

# 65789

## Cataclastic Ferroan Anorthosite

12.2 grams

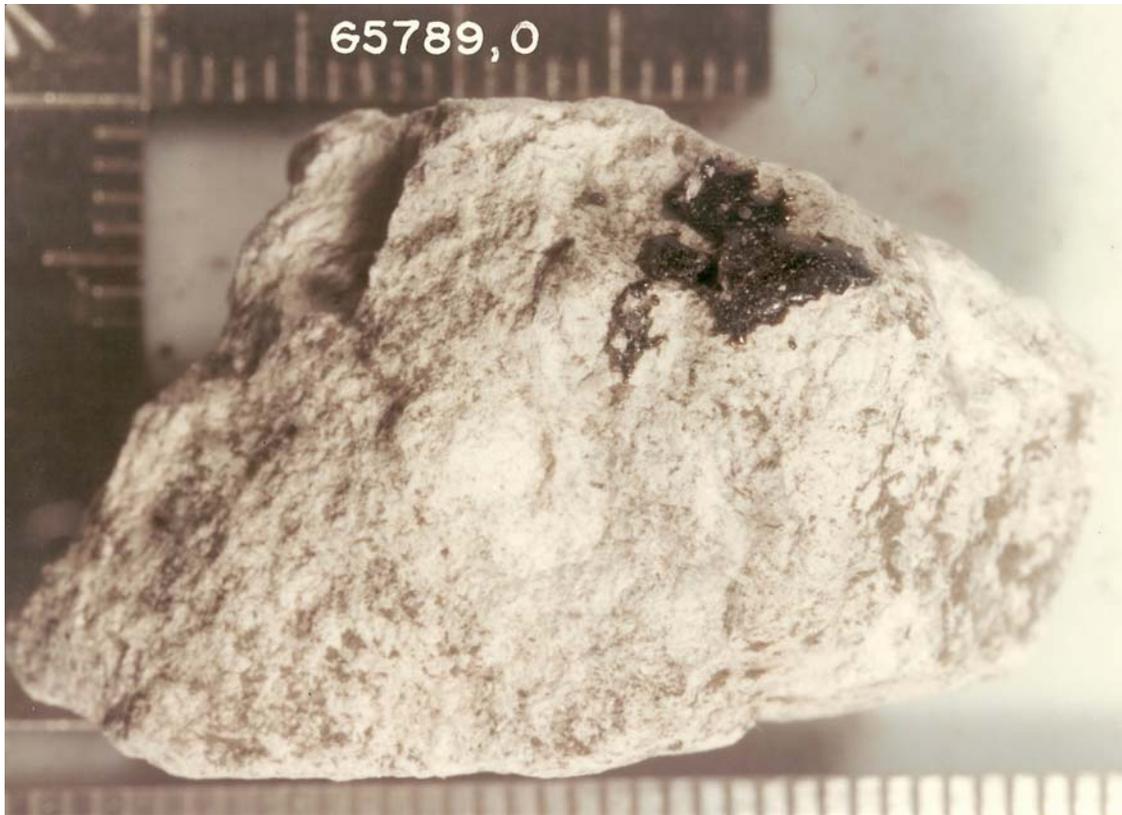


Figure 1: Photo of 65789. Scale in mm. S72-48818

### **Introduction**

65789 is a chalky white rake sample from station 5 – see sections on 65501 and 65701.

### **Petrography**

Keil et al. (1972), Dowty et al. (1974) and Warner et al. (1976) described 65789 as a cataclastic anorthosite. The thin section shows it is finely divided (figure 2). Plagioclase does not show shock features; the mafic minerals are not “equilibrated” (figure 3). Minor chromite and ilmenite are present. It is a ferroan anorthosite.

Warren (1993) list 65789 as probably pristine – even without Ir, Au analyses.

### **Chemistry**

The only analysis is by defocused beam analysis (DBA).

**Table 1. Chemical composition of 65789**

<i>reference weight</i>	Dowty74	Warner76
SiO <sub>2</sub> %	44.9	(a)
TiO <sub>2</sub>	0.01	(a)
Al <sub>2</sub> O <sub>3</sub>	34.3	(a)
FeO	0.96	(a)
MnO		
MgO	0.63	(a)
CaO	18.8	(a)
Na <sub>2</sub> O	0.37	(a)
K <sub>2</sub> O	0.01	(a)
P <sub>2</sub> O <sub>5</sub>	0.02	(a)
S %		
<i>sum</i>		
<i>(a) DBA</i>		

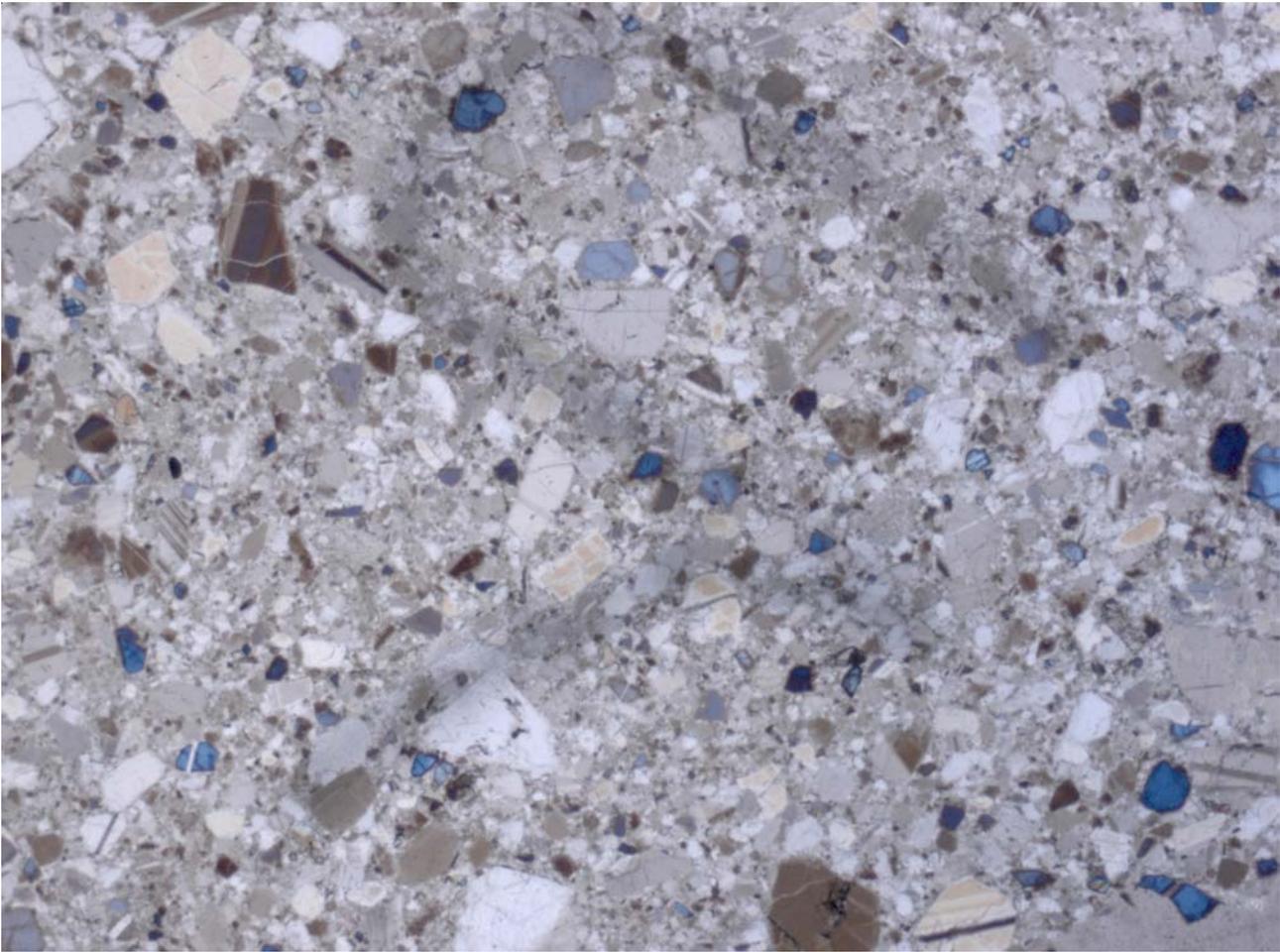


Figure 2: Photomicrograph of thin section 65789,2. by C Meyer Width of field is 2 mm.

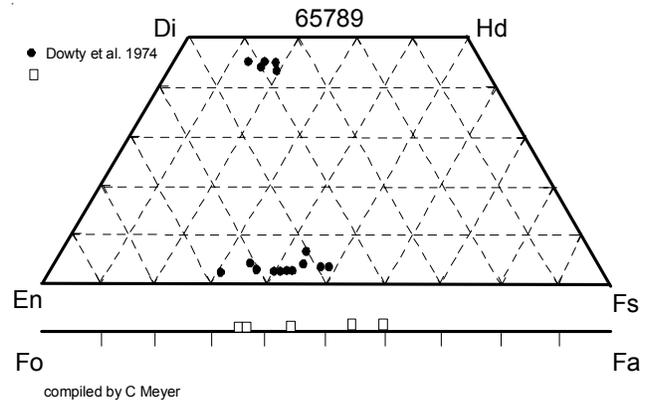


Figure 3: Composition of olivine and pyroxene in 65789 (from Warner et al. 1976).

## References for 65789

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

Dowty E., Prinz M. and Keil K. (1974b) Ferroan anorthosite: a widespread and distinctive lunar rock type. *Earth Planet. Sci. Lett.* **24**, 15-25.

Keil K., Dowty E., Prinz M. and Bunch T.E. (1972) Description, classification and inventory of 151 Apollo 16 rake samples from the LM area and station 5. Curator's Catalog, JSC.

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

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 R.D., Dowty E., Prinz M., Conrad G.H., Nehru C.E. and Keil K. (1976c) Catalog of Apollo 16 rake samples from the LM area and station 5. Spec. Publ. #13, UNM Institute of Meteoritics, Albuquerque. 87 pp.

Warren P.H. (1993) A concise compilation of petrologic information on possibly pristine nonmare Moon rocks. *Am. Mineral.* **78**, 360-376.