65056

Glass Matrix Breccia

64.8 grams

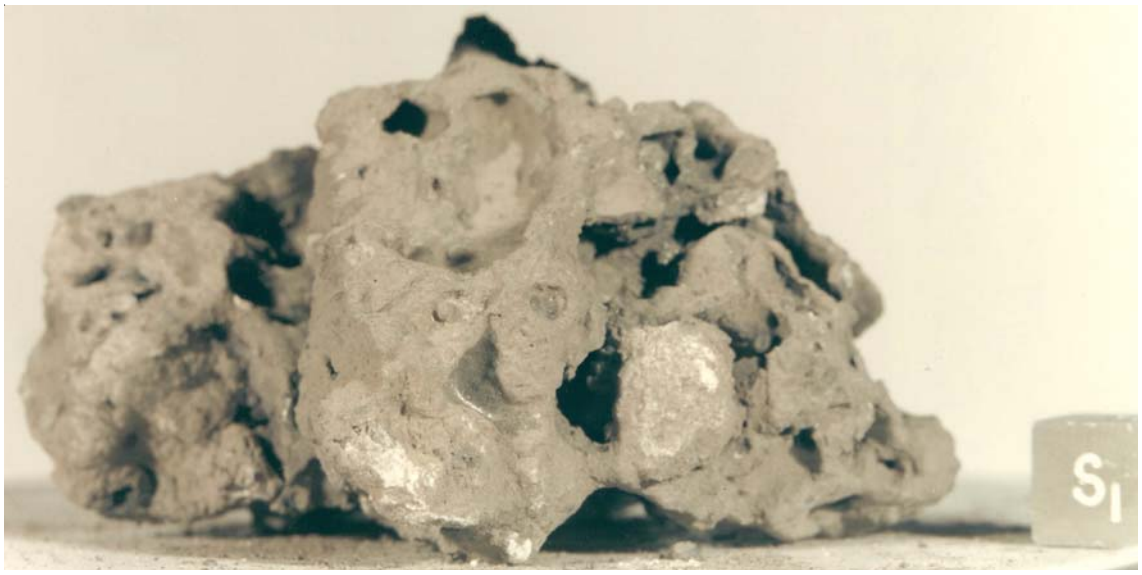

Figure 1: Photo of 65056. Cube is 1 cm. S72-40136

Introduction

65056 is a large glass object that contains interesting white clasts (figures 1 and 3).

Petrography

The glass in 65056 has devitrified as various variolitic textures (bow-ties, sheaths and radiating clusters of plagioclase). The white clasts are about 1 cm in dimention.

One white clast has large plagioclase crystals, and would be called an anorthosite.

Another white clast has a poikioblastic texture (figure) and may be a norite.

Chemistry

Morris et al. (1986) and See et al. (1986) studied 65056.

Cosmogenic isotopes and exposure ages

Rancitelli et al. (19730 determined the ^{22}Na and ^{26}Al activity due to cosmic ray activation.

Processing

There are 3 thin sections.

References for 65056

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.

Morris R.V., See T.H. and Horz F. (1986) Composition of the Cayley Formation at Apollo 16 as inferred from impact melt splashes. *Proc. 17th Lunar Planet. Sci. Conf.* in J. Geophys. Res. **90**, E21-E42.

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

See T.H., Horz F. and Morris R.V. (1986) Apollo 16 impact-melt splashes: Petrography and major-element composition. *Proc. 17th Lunar Planet. Sci. Conf.* in J. Geophys. Res. **91**, E3-E20.

Figure 2: Thin section photo of clast in 65056.

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.
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Table 1. Chemical composition of 65056

reference	Morris86		Rancitelli73	
weight	See86			
SiO2 %	45.25	(b)		
TiO2	0.36	(b)		
Al2O3	26.18	(b)		
FeO	5.28	(a)		
MnO				
MgO	7.79	(b)		
CaO	14.56	(b)		
Na2O	0.61	(b)		
K2O	0.11	(b)	0.128	(c)
P2O5				
S %				
sum				
Sc ppm	6.85	(a)		
V				
Cr	915	(a)		
Co	73	(a)		
Ni	1515	(a)		
Cu				
Zn				
Ga				
Ge ppb				
As				
Se				
Rb				
Sr				
Y				
Zr				
Nb				
Mo				
Ru				
Rh				
Pd ppb				
Ag ppb				
Cd ppb				
In ppb				
Sn ppb				
Sb ppb				
Te ppb				
Cs ppm				
Ba	155	(a)		
La	11.5	(a)		
Ce	34.2	(a)		
Pr				
Nd				
Sm	5.61	(a)		
Eu	1.18	(a)		
Gd				
Tb	1.17	(a)		
Dy				
Ho				
Er				
Tm				
Yb	3.68	(a)		
Lu	0.55	(a)		
Hf	3.97	(a)		
Ta	0.53	(a)		
W ppb				
Re ppb				
Os ppb				
Ir ppb				
Pt ppb				
Au ppb				
Th ppm	2.67	(a)	1.55	(c)
U ppm	1.04	(a)	0.41	(c)

technique: (a) INAA, (b) broad beam e probe, (c) radiation count.

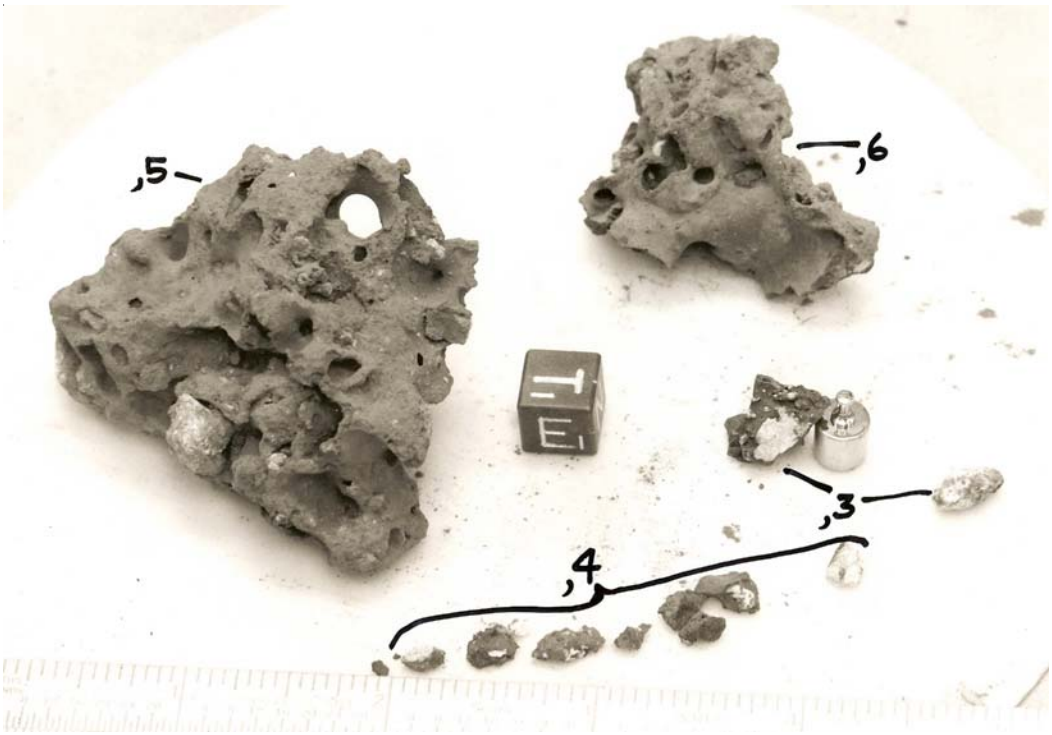
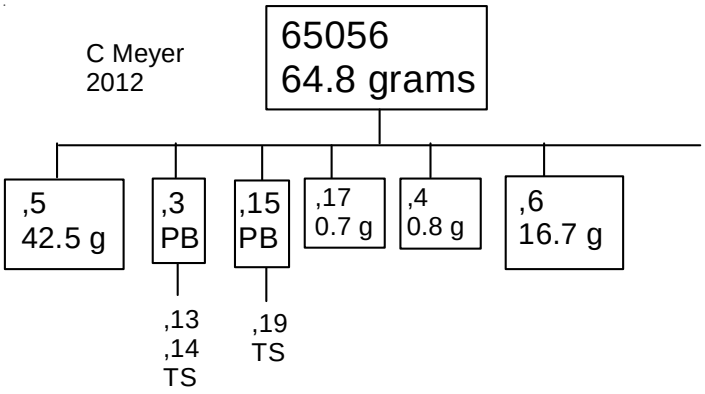


Figure 3: Processing photo of 65056 - showing white clasts. S73-15149



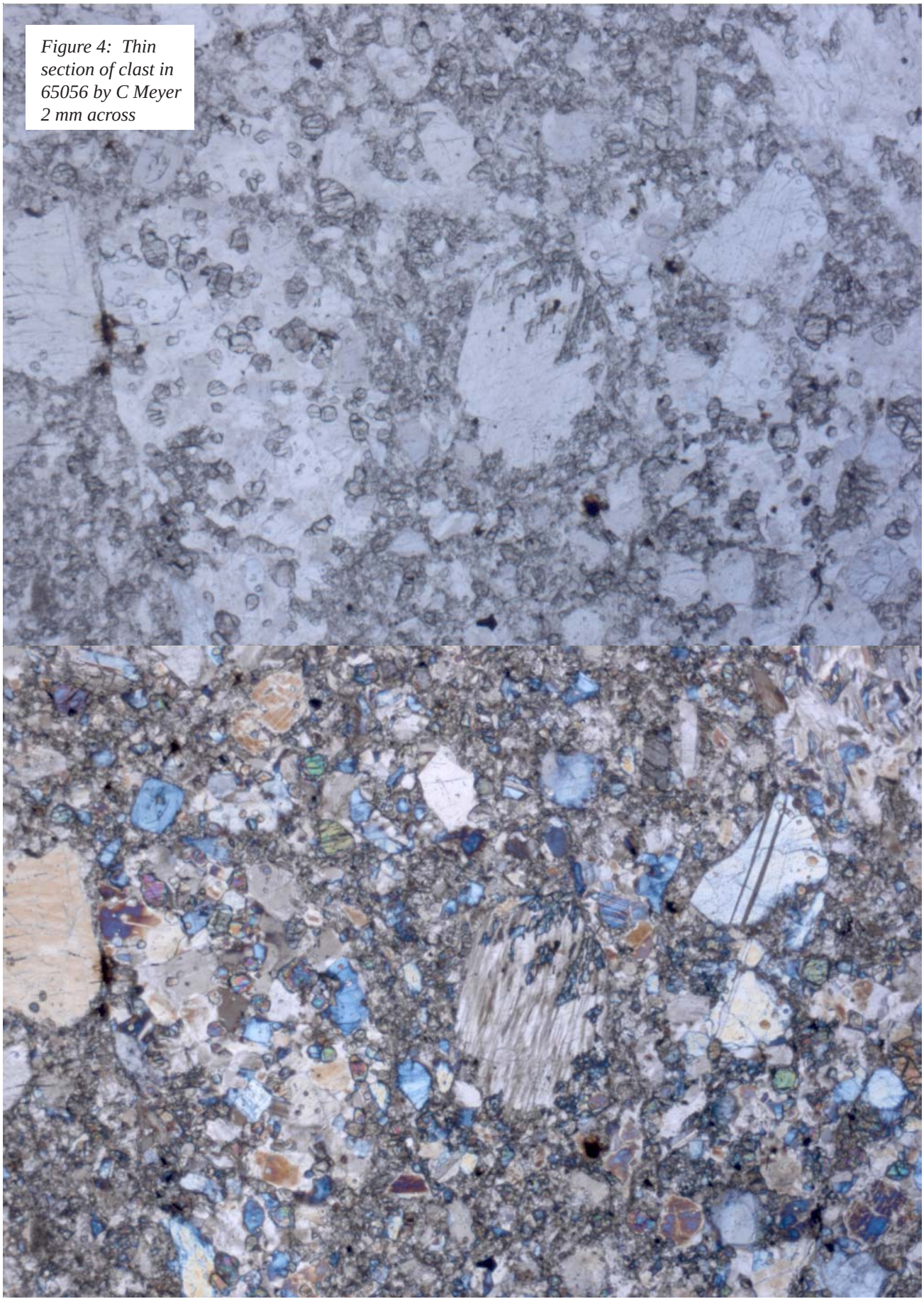


Figure 4: Thin section of clast in 65056 by C Meyer 2 mm across