67529

Cataclastic Anorthosite

1.1 grams

Figure 1: Photo of 67529. Scale maked in mm. S72-51043

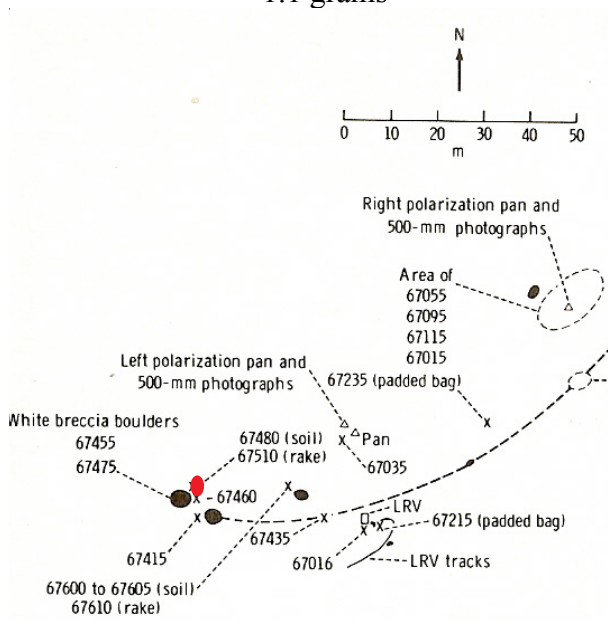


Figure 2: Map of South Rim where rake sample was collected.

Introduction

67529 was collected by rake from the soil near the White Boulders on the rim of North Ray Crater - see section on 67481. It is a cataclastic anorthosite, not unlike the boulder (67455).

Petrography

Figure 3 shows that the plagioclase in 67429 is highly shocked, sheared and even melted. Hanson et al. (1979) and Steele et al. (1980) reported analyses of the plagioclase (An_{97}) and pyroxene (En_{50})(figure 4).

Chemistry

None

Radiogenic age dating

None

Processing

The is one thin section of 67529.

References for 67529

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

Hansen E.C., Steele I.M. and Smith J.V. (1979a) Lunar highland rocks: Element partitioning among minerals 1: Electron microprobe analyses of Na, K, and Fe in plagioclase; mg partitioning with orthopyroxene. *Proc. 10th Lunar Planet. Sci. Conf.* 627-638.

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

Steele I.M., Hutcheon I.D. and Smith J.V. (1980) Ion microprobe analysis and petrogenetic interpretations of Li, Mg, Ti, K, Sr, Ba in lunar plagioclase. *Proc. 11th Lunar Planet. Sci. Conf.* 571-590.

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

Stöffler D., Ostertag R., Reimold W.U., Borchardt R., Malley J. and Rehfeldt A. (1981) Distribution and provenance of lunar highland rock types at North Ray Crater, Apollo 16. *Proc. 12th Lunar Planet. Sci. Conf.* 185-207.

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.

Figure 3: Photo of thin section 67529,1 with crossed nicols (from Ryder and Norman 1980).

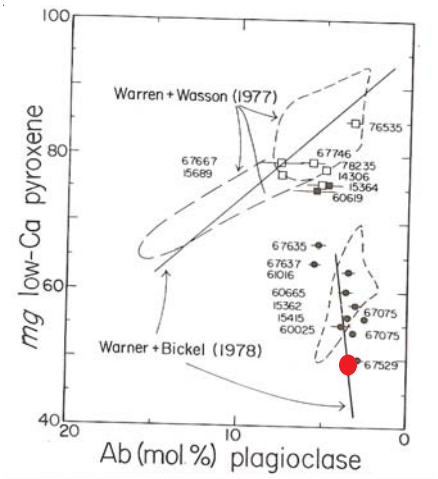
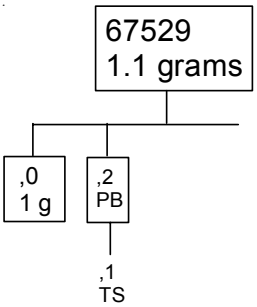


Figure 4: An - En diagram indicating 67529 is a ferroan anorthosite (from Steele et al. 1979)..



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.