

67769
Impact Melt Breccia
3 grams



Figure 1: Photo of 67769. Scale marked in mm. S72-51044

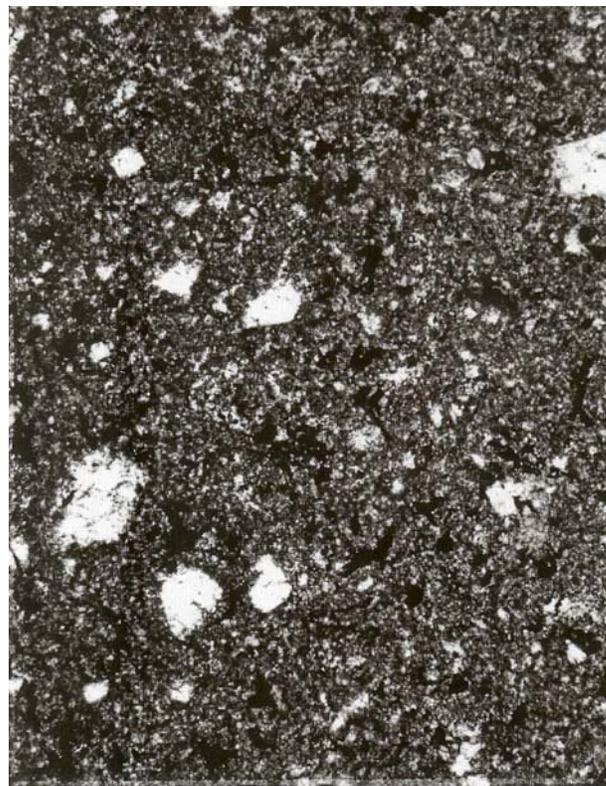


Figure 2: Photomicrograph of 67769.

Introduction

67769 is a rake sample collected from the rim of North Ray Crater – see section on 67701. It has a micropoikilitic texture indicating that it is an impact melt breccia.

Petrography

Steele and Smith (1973) studied the mineral chemistry of 67769, finding that plagioclase was An_{85-95} and that both high-Ca and low-Ca pyroxene were present. The pyroxene forms oikocrysts that surround plagioclase inclusions. Poikilitic ilmenite and Fe-metal is found at boundaries of pyroxene oikocrysts. Figure 2 is from Ryder and Norman (1980). Soffler et al. (1981, 1985) classify it as micropoikilitic impact melt but offer no analysis and it remains unstudied (*and an opportunity for future generations*).

Processing

There is one thin section.

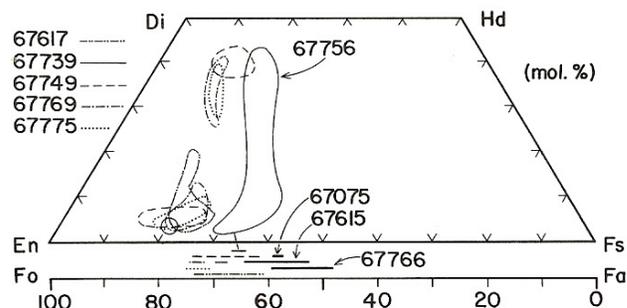


Figure 3: Composition of pyroxene and olivine in 67769 (Steele and Smith 1973).

References for 67769

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., 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.

