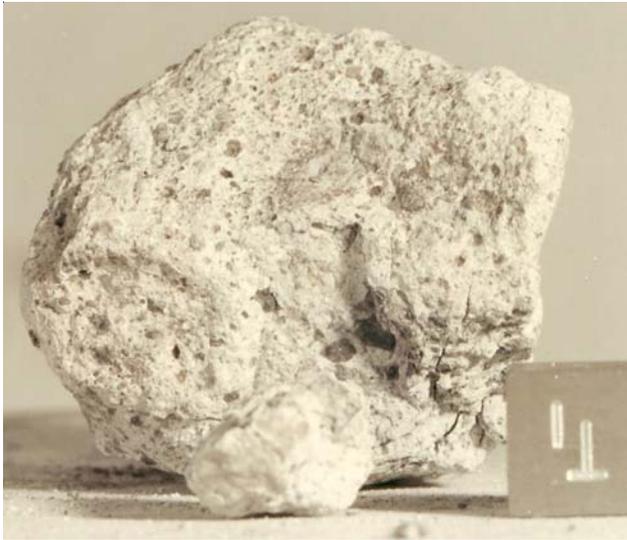
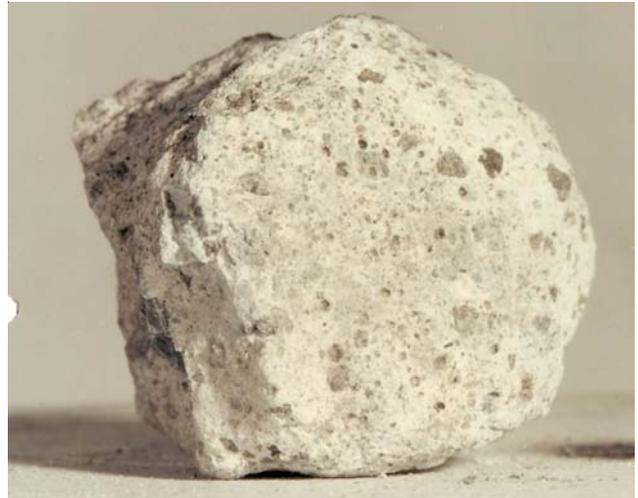


**67605**  
Polymict Breccia  
44.5 grams



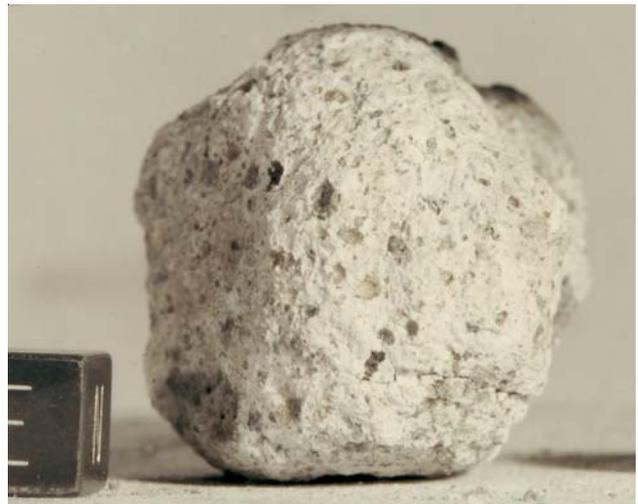
*Figure 1 a: Photo of 67605 showing white clast. S72-41583. Cube is 1 cm.*



*Figure 1 b: Figure showing zap pits. S72-41581*



*Figure 1 c: White clast again. S72-41580*



*Figure 1 d: Rounding caused by micrometeorite bombardment. S72-41582*

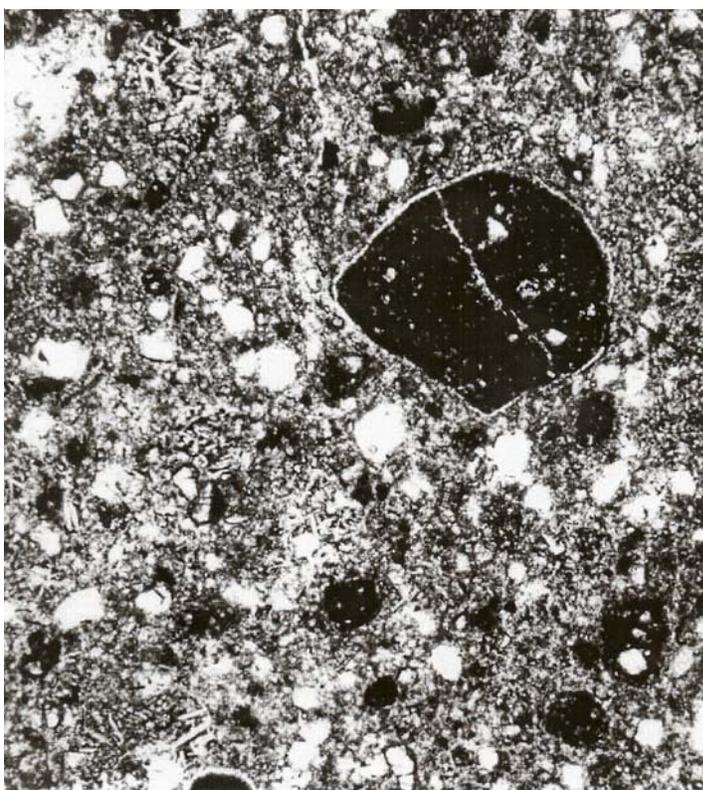


Figure 2: Photomicrograph of thin section 67605,6 with plane polarized light. Width of field is 2 mm. From Ryder and Norman 1980.

### **Introduction**

67605 is a relatively large friable, white particle picked out of the soil sample from the rim of North Ray Crater – see section on 67601. It is similar to the White Boulder samples (67455 etc) – but it is about the size, shape and color of a golf ball.

### **Petrography**

Ryder and Norman (1980) have provided the only description: “67605 is a fragmental breccia with many plagioclase and plagioclase-rich breccia clasts, as well as opaque aphanitic impact melt debris which gives some area of the thin section a dark aspect” (figure 2). They also describe a small clast of mare basalt in this rock! Mineral chemistry is not available.

### **Chemistry**

Warren and Wasson (1978) provided the Curator with two analyses (table, figure 3). The sample has trace Ni, Ir and Au.

### **Processing**

There are 3 thin sections.

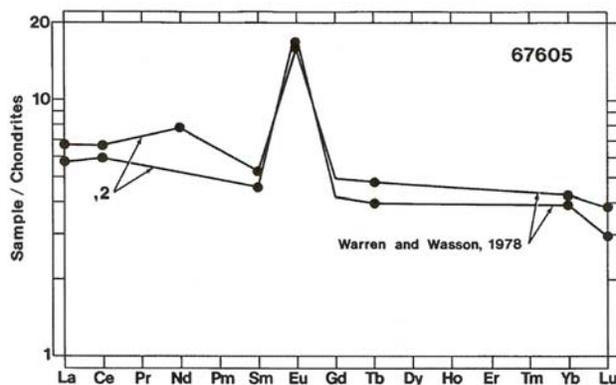
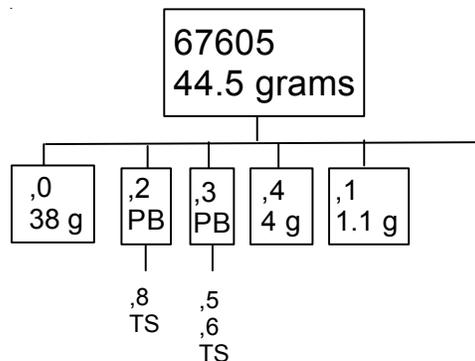
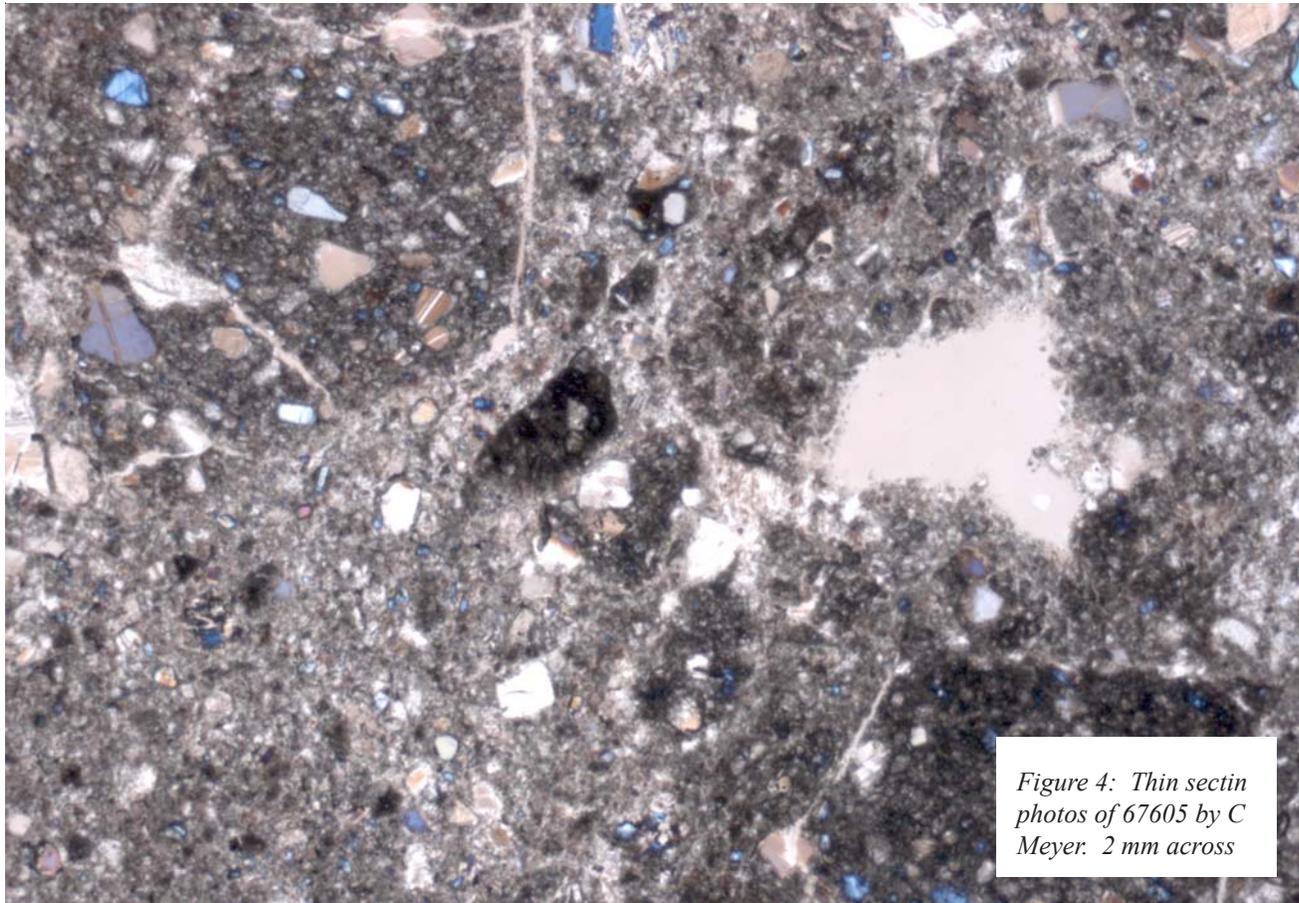
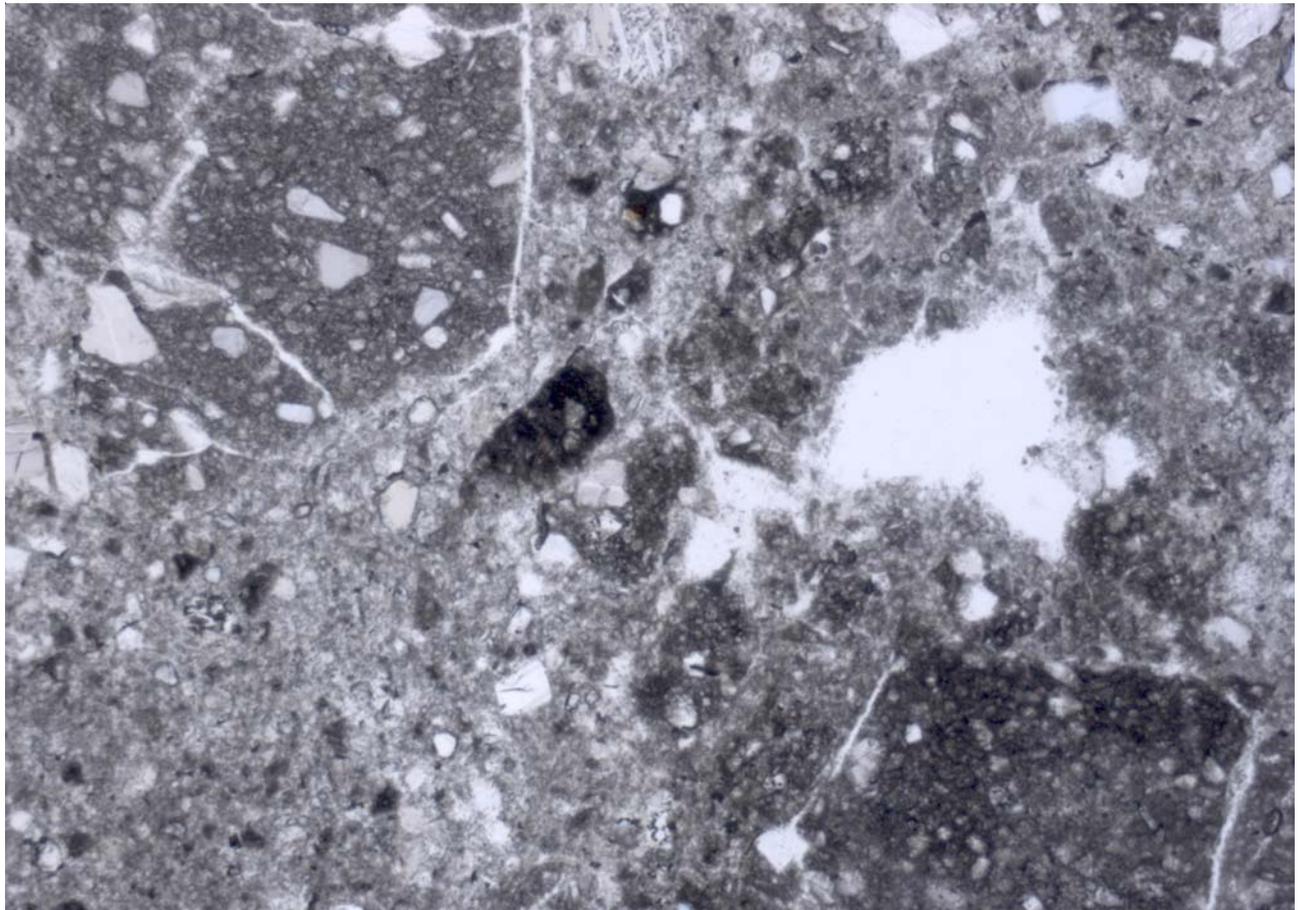


Figure 3: Normalized rare-earth-element diagram for 67605 (from Ryder and Norman).





*Figure 4: Thin section photos of 67605 by C Meyer. 2 mm across*

**Table 1. Chemical composition of 67605**

reference	Warren78		
<i>weight</i>			
SiO <sub>2</sub> %	45.8	44.9	(a)
TiO <sub>2</sub>	0.18	0.18	(a)
Al <sub>2</sub> O <sub>3</sub>	30	29.9	(a)
FeO	2.58	2.57	(a)
MnO	0.036	0.038	(a)
MgO	3.96	3.91	(a)
CaO	16.8	16.9	(a)
Na <sub>2</sub> O	0.48	0.5	(a)
K <sub>2</sub> O	0.051	0.055	(a)
P <sub>2</sub> O <sub>5</sub>			
S %			
<i>sum</i>			
Sc ppm	5.2	4.4	(a)
V			
Cr	378	386	(a)
Co	7.1	7.7	(a)
Ni	80	110	(a)
Cu			
Zn		11	(a)
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		46	(a)
La	1.9	2.2	(a)
Ce	5.3	5.8	(a)
Pr			
Nd		4.6	(a)
Sm	0.82	0.94	(a)
Eu	1.18	1.12	(a)
Gd			
Tb	0.19	0.22	(a)
Dy			
Ho			
Er			
Tm			
Yb	0.78	0.84	(a)
Lu	0.1	0.13	(a)
Hf	0.59	0.73	(a)
Ta	0.09	0.098	(a)
W ppb			
Re ppb			
Os ppb			
Ir ppb	3.4	3.8	(a)
Pt ppb			
Au ppb		0.6	(a)
Th ppm	0.31	0.4	(a)
U ppm	0.15	0.14	(a)
<i>technique</i>	(a) INAA		

**References for 67605**

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Warren P.H. and Wasson J.T. (1978) Compositional-petrographic investigation of pristine nonmare rocks. *Proc. 9<sup>th</sup> Lunar Planet. Sci. Conf.* 185-217.