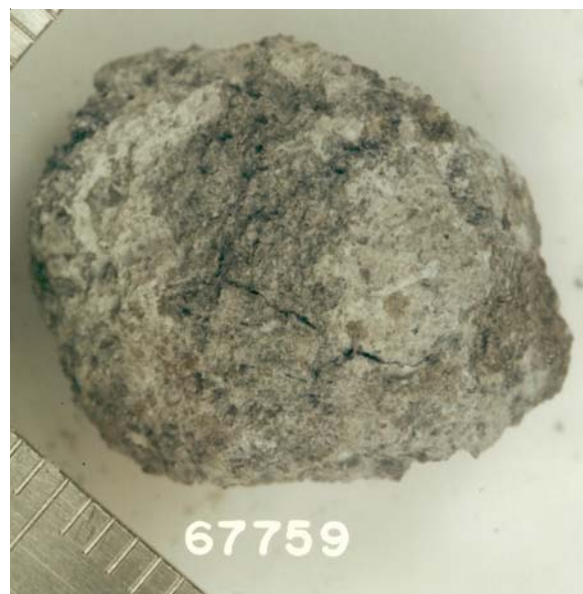


Figure 2: Photo of 67759. S72-49566

*Figure 3a: Photomicrographs of 67757,1.
2 mm across*

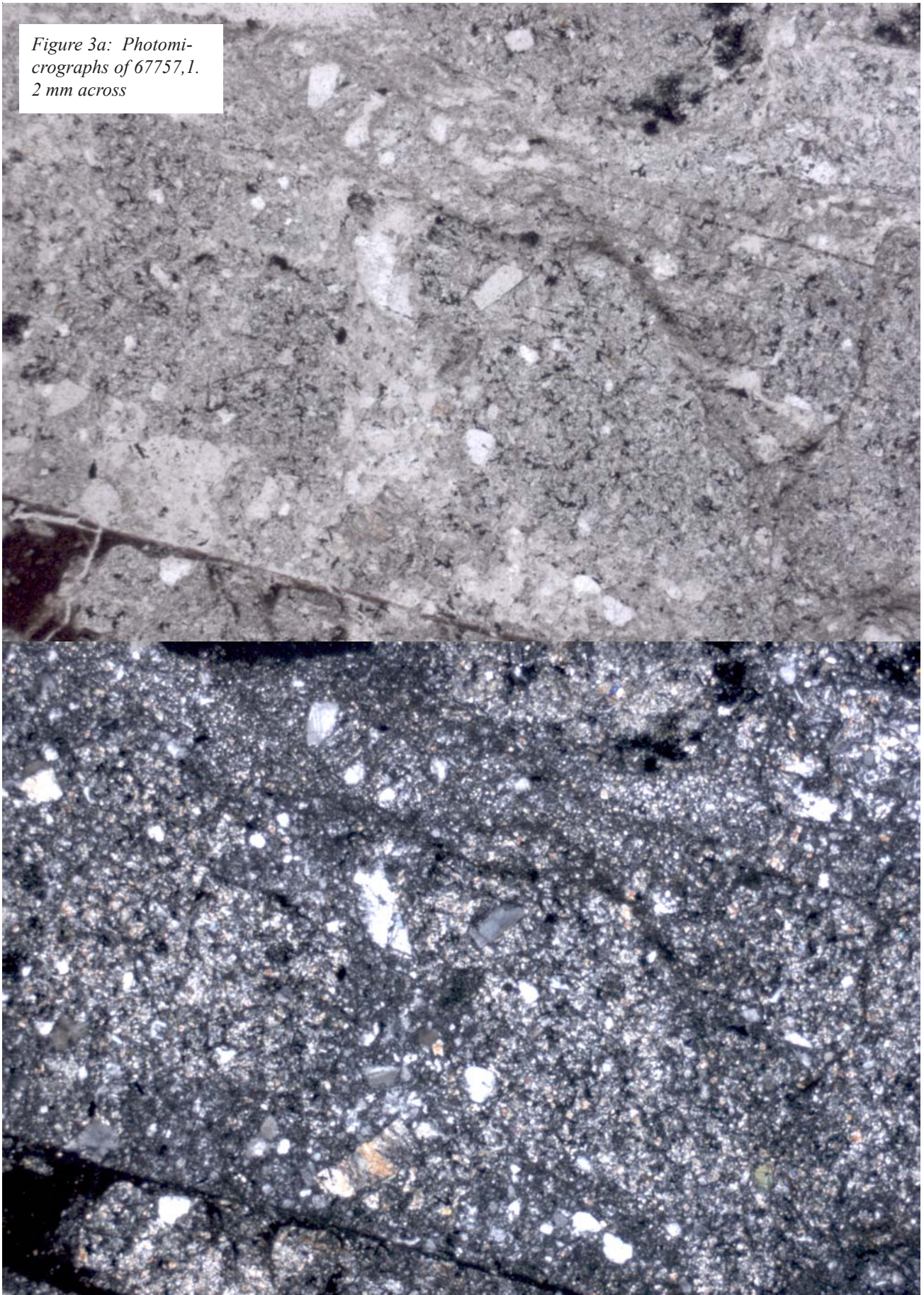


Figure 3b: Photomicrograph of thin section 67759,2. 2 mm across

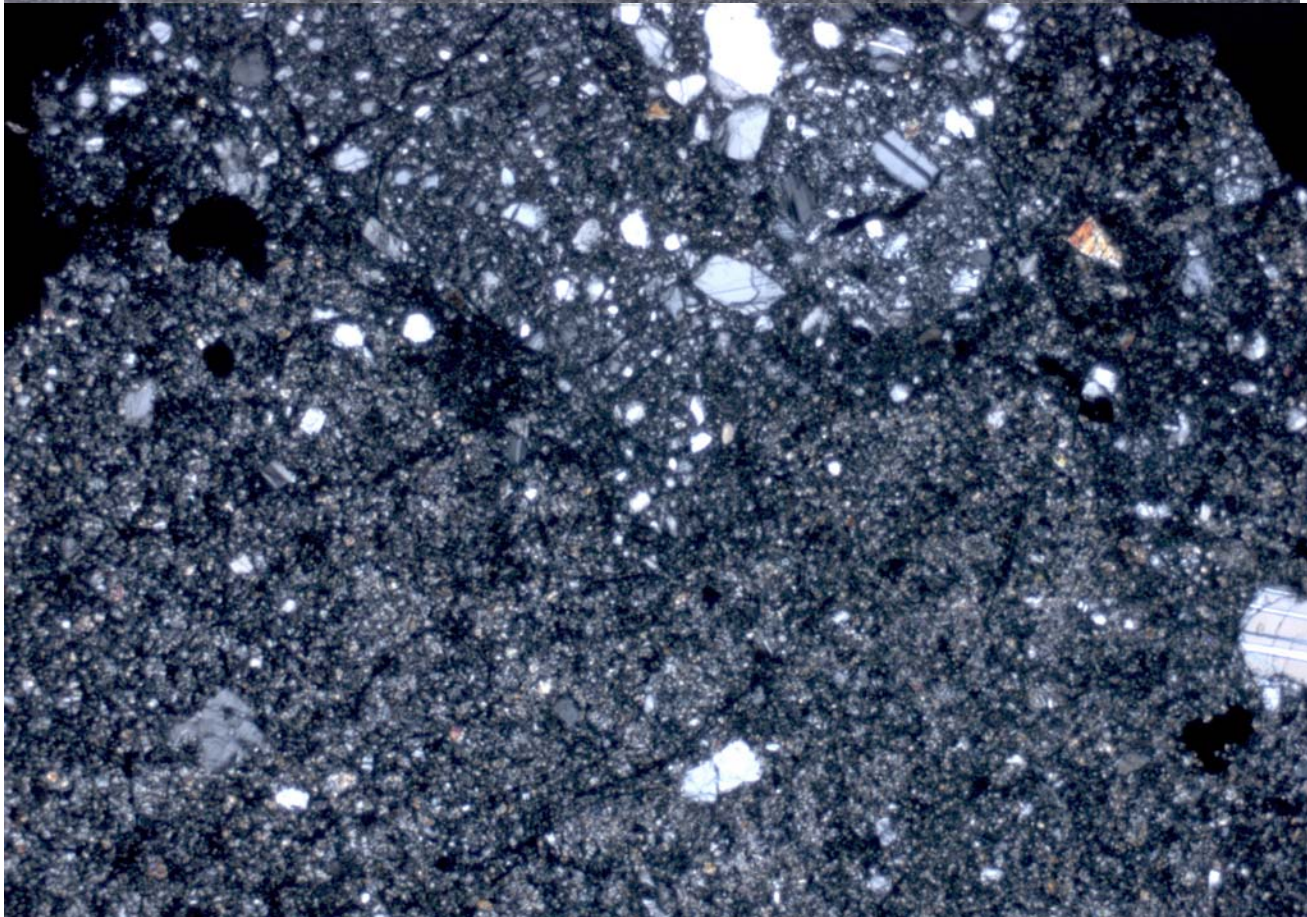
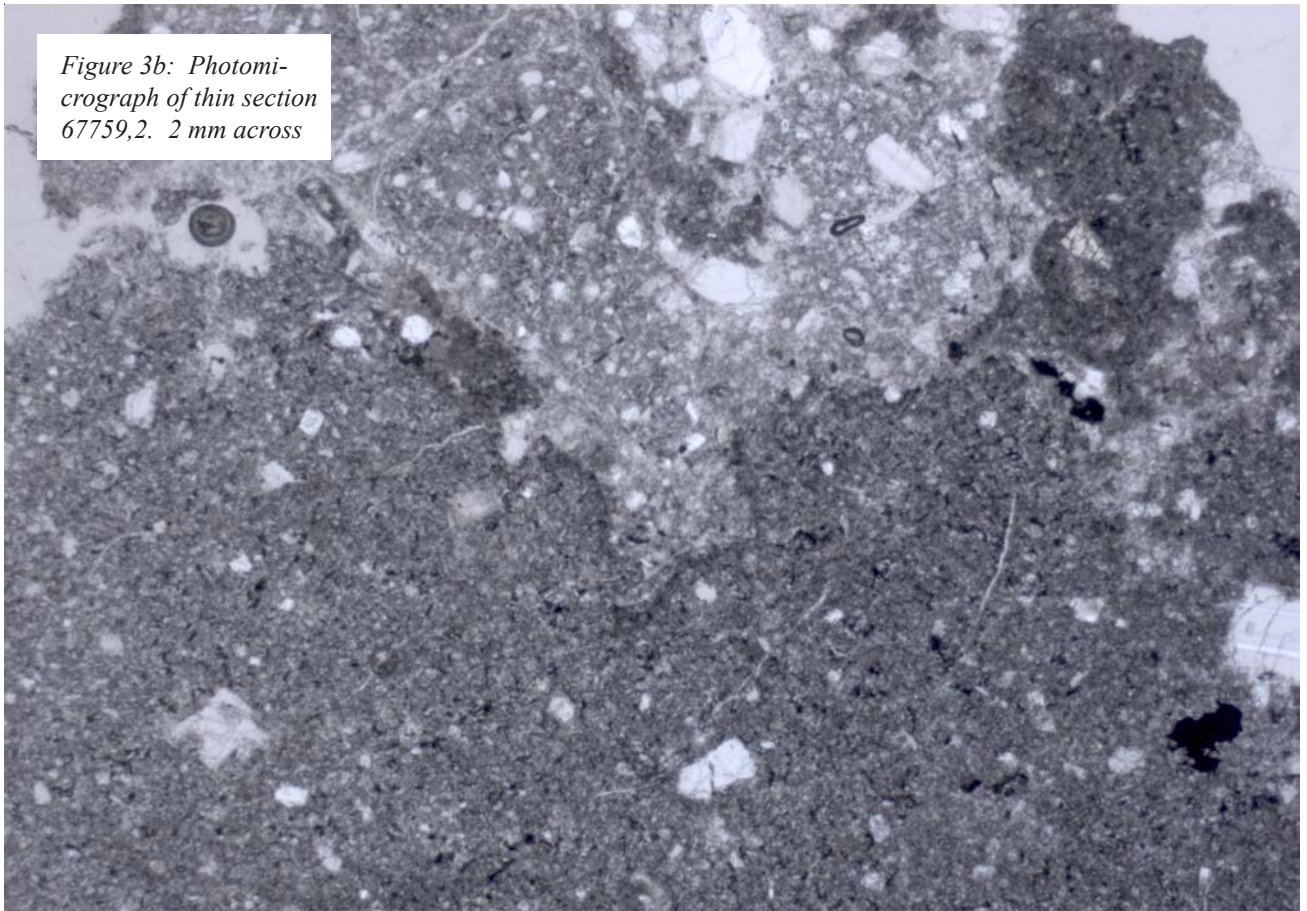


Table 1. Chemical composition of 67757 and 59

reference	67757	67759	
weight	Stoffler85		
SiO ₂ %	45.6	45.8	(a)
TiO ₂	0.81	0.81	(a)
Al ₂ O ₃	23	22.6	(a)
FeO	5.7	5.8	(a)
MnO	0.06	0.06	(a)
MgO	9.8	10.3	(a)
CaO	14	13.6	(a)
Na ₂ O	0.48	0.51	(a)
K ₂ O	0.15	0.16	(a)
P ₂ O ₅	0.21	0.16	(a)
S %			
sum			
(a) DBA			

References for 67757 and 59

Butler P. (1972a) Lunar Sample Information Catalog Apollo 16. Lunar Receiving Laboratory. MSC 03210 Curator's Catalog. pp. 370.

LSPET (1973b) The Apollo 16 lunar samples: Petrographic and chemical description. *Science* **179**, 23-34.

LSPET (1972c) Preliminary examination of lunar samples. In Apollo 16 Preliminary Science Report. NASA SP-315, 7-1—7-58.

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., Burgehele 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.

