

61525 – 10.35 grams
61526 – 4.08 grams
61527 – 0.52 grams
61528 – 0.24 grams
61529 – 0.28 grams
 Glass Matrix Breccia



Figure 1: Photo of 61525. S72-55332 3 cm long

Introduction

61525 - 61529 were collected as part of a rake sample from near Plum Crater (figure 2) – see section on 61500. As sorted and described by Phinney et al. (1973) they may all be the same material. Only 61525 has been studied.

Petrography

Warner et al. (1973) termed 61525 “glassy breccia” and Phinney et al. (1976) termed it “polymict”. Phinney et al. (1976) reported lots of glass, but that glass “filaments” were lacking. It is highly fractured. McKay et al. (1986) and Joy et al. (2012) reported the maturity index $I_s/FeO = 3$ (immature) for 61525.

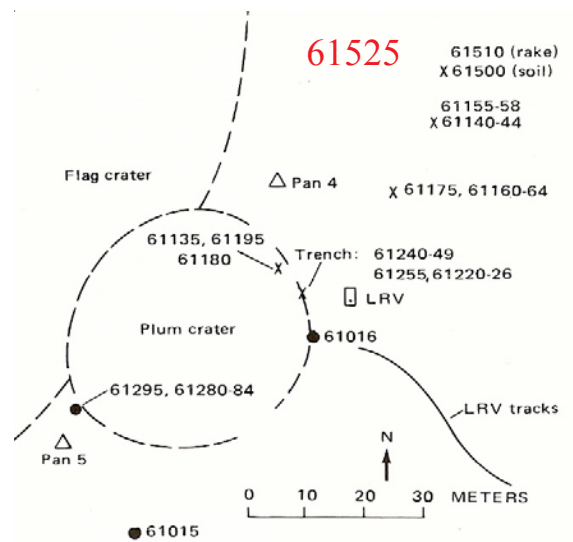


Figure 2: Map of station 1, Apollo 16.

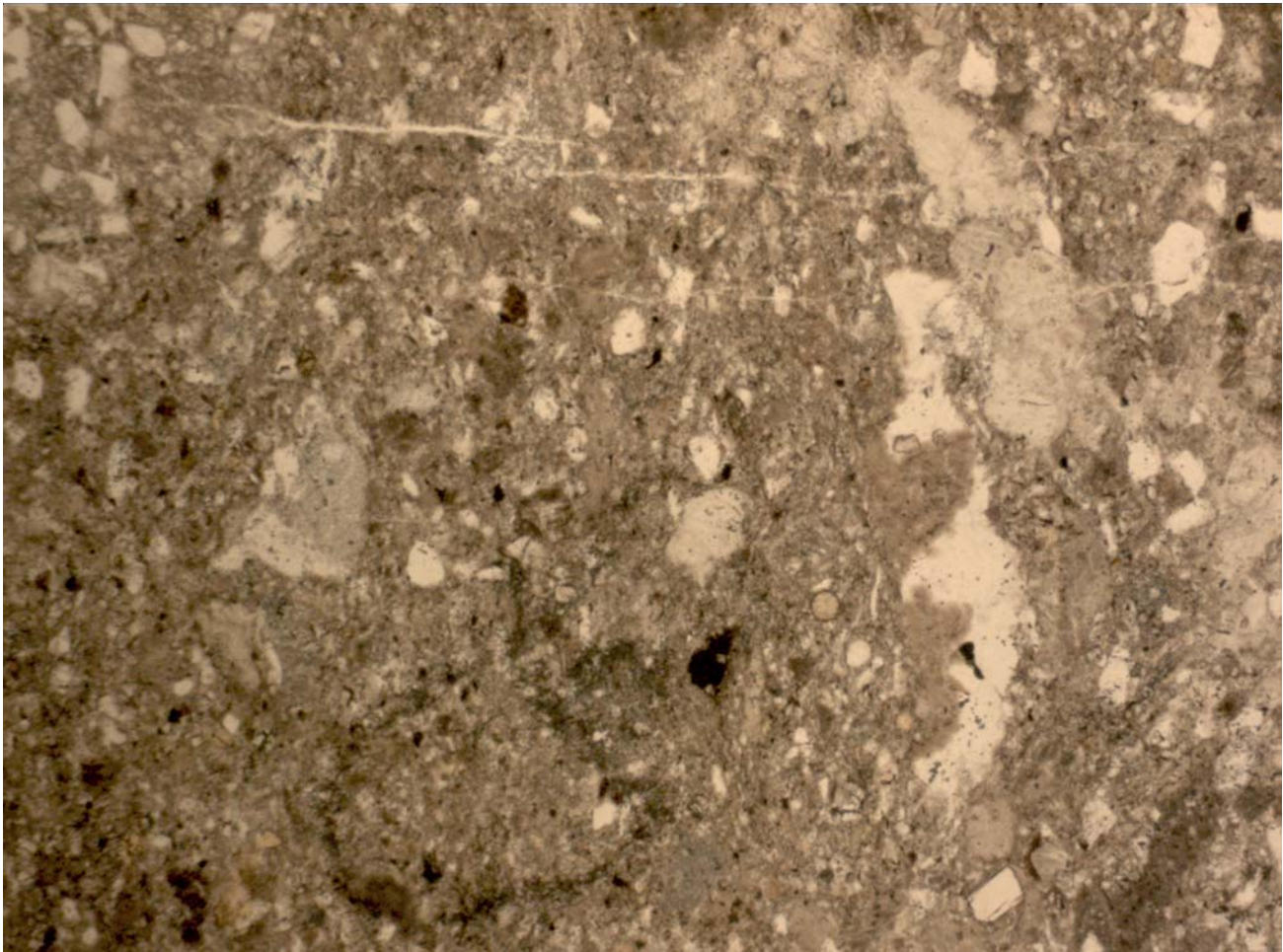


Figure 3: Photomicrograph of thin section of 61525 by C Meyer. Field of view is 2 mm.

Gooley et al. (1973) reported about 6 % Ni in metallic iron grains, and Floran et al. (1976) reported 190 ppm Ni total. Pearce and Simonds (1974) studied magnetic properties.

Chemistry

McKay et al. (1986) reported the composition which is like that of the soil (figure 4).

Other Studies

The rare gas content was reported by McKay et al. (1986) who found excess ⁴⁰Ar and concluded it was an ancient regolith breccia (about 2.3 b.y. old).

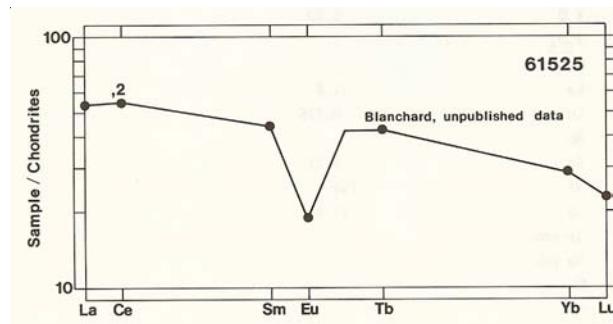


Figure 4: Normalized rare earth element diagram for 61525 (Blanchard, unpublished data).

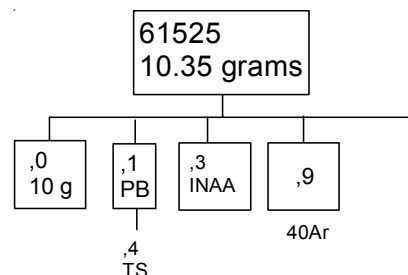


Table 1. Chemical composition of 61525

reference weight	Floran76	McKay86	Blanchard
SiO ₂ %	45.85	(a)	
TiO ₂	0.55	(a)	
Al ₂ O ₃	26.19	(a)	
FeO	5.27	(a)	5.25 (b)
MnO			
MgO	5.57	(a)	
CaO	15.12	(a)	15.1 (b)
Na ₂ O	0.59	(a)	0.579 (b)
K ₂ O	0.23	(a)	
P ₂ O ₅			
S %			
sum			
Sc ppm		9.4	(b)
V			
Cr		723	(b)
Co	17.8	(b)	21.3 (b)
Ni	190	(b)	236 (b)
Cu			
Zn	50	(b)	
Ga			
Ge ppb			
As			
Se			
Rb			
Sr		180	(b)
Y			
Zr		190	(b)
Nb			
Mo			
Ru			
Rh			
Pd ppb			
Ag ppb			
Cd ppb			
In ppb			
Sn ppb			
Sb ppb			
Te ppb			
Cs ppm		0.23	(b)
Ba		266	(b)
La		17.9	(b)
Ce		46	(b)
Pr			(b)
Nd		28	(b)
Sm		7.87	(b)
Eu		1.31	(b)
Gd			
Tb		1.5	(b)
Dy			
Ho			
Er			
Tm			
Yb		5.5	(b)
Lu		0.754	(b)
Hf		5.76	(b)
Ta		0.92	(b)
W ppb			
Re ppb			
Os ppb			
Ir ppb		7.9	(b)
Pt ppb			
Au ppb		4.8	(b)
Th ppm		2.57	(b)
U ppm		0.67	(b)

technique: (a) fused bead e. probe, (b) INAA

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