15288 REGOLITH BRECCIA, GLASS-COATED ST. 6 70.5g

INTRODUCTION: 15288 is a tough, glassy, regolith breccia (Fig. 1) with some vesicular black surface glass, mainly on one surface. It is medium-gray, subangular, and seems to be more mafic than local soils, and less-KREEP-rich than 15265-15267. It has few to no zap pits. The sample was collected (along with 15259, 15266 to 15269, 15285 to 15287, and 15289) from the crest of an inner bench on the northeast wall of the 12 m crater at Station 6, downslope 15 m from the LRV. Like several other samples, it was lying very close to 15265-15267 and may have spalled from it; however its chemical composition is a little different. Its sampling was documented.

PETROLOGY: 15288 is a non-porous, dark regolith breccia (Fig. 2) with spheres of green, red, yellow, and colorless glass. Some parts are clearly foliated. Mare basalt clasts are present.

CHEMISTRY: A comprehensive analysis was reported by Wanke et al. (1977) (Table 1, Fig. 3). The alumina is a little lower and the iron and titanium a little higher than St. 6 soils, and the rare earths are lower than the 15265-15267 rock and its inferred spalls.

PROCESSING AND SUBDIVISIONS: A sample numbered 15258 was renamed 15288,1 when its fresh face was found to fit 15288,0. Chipping of ,0 produced ,7 and ,8 (Figs. 1, 4). ,7 was made into a potted butt from which thin section ,9 was made. Part of ,8 was made into potted butt ,12, from which thin sections ,14 and ,15 were made. Another split of ,8 (,11) was used for the chemical analysis. ,0 is now 54.95 g; ,1 is 7.4 g.

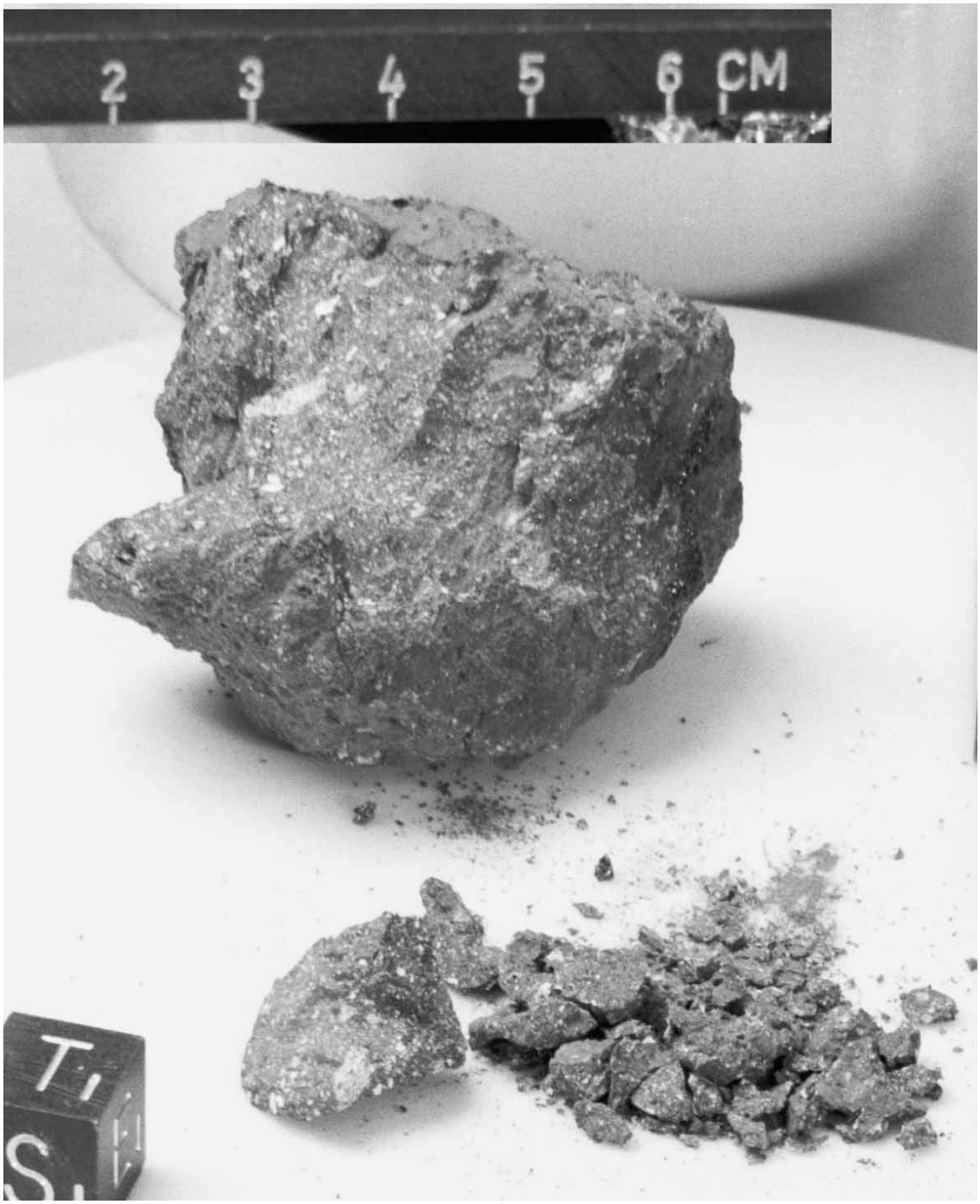

Fig. 1a

Fig. 1b

Figure 1. a) Splitting of ,0 to produce ,8. S-71-60570; b) 15288,1. S-71-44802.

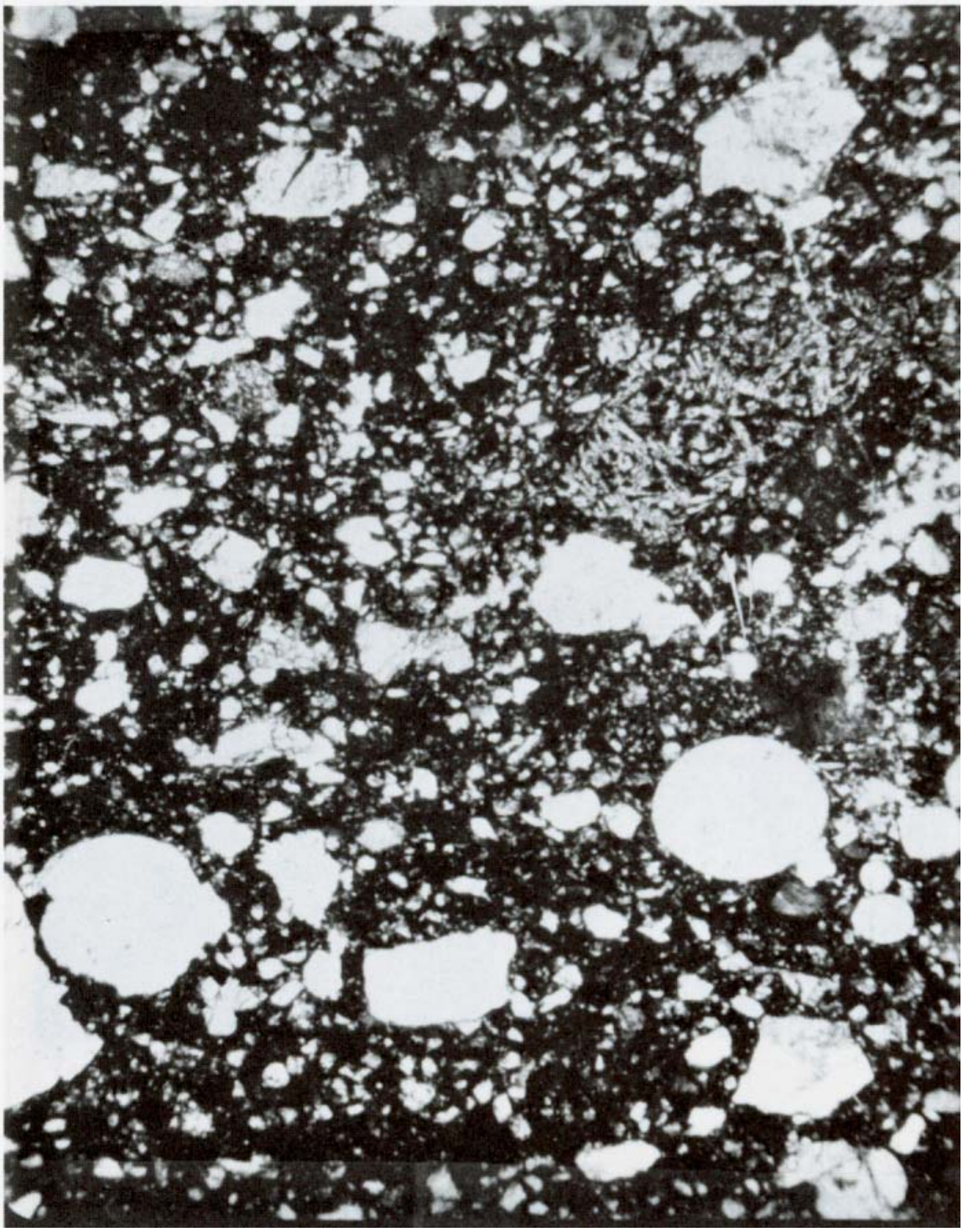

Figure 2. Photomicrograph of 15288,9 showing dense matrix and weak foliation. Width about 2 mm. Transmitted light.

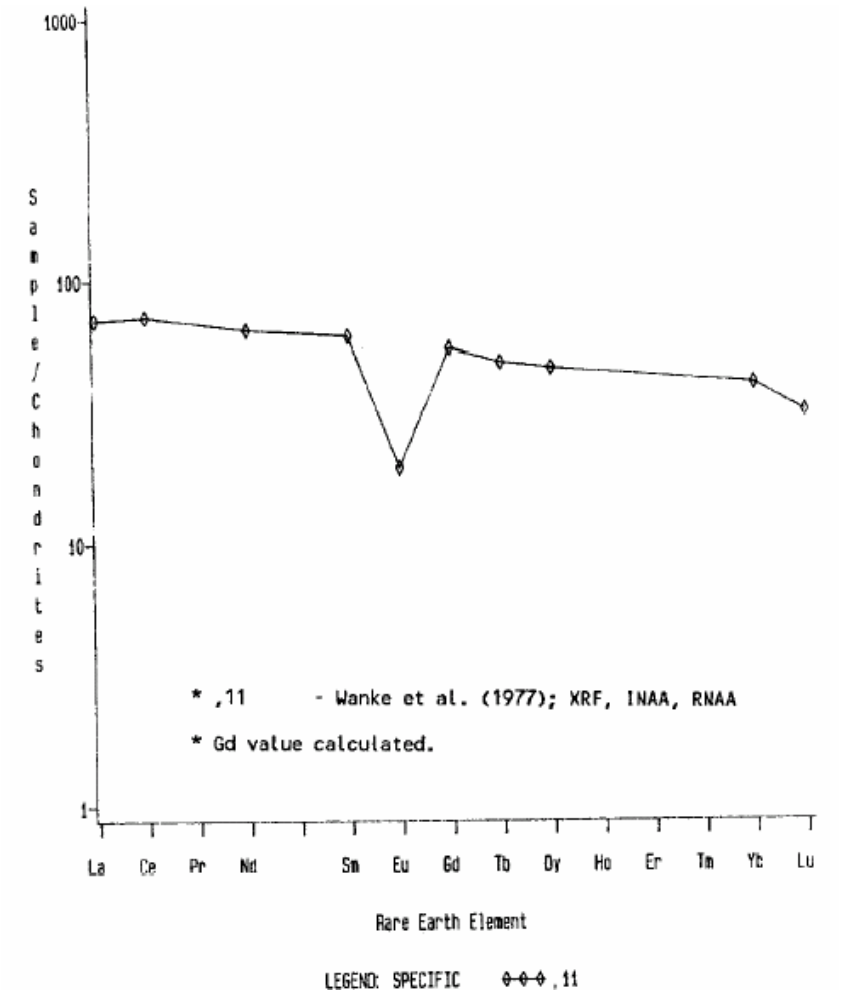

Figure 3. Rare earths in 15288

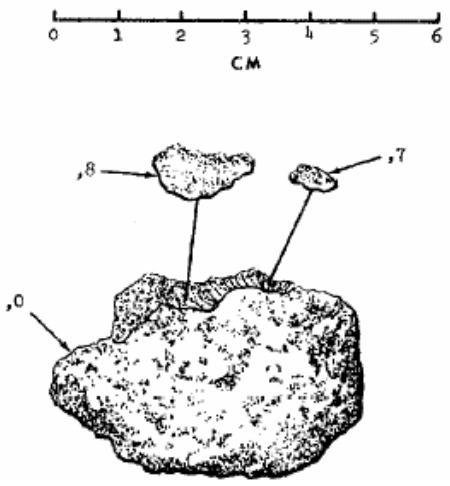

Figure 4. Chipping of 15288,0.

TABLE 15288-1. Chemical analysis

		,11
Wt %	SiO2	46.1
	TiO2	1.57
	Al2O3	15.1
	FeO	13.2
	MgO	10.9
	CaO	11.0
	Na2O	0.45
	K2O	0.188
	P2O5	0.197
(ppm)	Sc	27.1
	V	95.1
	Cr	2780
	Mn	1390
	Co	44.6
	Ni	200
	Rb	
	Sr	129
	Y	83
	Zr	324
	Nb	23
	Hf	8.22
	Ba	246
	Th	3.70
	U	
	Pb	
	La	23.4
	Ce	64.0
	Pr	
	Nd	39
	Sm	11.1
	Eu	1.35
	Gd	
	Tb	2.30
	Dy	14.7
	Ho	
	Er	
	Tm	
	Yb	8.18
	Lu	1.09
	Li	
	Be	
	B	
	C	
	N	
	S	420
	F	
	Cl	
	Br	
	Cu	
	Zn	
(ppb)	I	
	At	
	Ga	
	Ge	
	As	
	Se	
	Mo	
	Tc	
	Ru	
	Rh	
	Pd	
	Ag	
	Cd	
	In	
	Sn	
	Sb	
	Te	
	Cs	
	Ta	1110
	W	
	Re	
	Os	
	Ir	
	Pt	
	Au	
	Hg	
	Tl	
	Bi	
		(1)

References and methods:

(1) Wanke et al. (1977)
XRF, INAA, RNAA