70175

Glass-Rich Microbreccia
339.6 g, 9 x 6 x 6 cm

INTRODUCTION

70175 was described as a brownish black, homogeneous, glass-rich microbreccia (Fig. 1 a,b), with many zap pits which are glass lined (Apollo 17 Lunar Sample Information Catalog, 1973). T is hackly with many small, sealed fractures. N is cut by many open fractures which are perpendicular to B and usually glass coated. W is an uneven surface controlled by fractures and contains a glass splash ~1 cm^2 (droplets, rays, etc.). Glass occurs in small dots, spheres, and angular fragments; black on exterior surfaces. S is broken by many small fractures and contains an area ~2 X 3 cm which is distinctly more feldspathic. E is an apex which exhibits many intersecting fractures. This sample was collected approximately 30 m north of the ALSEP central station.

PETROGRAPHY AND MINERAL CHEMISTRY

No thin section is available, but the Apollo 17 Lunar Sample Information Catalog (1973) reported that 70175 is comprised of 75% brown black matrix; 5% mineral clasts; 15% orange/ brown and black glass; and 5% lithic clasts. Simon et al. (1989) described 70175 as a compacted orange/black glass deposit.

WHOLE-ROCK CHEMISTRY

70175 is as yet unanalyzed for whole-rock chemistry.

ISOTOPES

Much of the work conducted upon 70175 was focused on cosmic ray activity (Keith et al., 1974a,b; LSPET, 1973; Yokoyama et al., 1974). LSPET (1973) reported cosmic ray abundances of 70175 (Table 1), and Yokoyama et al. (1974) determined that this sample was unsaturated with respect to ^{26}A1. Keith et al. (1974a,b) reported the same analysis as in the Apollo 17 Preliminary Science Report (1973) of radio-nuclides using gamma-ray analysis (Table 1). The nitrogen abundance of 70175 has been determined, but Carr et al. (1985) only stated that it was low.

PROCESSING

Because of the lack of work conducted upon 70175, a large proportion of 70175,0 remains, Samples of < 1 g size have been used in gamma-ray analyses outlined above.

Table 1: Abundances of radionuclides in 70175.

Data from Apollo 17 Preliminary Science Report (1973) with the same analysis reported by Keith et al. (1974a,b).

Th (ppm)	0.4 ± 0.04
U (ppm)	0.105 ± 0.007
K (%)	0.055 ± 0.002
^{26}Al (dpm/kg)	42 ± 5
^{22}Na (dpm/kg)	76 ± 18
^{54}Mn (dpm/kg)	156 ± 9
^{56}Co (dpm/kg)	300 ± 70
^{46}Sc (dpm/kg)	39 ± 5
^{48}V (dpm/kg)	17 ± 5
^{60}Co (dpm/kg)	0.29 ± 0.08
Th/U	3.8 ± 0.5
K/U	5200 ± 400

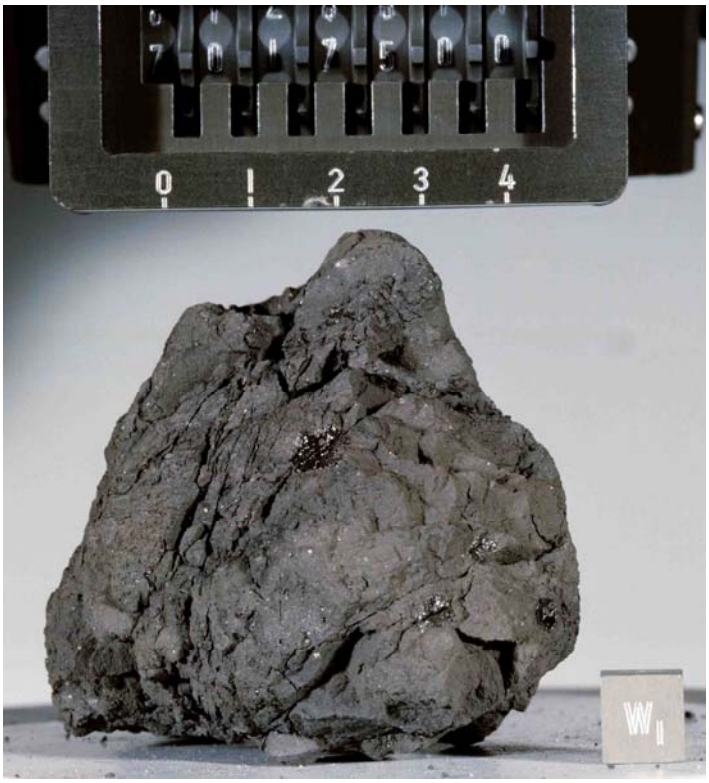

Figure la: Photograph of "W" surface of 70175,0.

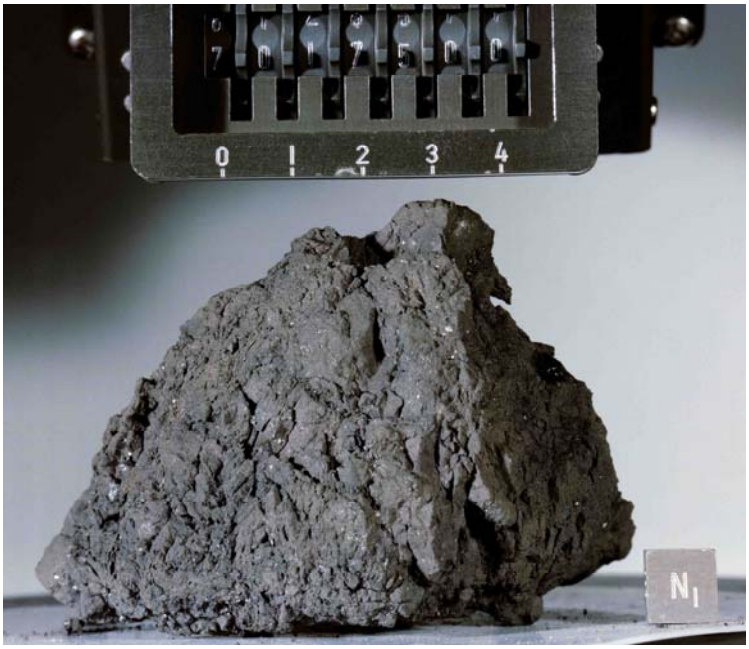

Figure 1 b: Photograph of "N" surface of 70175,0.

Figure 1: Hand specimen photographs of 70175,0.