

76576**Micropoikilitic Impact Melt Breccia****5.327 g, 2.5 x 1.5 x 1.5 cm****INTRODUCTION**

This light grey fragment has lots of small micrometeorite pits on its surface (Fig. 1). This unique highlands sample is a nonpristine impact melt breccia with a micropoikilitic breccia texture.

PETROGRAPHY

Sample 76567 has an annealed cataclastic breccia texture that is different from the boulders at Station 6 and may be from a different part of the highlands crust. It has many small mineral fragments set in an aphanitic matrix (Fig. 2). Pyroxene oikocrysts are just beginning to form. It has about 65% plagioclase, 20% olivine, and 10% low-Ca pyroxene and ~5% high-Ca pyroxene.

WHOLE-ROCK CHEMISTRY

According to Simonds and Warner (1981), sample 76576 has "a K₂O poor unique composition and an annealed texture which is totally different from the boulder matrices." However, there is the possibility that it could have been a clast in the melt sheet. This sample has also been analyzed by Warren and Wasson (1978) (Table 1). It is nonpristine and has a uniquely low and flat rare earth element pattern (Fig. 3).

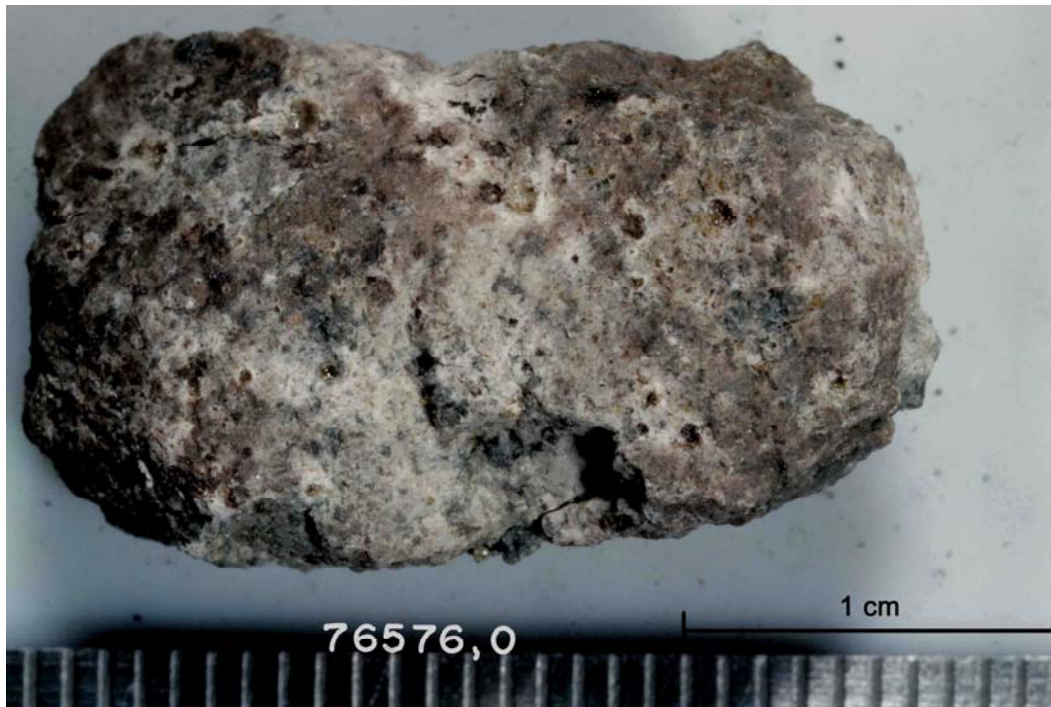


Figure 1: Photograph of rake sample 76576. Scale bar is marked in 1 mm. S73-19637.

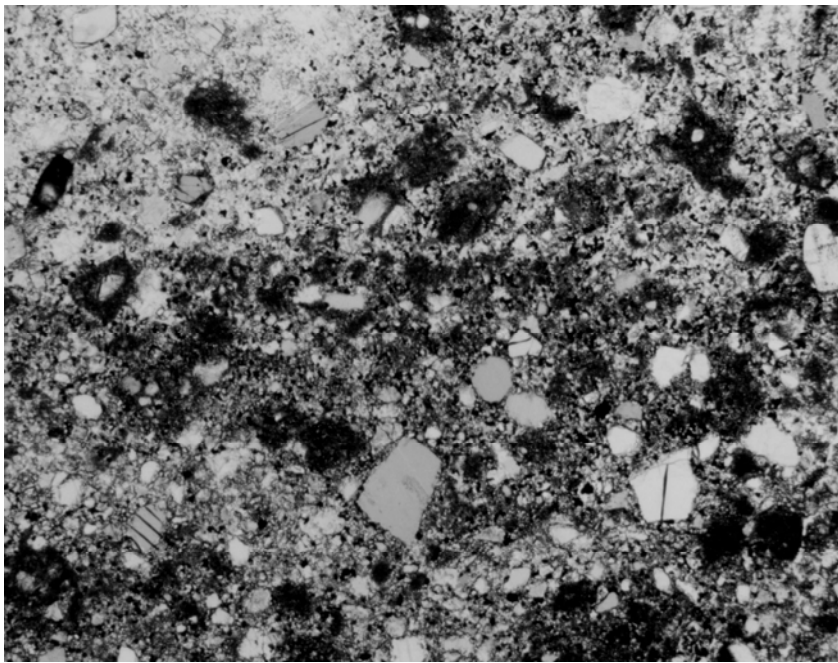


Figure 2: Photomicrograph of thin section 76576,7. Field of view is 2 x 3 mm.

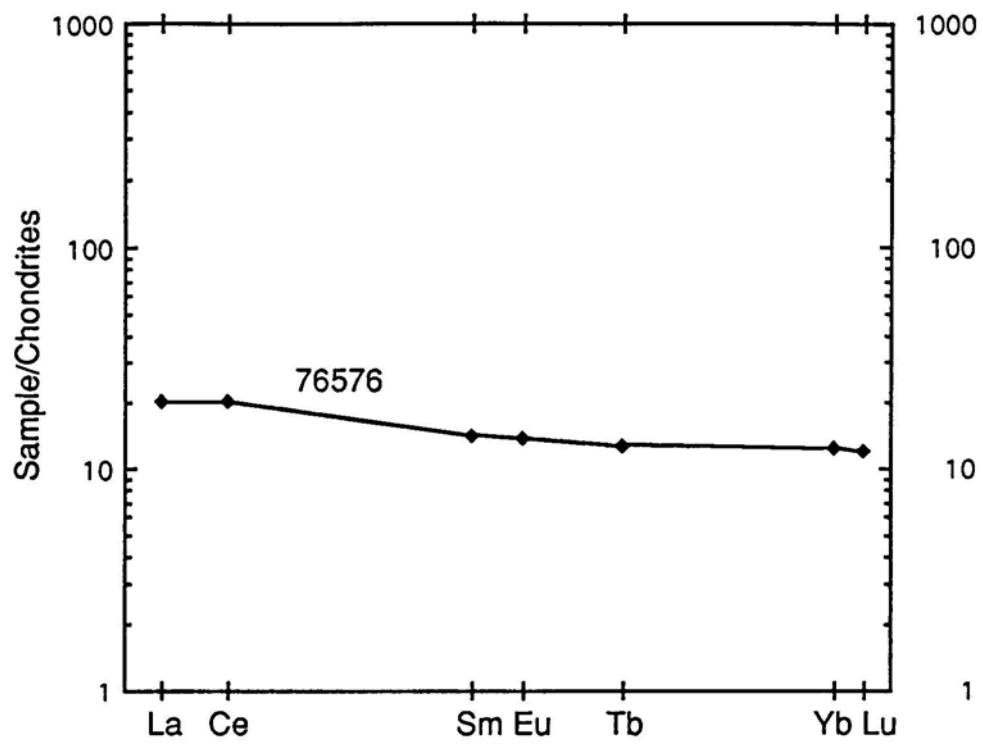


Figure 3: Normalized rare earth element diagram for highlands sample 76576.

Table 1: Whole-rock chemistry of 76576.

a) Simonds and Warner (1981); b) Warren and Wasson (1978)

*(Cautionary note: These preliminary analyses were made by fused bead electron microprobe analyses, R.. Brown, analyst.)

Split technique	,2 (a) EMP	,3 (b) INAA
SiO ₂ (wt%)	43.34*	45.15
TiO ₂	0.29*	0.20
Al ₂ O ₃	19.95*	23.06
Cr ₂ O ₃	0.19*	
FeO	10.53*	8.23
MgO	12.95*	9.88
CaO	11.62*	13.86
Na ₂ O	0.34*	0.30
K ₂ O	0.08*	0.10
Nb (ppm)		
Cr		1230
Mn		780
Zr		–
Hf		1.7
Ta		0.28
U		0.31
Th		1.2
Ba		90
Zn		1.4
Ni		111
Co		28.4
Sc		12.1
La		4.7
Ce		12
Nd		–
Sm		2.03
Eu		0.75
Tb		0.45
Yb		2
Lu		0.29
Ga		3.22
Ge (ppb)		20
Re		0.51
Ir		6.3
Au		2.18