

14270

PHYSICAL CHARACTERISTICS

Mass	Dimensions
25.59 g	4.0 x 2.8 x 2.0 cm

Sample 14270 is a blocky, medium greenish gray fine-grained crystalline breccia.

SURFACE FEATURES

Some glass-lined zap pits averaging 0.5 mm in diameter are present over most of the rock surface. Smooth, spherical to irregular vugs as large as 2.0 mm in diameter make up 5-10% of the rock. There are also a few slit-like cavities 0.1 x 3.0 mm in size present on the surface. Few, non-penetrative fractures are present.

PETROGRAPHIC DESCRIPTION

The rock is 95% medium greenish gray material less than 0.1 mm in size which has a sugary texture with light and dark patches. Light gray fragments 0.1 to 1.5 mm in size make up the other 5% of the sample. These are subrounded and slightly less than half of these have a vitreous luster and could be shocked plagioclase. The rest is aphanitic. Clasts generally have reaction rims.

Thin Section 14270,8 is composed of a seriate mixture of lithic and mineral fragments with widely scattered fine-grained, dark, microbreccia clasts. A couple of crystalline microbreccia clasts are also present. There is a patch of partly devitrified glass with wormy crystallites. The remainder of the matrix appears to be glass free. Lithic fragments include micro-breccia, crystalline rocks composed of plagioclase and pyroxene, plagioclase rich microbreccias, and devitrified glass. The mineral fragments include isolated opaque grains, large and small plagioclase and pyroxene grains, and occasional spinel grains. Approximately 20% of the fragments are lithic.

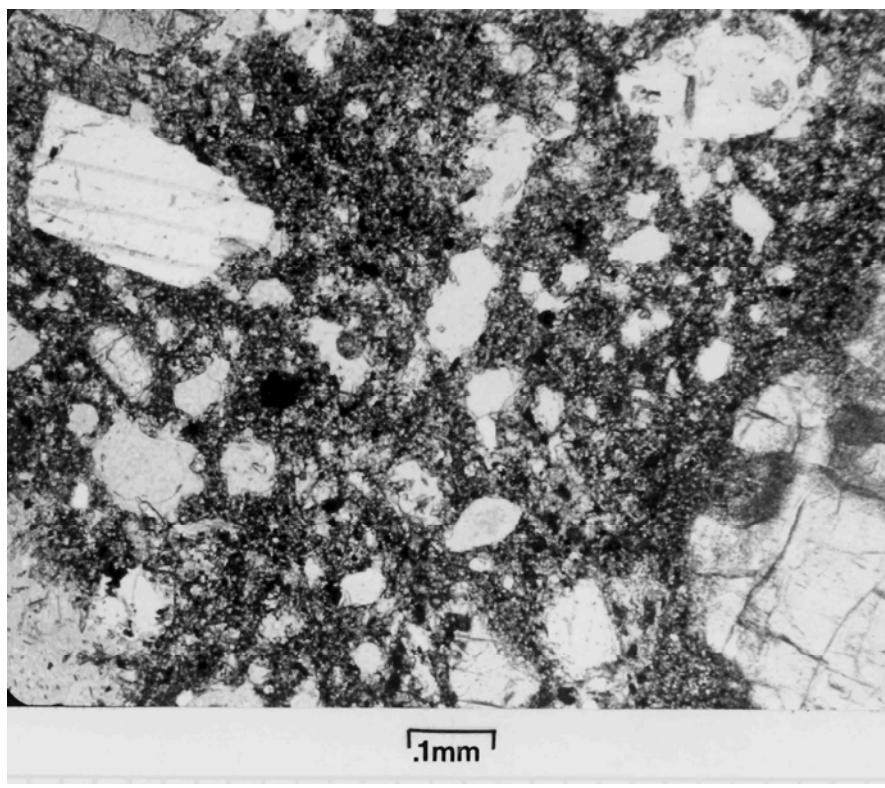
DISCUSSION

Lindstrom et al. (1972) investigated the compositional characteristics of various Apollo 14 clastic materials, including sample 14270. They describe it as lacking distinguishable clasts and noted that 14270,1 matches the composition of average microbreccia - 3 clasts from 14321,184, and is different from 14270,2,3,4, and ,5 in composition. Warner (1972) found sample 14270 to be strongly annealed and grouped it in his high grade metamorphic (7) category. Wilshire and Jackson (1972) classify it as being coherent, with dark clasts (F4). Chao et al, (1972) list it as being strongly annealed, but unshocked (2c), and Simonds et al. (1977) describe it as being a crystalline matrix breccia (CMB).

It was found to have an ^{40}Ar - ^{39}Ar gas retention age of 3.89 ± 0.05 b. y. by Alexander and Kahl (1974).



Width of image is approximately 4 cm, S-71-26613



14270,8