

64817
Basaltic Impact Melt
9 grams



Figure 1: Photo of 64817. S72-55334 33 mm long

Introduction

64817 is a rake sample collected from the rim of a small crater at station 4 on Stone Mountain – see section on 64801. It is an aluminous basalt with prominent plagioclase laths and an age of 3.84 b.y.

Petrography

64817 has a subophitic basaltic texture (figure 2). Warner et al. (1973) reported the composition of pyroxene (figure 3).

Chemistry

Allocated to Clive Neal

Radiogenic age dating

Norman et al. (2006) determined an age of 3.84 ± 0.02 b.y. for 64817 by the Ar/Ar plateau technique (figure 4).

Processing

There are two thin section of 64817.



Figure 2: Photomicrograph of thin section of 64817 (from Ryder and Norman 1980).

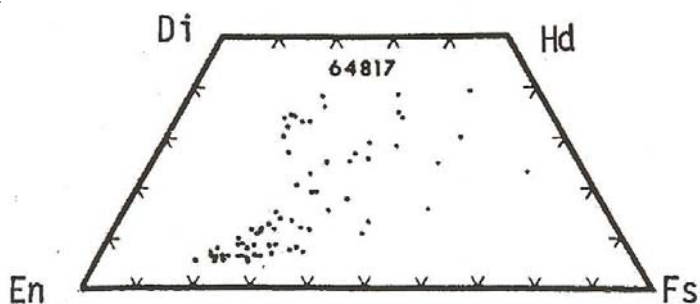


Figure 3: Composition of pyroxene in 64817 (from Warner et al. 1973).

References for 64817

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.

Norman M.D., Duncan R.A. and Huard J.J. (2006) Identifying impact events within the lunar cataclysm from ^{40}Ar - ^{39}Ar ages and compositions of Apollo 16 impact melt rocks. *Geochim. Cosmochim. Acta* **70**, 6032-6049.

Phinney W. and Lofgren G. (1973) Description, classification and inventory of Apollo 16 rake samples from stations 1, 4 and 13. Curators Office.

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

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.

Warner J.L., Simonds C.H. and Phinney W.C. (1973b) Apollo 16 rocks: Classification and petrogenetic model. *Proc. 4th Lunar Sci. Conf.* 481-504.

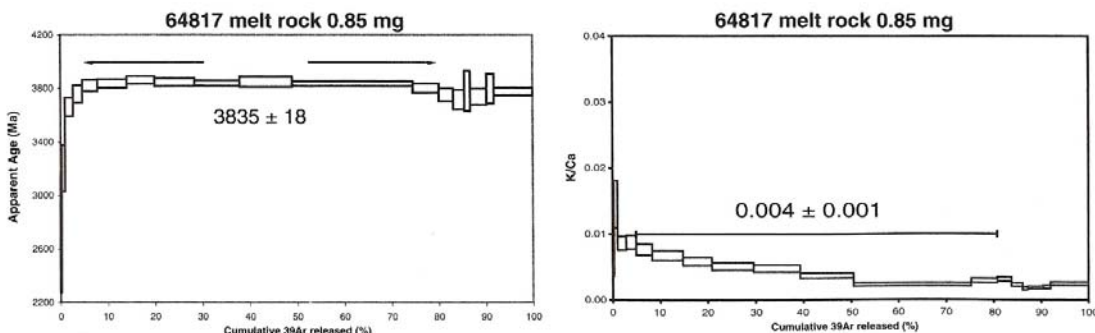


Figure 4: Ar/Ar plateau diagram for 64817 (Norman et al. 2006).



Figure 5: Processing photo of 64817. Cube is 1 cm. S90-34690