

60275 GLASSY MATRIX BRECCIA (REGOLITH BRECCIA?), 255 g
GLASS-COATED

INTRODUCTION: 60275 is a polymict, dark-colored breccia coated with a vesicular glass (Fig. 1). The breccia matrix is glassy and mineral, lithic, glass, and devitrified glass fragments are common.

60275 was collected adjacent to the Lunar Module, where it was perched. Its orientation is known. It has a few zap pits on one surface.

PETROLOGY: 60275 consists of a variety of clasts apparently bonded with brownish glass (Fig. 2). The lithic clast population includes poikilitic and basaltic-textured impact melts, cataclastic anorthosites, and feldspathic granulites. Glass and brown devitrified glass fragments are also common. The sample may be a regolith breccia but it lacks glass beads and agglutinates. Hansen et al. (1979b and unpublished) report microprobe data for plagioclases and mafic minerals in granoblastic clasts in thin section ,47. One clast has plagioclase An_{95-96} , pyroxene averaging $\sim En_{71}Wo_4$, and olivine Fo_{57} . Two other analyzed clasts have similar plagioclases.

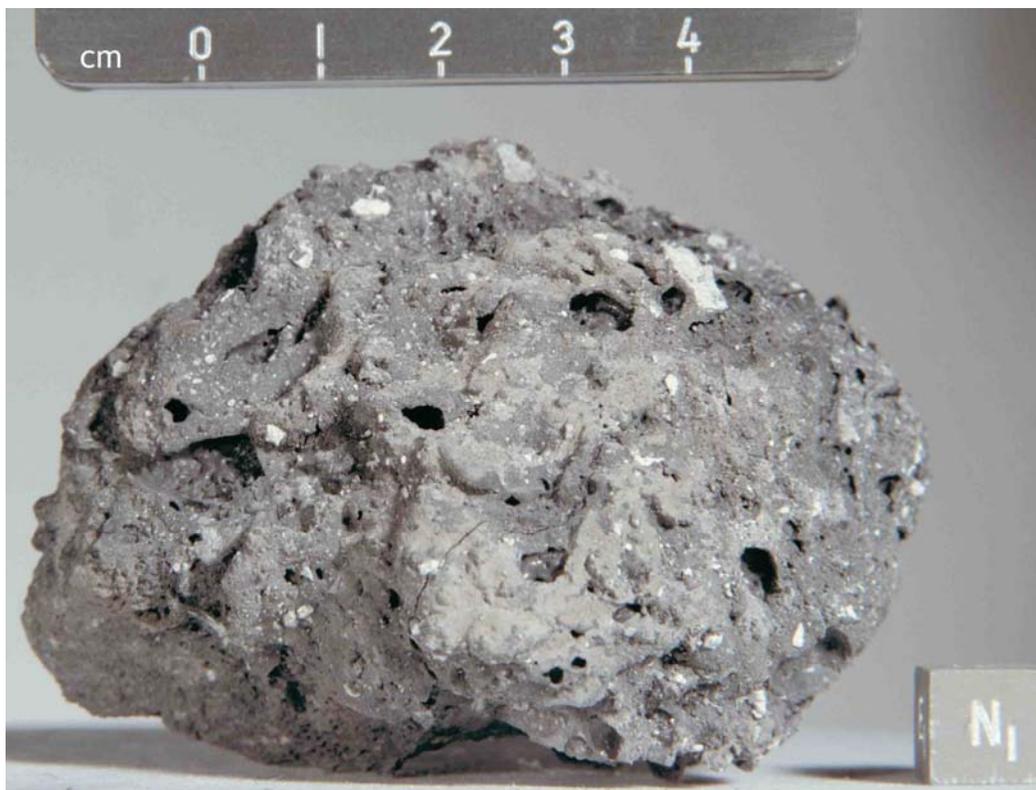


FIGURE 1a. S-72-43218.

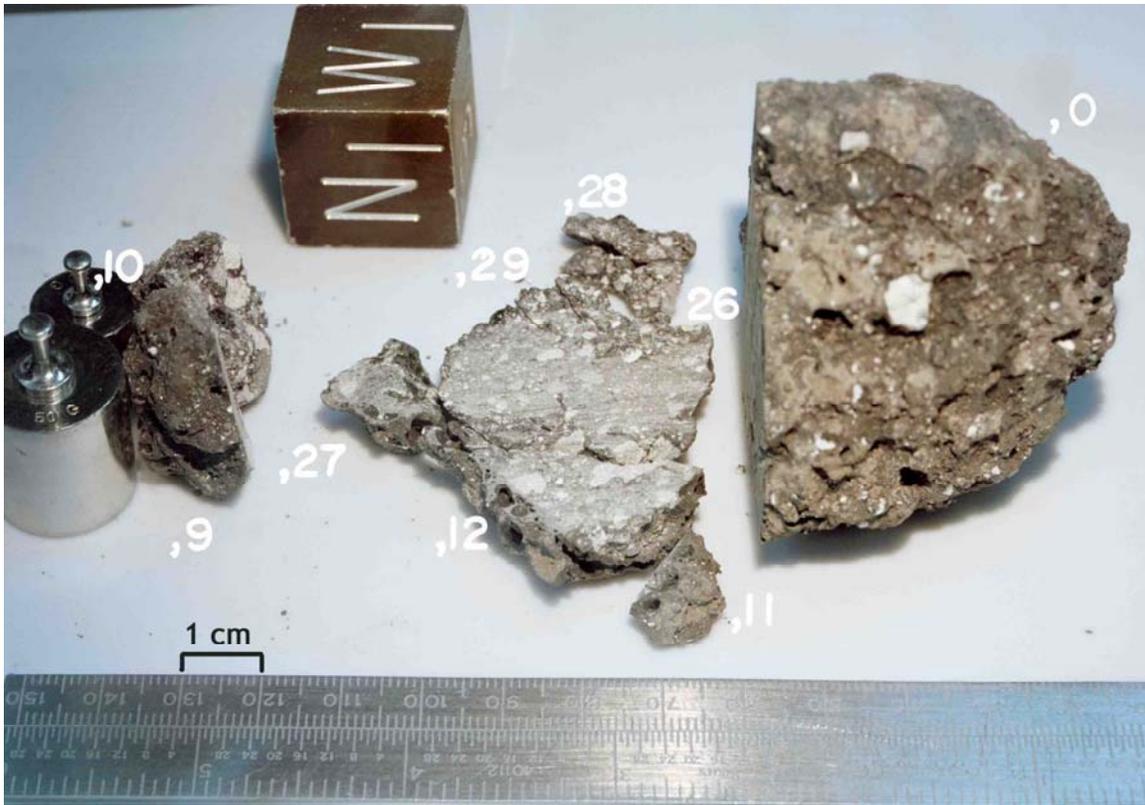


FIGURE 1b. S-75-20527.

CHEMISTRY: Christian et al. (1976) report major and some trace element analyses for a chip ,34, summarized in Table 1. Clark and Keith (1973) analyzed K, U, and Th in the bulk rock using gamma-ray spectroscopy; their K abundance is significantly lower than that of Christian et al. (1976). The analysis of Christian et al. (1976) is similar to local soil analyses.

RARE GASES AND EXPOSURE AGE: Bernatowicz et al. (1978) provide Xe and Kr isotopic data and conclude that 60275 contains significant amounts of solar wind components. It also has excess fission xenon. Clark and Keith (1973) report cosmic ray induced radionuclide data and the sample is saturated in ^{26}Al (Yokoyama et al., 1974).

PROCESSING AND SUBDIVISIONS: 60275 has been sawn and substantially split. The main post-sawing splits are shown in Figures 1 and 3. Earlier chips of the rock (,1 and ,2) were made into thin sections and clear glass fragments (,3) were made into grain mounts. ,12 (Fig. 3) was also made into a potted butt for thin sections.

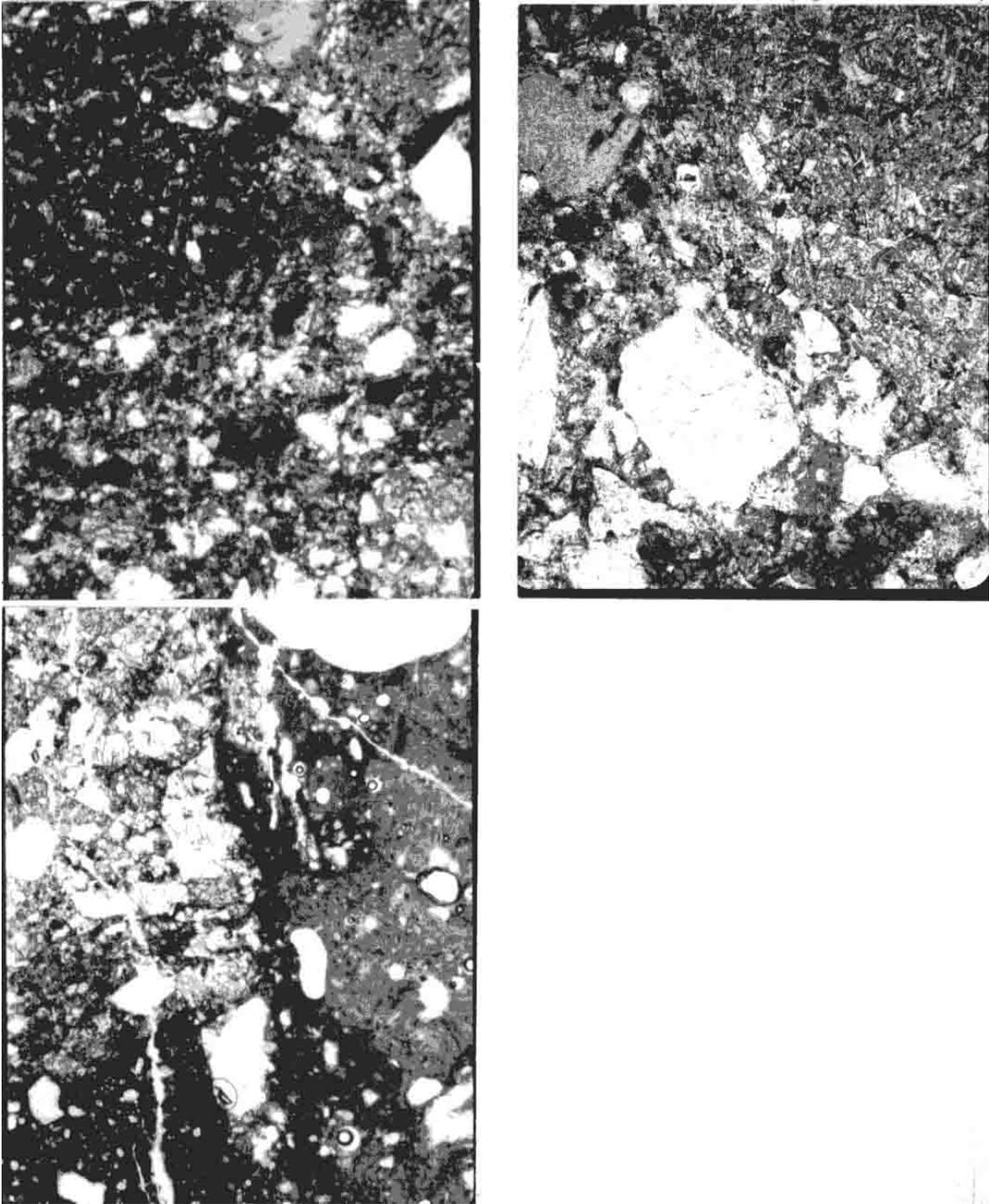


FIGURE 2.

- a) 60275,51. General view, ppl. Width 2 mm.
- b) 60275,13. Melt clasts, ppl. Width 2 mm.
- c) 60275,51. Glass, ppl. Width 2 mm.

TABLE 1. Summary chemistry of 60275 from Christian et al, 1976).

SiO ₂	44.9	Sr	150
TiO ₂	0.62	La	14
Al ₂ O ₃	25.4	Lu	
Cr ₂ O ₃	0.10	Rb	3.2
FeO	5.8	Sc	9.8
MnO	0.06	Ni	250
MgO	7.6	Co	18
CaO	14.6	Ir ppb	
Na ₂ O	0.46	Au ppb	
K ₂ O	0.22	C	
P ₂ O ₅	0.26	N	
		S	
Oxides in wt%; others in		Zn	10
ppm except as noted		Cu	5.4

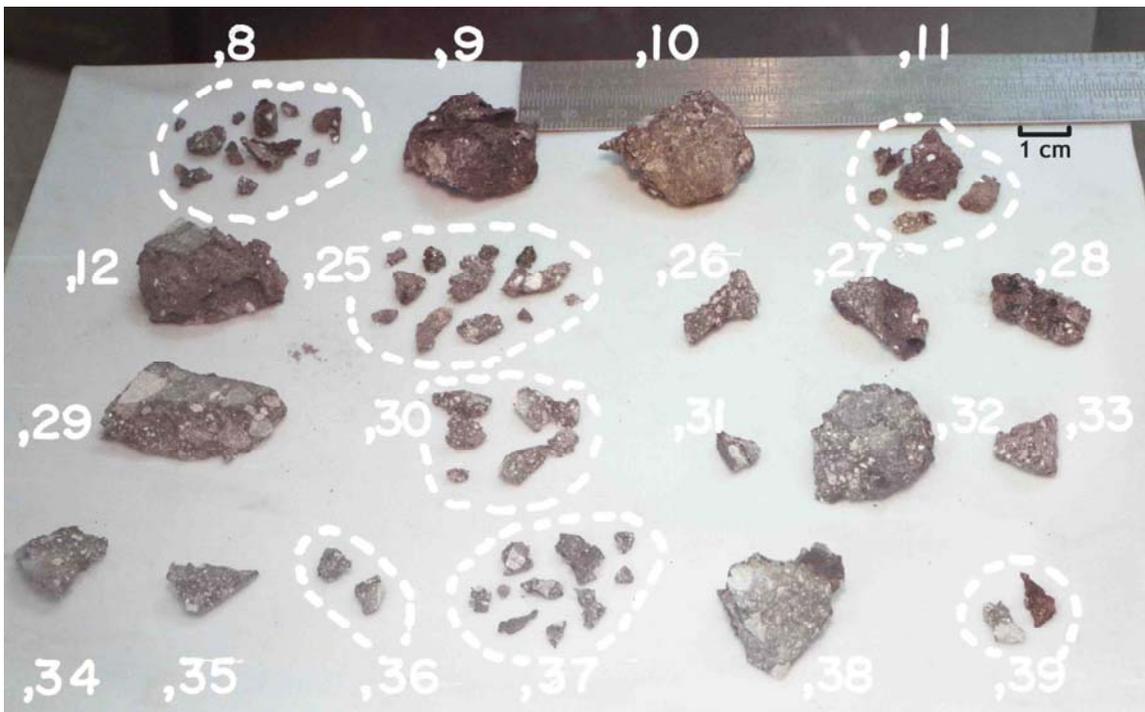


FIGURE 3. S-75-20524.