

65357 – 18.8 grams
65358 – 7 grams
Poikilitic Impact Melt Breccia



Figure 1: Photo of 65357. Scale in mm. S72-47674

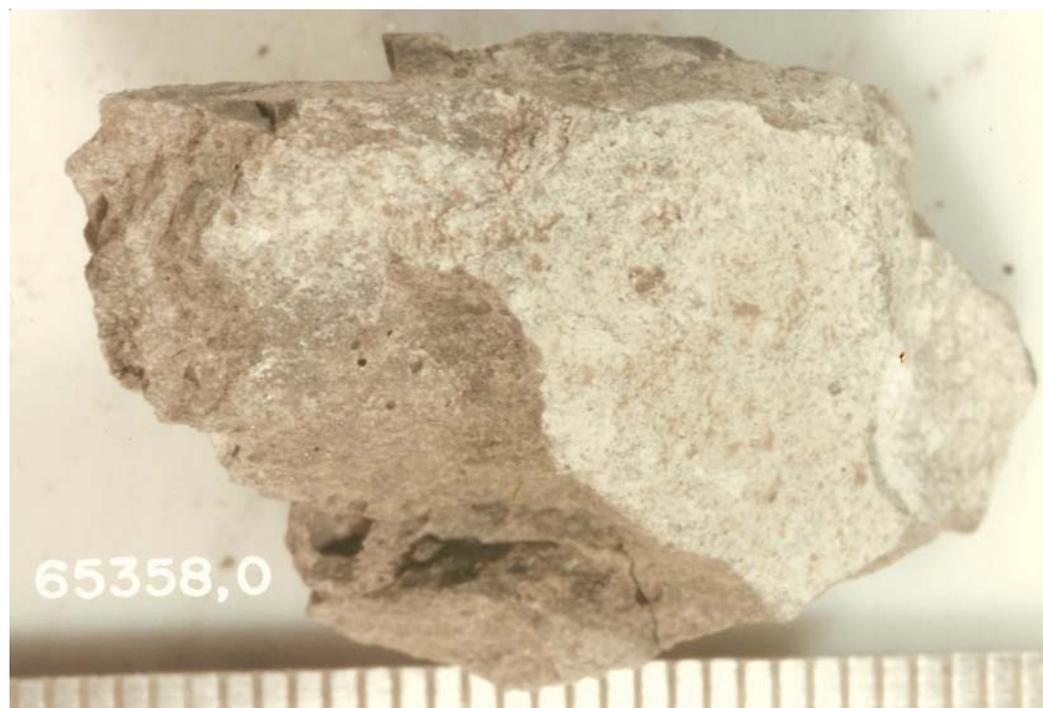


Figure 2: Photo of 65358. Scale in mm. S72-47669



Figure 3: Thin section photo of 65357 showing poikilitic texture (from Warner et al. 1976).

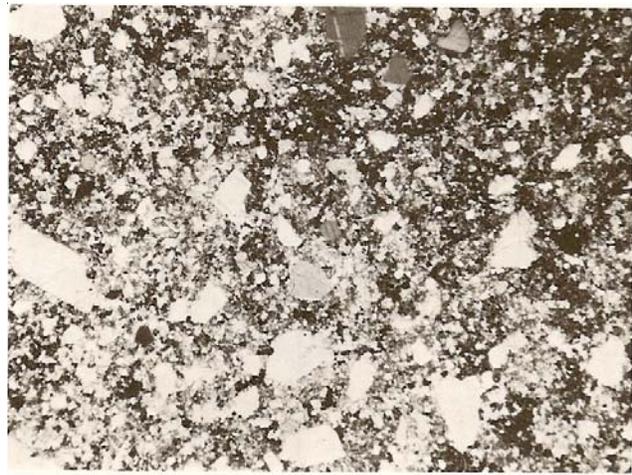


Figure 4: Thin section photo of 65358 showing poikilitic texture (from Warner et al. 1976).

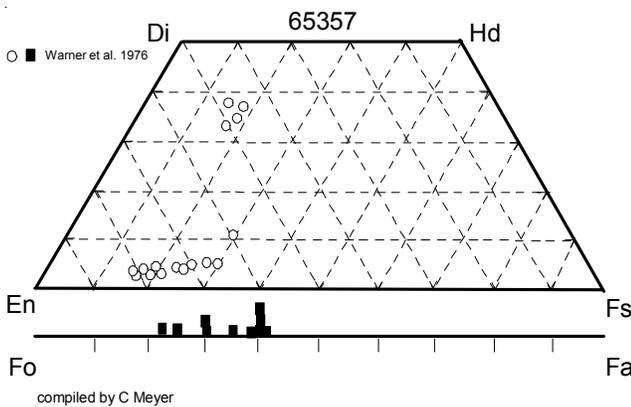


Figure 5: Olivine and pyroxene composition in 65357 (Warner et al. 1976).

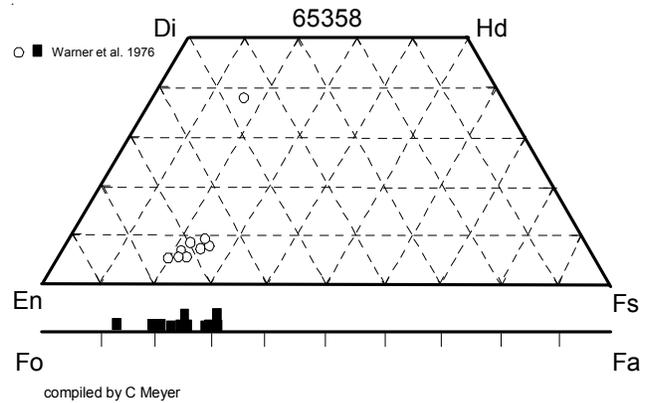


Figure 6: Olivine and pyroxene composition in 65358 (Warner et al. 1976).

Introduction

65357 and 65358 are coherent impact melt rocks that were collected as part of a rake sample at station 5. 65357 is rounded and covered with micrometeorite craters (figure 1). It has relatively high Ti and ilmenite content. 65358 is also coherent, but it is angular and more aluminous. Neither rocklet have been dated.

Petrography

Keil et al. (1972), Warner et al. (1976) and Dowty et al. (1976) provided descriptions and mineral analyses (figures 3 – 6). Both rock have poikilitic texture with evidence of precursor clastic origin. Oikocrysts of low-Ca pyroxene surround crystals of plagioclase, olivine and augite. Ilmenite and accessory minerals are found inter-oikocryst (figure 7).

Accessory minerals include metallic Ni-Fe metal, baddelyite and a “K-rich” phase.

Clasts are dominantly anorthite.

Chemistry

Relatively high K and Zr are reported for these two rocks.

Radiogenic age dating

None

Processing

There are three thin sections of each rocklet.

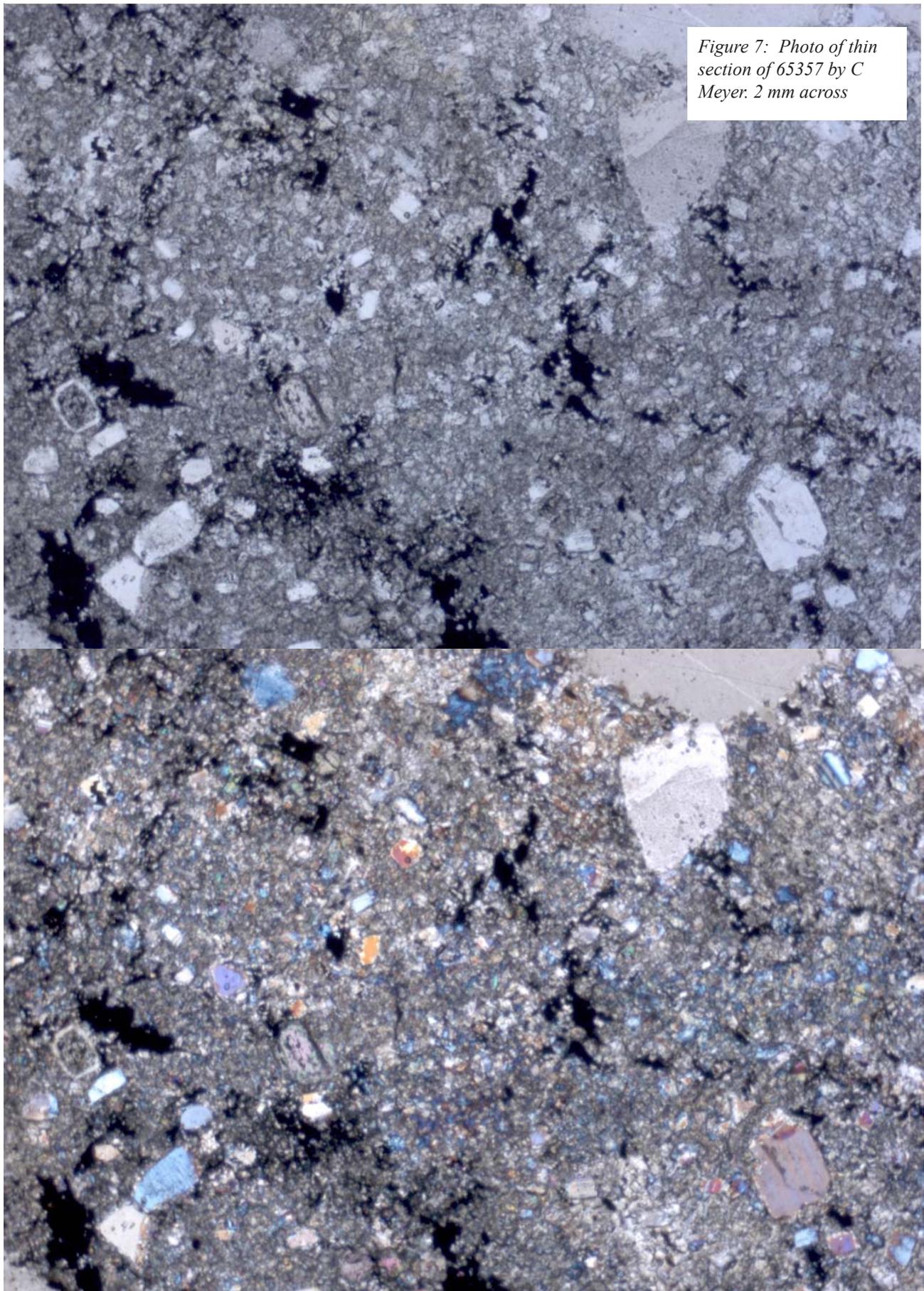


Figure 7: Photo of thin section of 65357 by C Meyer. 2 mm across

Table 1. Chemical composition of 65357, 65358

	537	538	
reference	Warner76		
weight			
SiO ₂ %	46.4	47	(a)
TiO ₂	2.59	0.86	(a)
Al ₂ O ₃	20.5	22.4	(a)
FeO	7.3	6.4	(a)
MnO	0.08	0.07	(a)
MgO	9	8.7	(a)
CaO	12.4	13.3	(a)
Na ₂ O	0.64	0.53	(a)
K ₂ O	0.43	0.27	(a)
P ₂ O ₅	0.4	0.24	(a)
S %			
sum			
(a) DBA			

References for 65357 and 65358

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Dowty E., Green J.A., Hlava P.F., Keil K., Moore R.B., Nehru C.E., Prinz M. and Warner R.D. (1976) Electron microprobe analyses of minerals from Apollo 16 rake samples. Inst. Meteoritics Spec. Publ. No 14, 141 pp.. Univ. New Mex. ABQ

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