

## 14064

Sample 14064 was collected in the White Rocks area at Station CI and was returned in bag 16 along with 14063 and 14065 (residue) in ALSRC 1006. There was a strong feeling at the LRL that 14064 and 14063 are parts of the same rock because not only do they look very much alike, but 14064 has a protruding 1 cm clast, while 14063 has a 1 cm clast mold. Nobody was able to fit the two together, however, and Cdr. Shepard stated that he had put "a couple" of hand specimens into bag 16, which is what was found. Sample 14064 is one of those studied by the Imbrium Consortium.

### PHYSICAL CHARACTERISTICS

Mass

107.5 g

Dimensions

6.0 x 4.0 x 4.0 cm

This sample is pale gray with a leucocratic matrix and contains approximately 40% clasts and 60% matrix. The sample is friable.

### SURFACE FEATURES

Pits are glass-lined and occur on 1% of the surface. The sample is very friable and the patina covering the specimen flaked off except for traces around zap pits. The smoothly rounded surface is pocked with clast molds ranging in size from 1 to 10 mm.

Many fractures occur around clasts and two sets of planar fractures cut the rock.

### PETROGRAPHIC DESCRIPTION

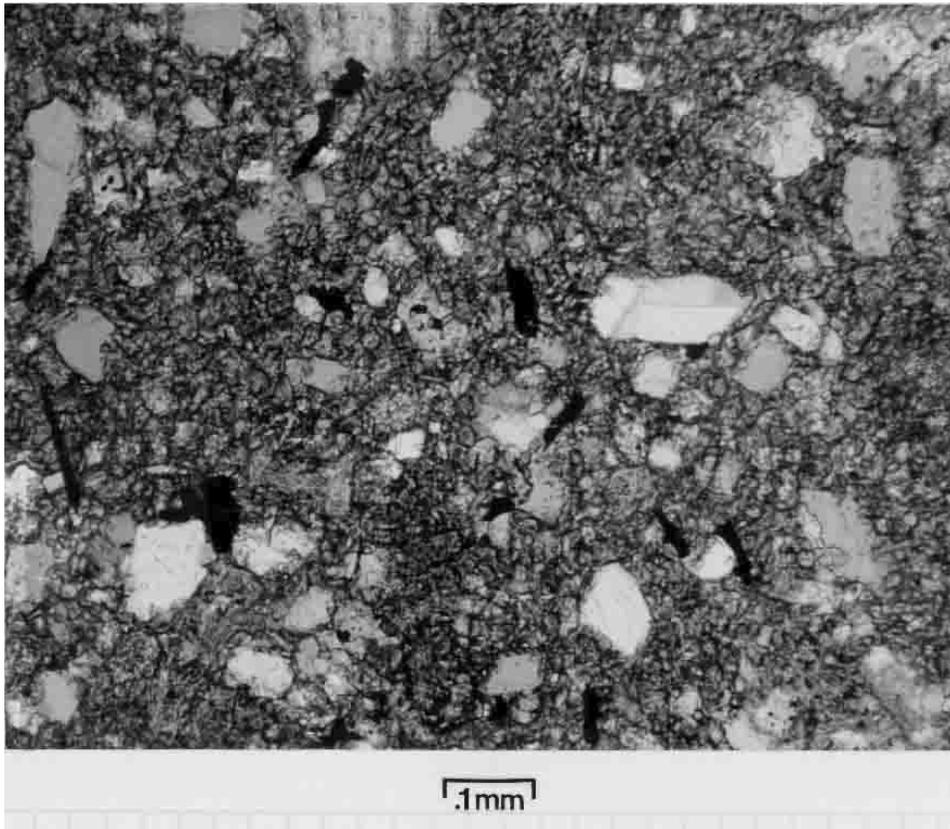
Sample 14064 is a fine grained friable "white rock". This rock was studied extensively by members of the Imbrium Consortium (1976) who discussed several clast types in great detail. They found the matrix to consist of monomict breccia zones, as is 14082/83, and 14063, rather than being homogeneous. This distinguishes these so called "White rocks" from other lunar breccias (Imbrium Consortium, 1976).

KREEP-rich melt fragments make up a large proportion of thin sections studied by the consortium. Troctolitic breccia zones are also present, consisting of plagioclase, olivine, and orthopyroxene.

Thin Section 14064,34 is a nearly holocrystalline breccia with large plagioclase clasts. The crystals are slightly shocked and blocky in outline. There are large to small fragments of a turbid brownish phase too fine-grained to be resolved. The remainder of the matrix is a seriate mixture of pyroxene and plagioclase fragments.



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14064,34

## DISCUSSION

Sample 14064 was classified by Wilshire and Jackson (1972) as F<sub>3</sub> and as an LMB by Simonds et al. (1977). The Imbrium Consortium (1976) studied it extensively, finding most of the clasts to be poikilitic; KREEP-rich melt rocks, and secondarily, plagioclase-olivine-orthopyroxene (troctolitic breccias). These areas occur as zones, distinguishing the "White Rocks" from other lunar breccias.

Ryder and Bower (1976) concluded that the KREEP-rich, fragment-laden lithology of 14064, as well as of the other White Rocks (14063 and 14082/83) is the result of crystallization of a silicate melts containing solid fragments. They felt that it is more likely that this melt resulted from the total melting by meteoritic impact, of a polymict, plagioclase-rich source region, the fragments being picked up as the melt moved outward from the point of impact.