63506

Impact Melt Breccia

4.9 grams

Figure 1: Photo of 63506. Tick marks are 1 mm. S81-32696

Introduction

Lunar soils are sieved and particles larger than 1 cm are given numbers – see section on soil 63500. This round particle is coherent and appears to be mostly plagioclase (figure 1).

Petrography

63506 was termed "meta-basalt" by Warner et al. (1973). However, it has numerous relic clasts and is clearly a breccia (figure 2). According to Warner et al. (1973), 63506 is crystalline and similar to 61549.

Hunter and Taylor (1983) found no rust.

Figure 2: Photomicrograph of thin section 63506,13. It is 2 mm across.

Chemistry

Not determined

Radiogenic age dating

Norman et al. (2006) determined an Ar/Ar plateau age of about 4 b.y. (figure 3).

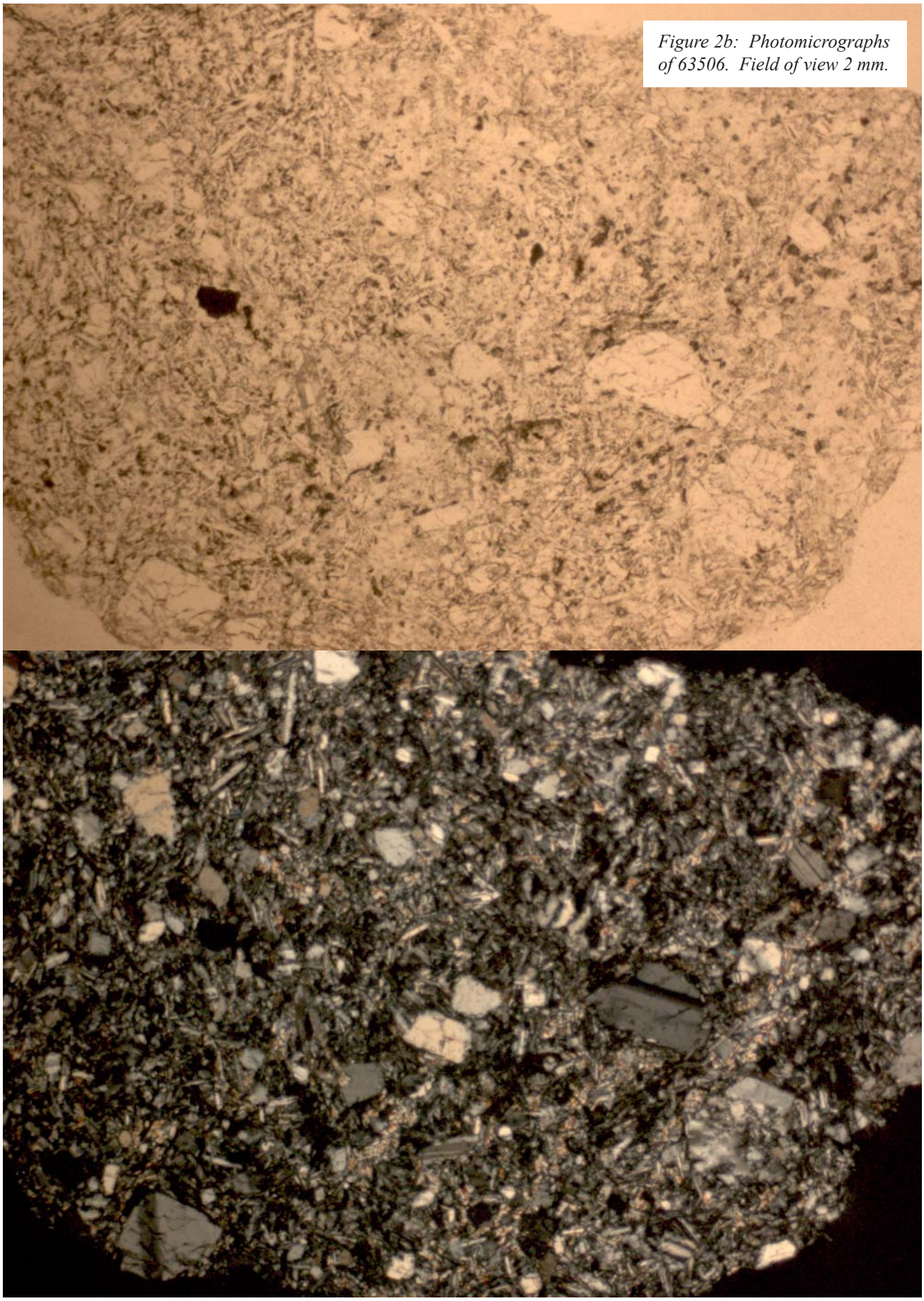


Figure 2b: Photomicrographs of 63506. Field of view 2 mm.

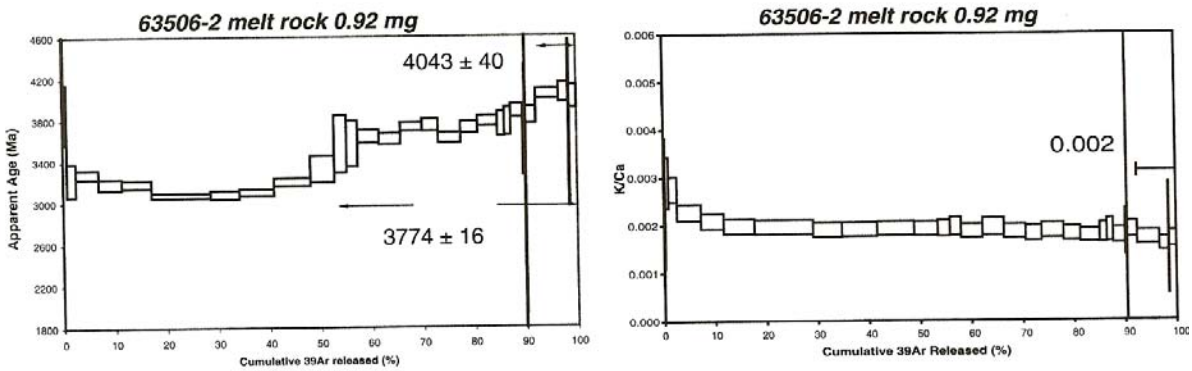


Figure 3: Ar/Ar plateau diagram for 63506 (Norman et al. 2006).

References for 63506

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

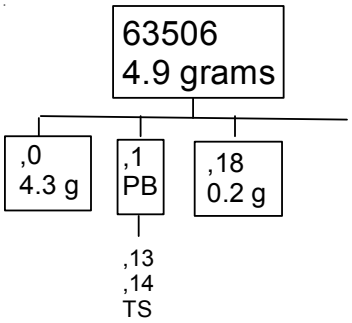
Hunter R.H. and Taylor L.A. (1981) Rust and schreibersite in Apollo 16 highland rocks: Manifestations of volatile-element mobility. *Proc. 12th Lunar Planet. Sci. Conf.* 253-259.

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) Identifing 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.

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.