

INTRODUCTION: 63589 is a pale gray, moderately friable, fine-grained polymict breccia (Fig. 1). The only thin section suggests that it is fragmental but it might be glass-bonded. It is a rake sample with some zap pits.



FIGURE 1. Smallest scale division in mm. S-72-55398.

PETROLOGY: Warner et al. (1973) classify 63589 as a glassy breccia, in which category it is deemed to have ~50% glass matrix. In contrast, Floran et al. (1976) classify it as a dark matrix breccia, a category whose members they state have little if any glass. The only thin section is of poor quality. Its matrix consists of angular fragments, mainly of plagioclase (Fig. 2). It appears to be fragmental, but its brown color and a few fine-grained patches suggest that it might be glass-bonded.

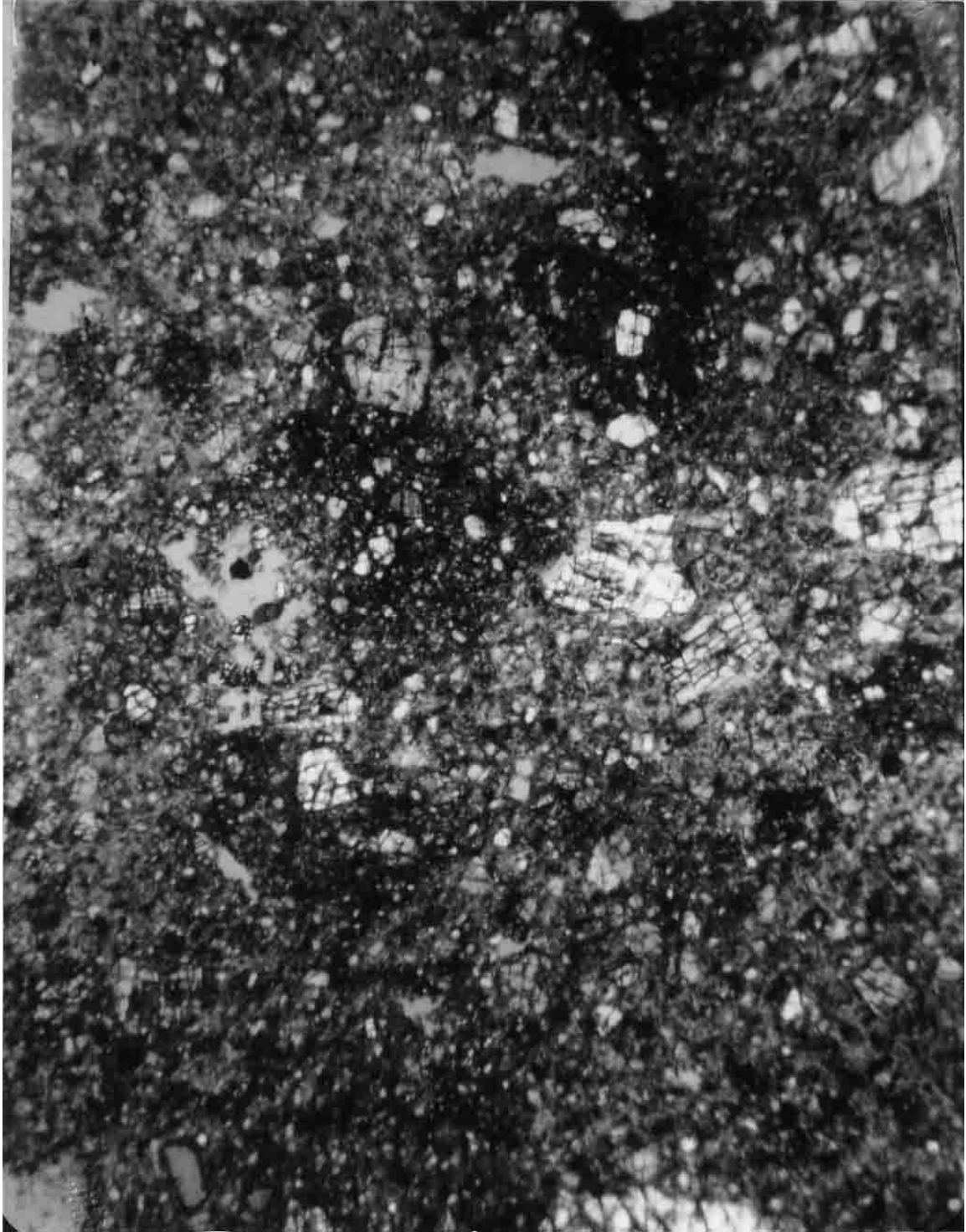


FIGURE 2. 63589,4, general view, ppl. Width 2 mm.

CHEMISTRY: The summary chemistry (Table 1 and Fig. 3) is taken from the major element analysis reported by Floran et al. (1976) and the trace element analysis of Blanchard (unpublished). The high alumina, low incompatible element, and low (though clearly meteorite-contaminated) siderophile abundances are similar to many of the Station 11 fragmental breccias.

PROCESSING AND SUBDIVISIONS: Two adjacent chips were separated (Fig. 1). The smaller is ,1, from which thin section ,4 was made; the larger is ,3, allocated for chemical analyses.

TABLE 1. Summary chemistry of 63589.

SiO ₂	45.2
TiO ₂	0.30
Al ₂ O ₃	30.7
Cr ₂ O ₃	0.05
FeO	2.8
MnO	
MgO	2.7
CaO	17.4
Na ₂ O	0.59
K ₂ O	0.07
P ₂ O ₅	
Sr	
La	2.47
Lu	0.131
Rb	
Sc	5.6
Ni	42
Co	8.3
Ir	ppb
Au	ppb
C	
N	
S	
Zn	
Cu	

Oxides in wt%; others in ppm except as noted.

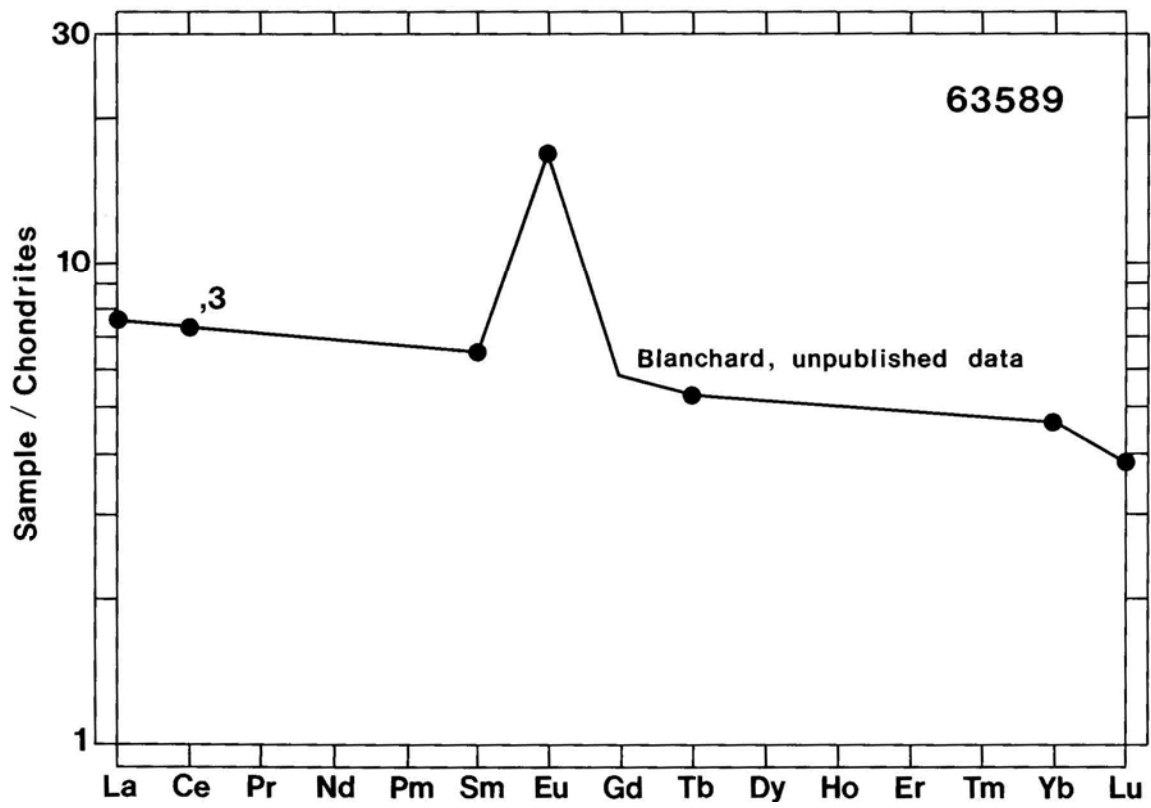


FIGURE 3. Rare earths.