15026 REGOLITH BRECCIA, GLASS-COATED ST. LM 1.1 g

INTRODUCTION: 15026 is a small regolith breccia fragment with a vesicular glass coating. The breccia is medium-dark gray and contains typical regolith components. The glass coat is greenish-black and contains a few fragments. The whole sample is slabby, subangular, and friable. It was collected as part of the contingency sample approximately 12 m west of the LM + Z footpad. It has not been identified in site photographs.

Figure 1. Pre-split view of 15026. S-71-43042

PETROLOGY: 15026 consists of regolith breccia coated with vesicular glass (Fig. 2). The breccia is not very porous. It has an I_s/FeO of 61 to 94 (McKay et al., 1984), listed as 68 by Korotev (1984 unpublished) hence is mature, unlike most Apollo 15 regolith breccias which are submature or immature. The breccia consists mainly of mineral and

glass fragments; the minerals are angular and generally unshocked. The glass fragments are mainly colorless or pale tan, and spheres are rare. The lithic fragments include some fine-grained feldspathic crystalline breccias and some small (mare?) basalts. The vesicular glass coat is greenish-gray, banded, and clast-poor. Its contact with the breccia is sharp and marked by a darker, glassy zone a few microns wide in the breccia.

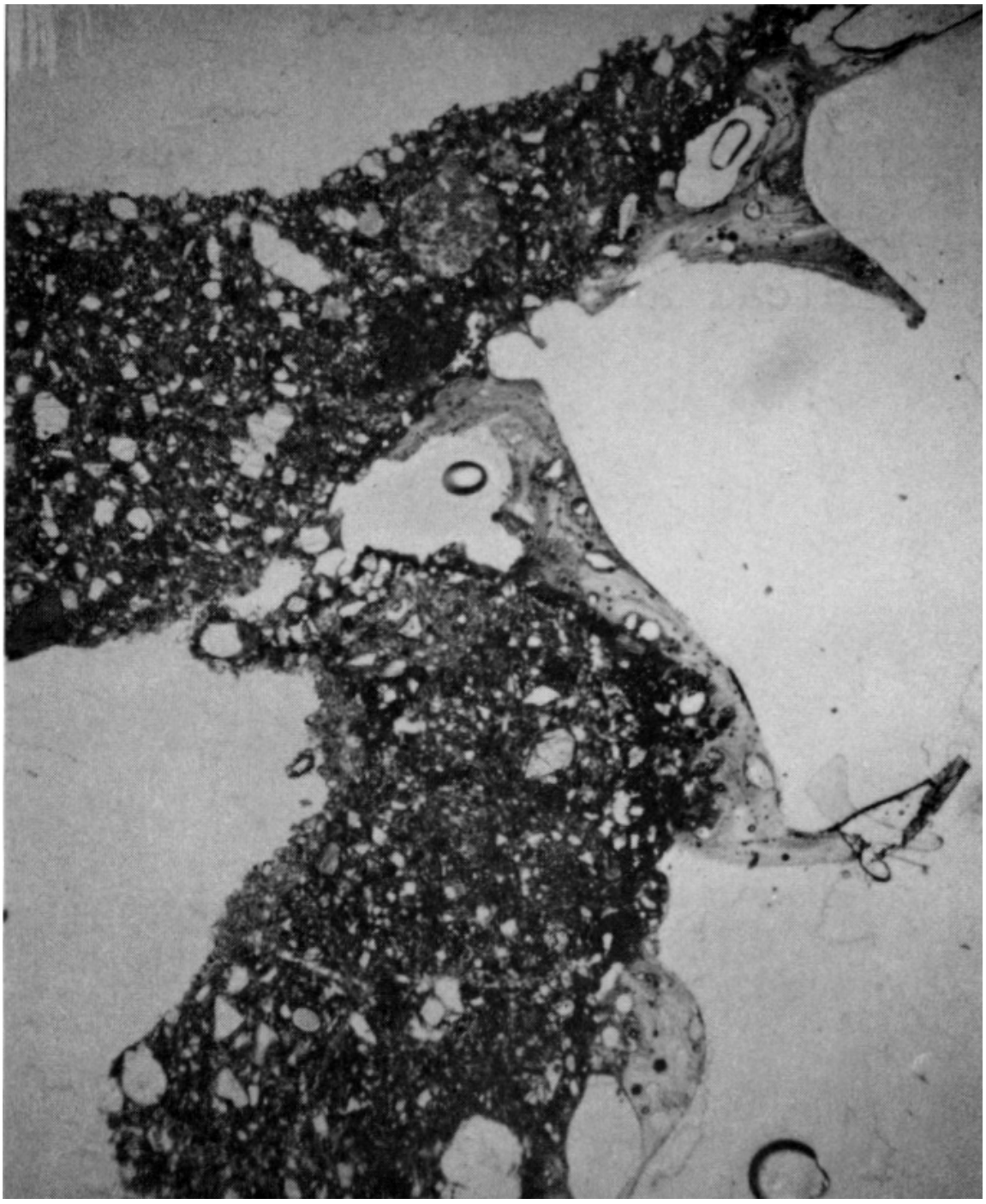

Figure 2. Photomicrograph of 15026,4.
Width about 2 mm. Transmitted light.

CHEMISTRY: The 15026 regolith breccia has a composition very similar to the local regolith (Table 1, Fig. 3) from which it was presumably derived. No composition for the glass coat is available.

PROCESSING AND SUBDIVISIONS: 15026 was chipped in 1975 and thin sections ,3 to ,5 (all breccia plus glass coat) were cut from ,1. Subsequently more chipping of ,0 produced chips ,6 (for petrological and chemical analysis), and ,7. ,0 is now 0.817 g.

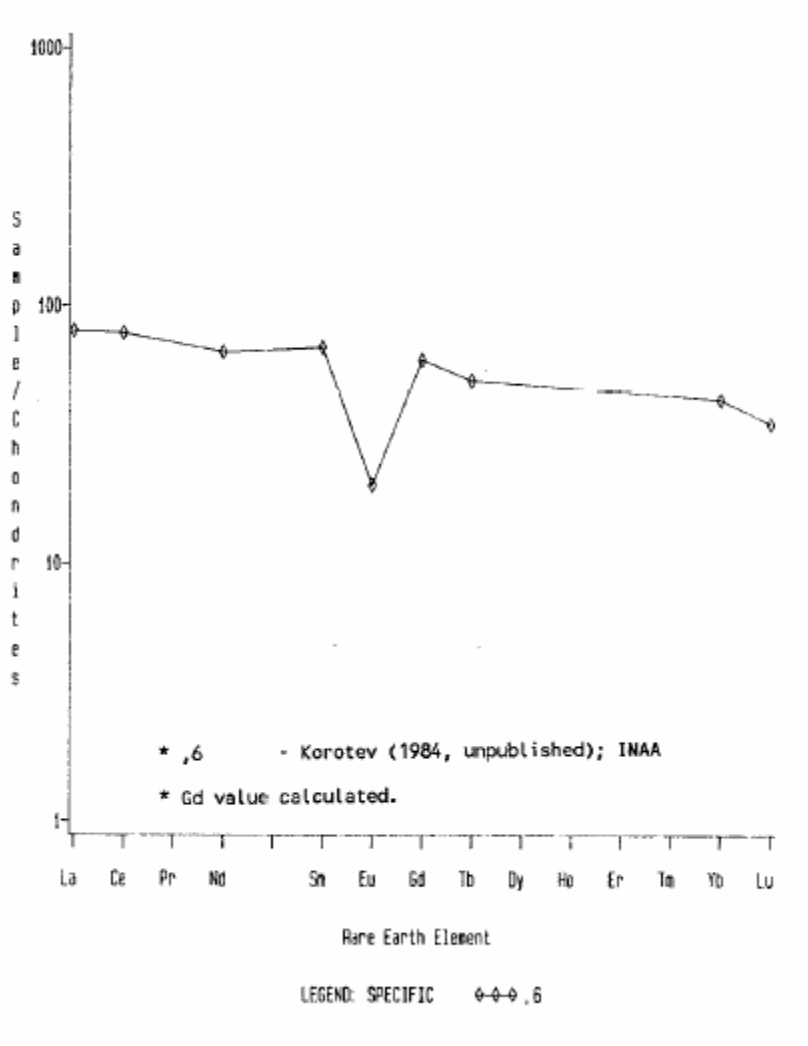

Figure 3. Rare earths in 15026 regolith breccia.

TABLE 15026. Chemical analysis

		,6
Wt %	SiO2	
	TiO2	1.93
	Al2O3	13.2
	FeO	15.2
	MgO	10.4
	CaO	10.0
	Na2O	0.40
	K2O	
	P2O5	
(ppm)	Sc	29.5
	V	100
	Cr	2820
	Mn	1515
	Co	49.2
	Ni	289
	Rb	
	Sr	130
	Y	
	Zr	360
	Nb	
	Hf	9.9
	Ba	259
	Th	4.8
	U	0.97
	Pb	
	La	26.6
	Ce	69
	Pr	
	Nd	40
	Sm	12.6
	Eu	1.40
	Gd	
	Tb	2.43
	Dy	
	Ho	
	Er	
	Tm	
	Yb	8.7
	Lu	1.19
	Li	
	Be	
	B	
	C	
	N	
	S	
	F	
	Cl	
	Br	
	Cu	
	Zn	
(ppb)	I	
	At	
	Ga	
	Ge	
	As	
	Se	
	Mo	
	Tc	
	Ru	
	Rh	
	Pd	
	Ag	
	Cd	
	In	
	Sn	
	Sb	
	Te	
	Cs	290
	Ta	1250
	W	
	Re	
	Os	
	Ir	10.3
	Pt	
	Au	2.2
	Hg	
	Tl	
	Bi	
		(1)

References and methods:

(1) Korotev (1984 unpublished); INAA