

INTRODUCTION: 67055 is a friable polymict breccia with a light colored, feldspathic matrix and some large dark clasts (Fig. 1). The dark clasts are aphanitic impact melts. The light matrix also contains light-colored clasts including feldspathic granulitic impactites.

67055 was collected on the rim of North Ray Crater, approximately 100 meters from House Rock. The sample is blocky and subrounded. It was perched, without a fillet and its orientation is known. Zap pits occur on at least the north face.

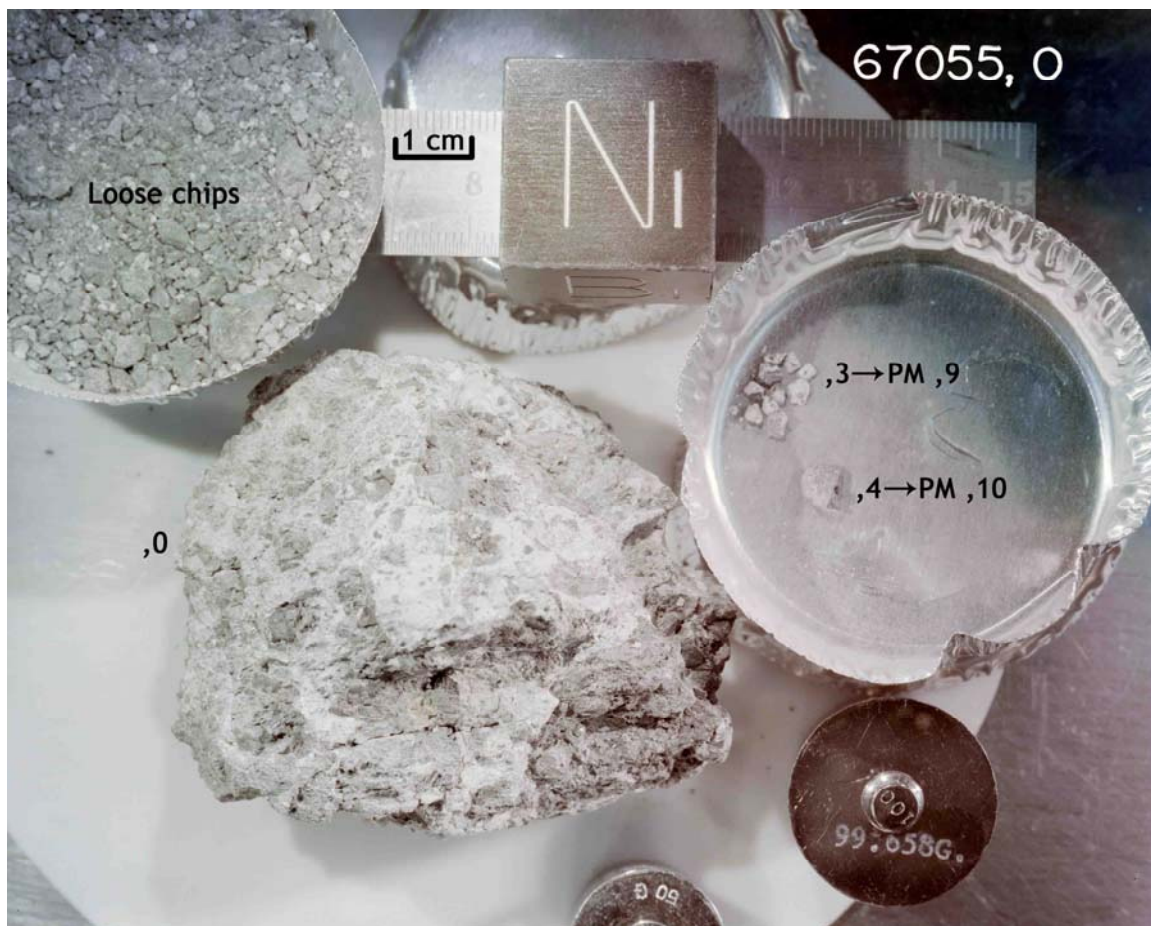


FIGURE 1. S-79-39950.

PETROLOGY: No allocations have been made but thin sections were cut for this study. Small chips (TS ,9) show that the breccia consists of a porous, fragmental, feldspathic

matrix containing a variety of clasts, which are dominated by dark, aphanitic impact melts (Fig. 2). The matrix is ~80% plagioclase with few individual plagioclase grains bigger than 200 μm ; most larger fragments are lithic clasts. Olivine, pyroxene, ilmenite, troilite, and scarce pink spinels are also present. The aphanitic melts are much more mafic (60% plagioclase?) and contain Fe-metal. Clasts of plagioclase are common in these melts. Other clasts include feldspathic granulites, coarser basaltic impact melts, and glassy breccias.

A thin section of a single aphanitic clast (,10) is of a coherent melt containing rounded clasts of plagioclase with very rare mafic and small lithic clasts (Fig. 2). The melt contains more mafic material than the clast population, but plagioclases range down to very small sizes and the ratio of plagioclase:mafic in the melt is indeterminable.

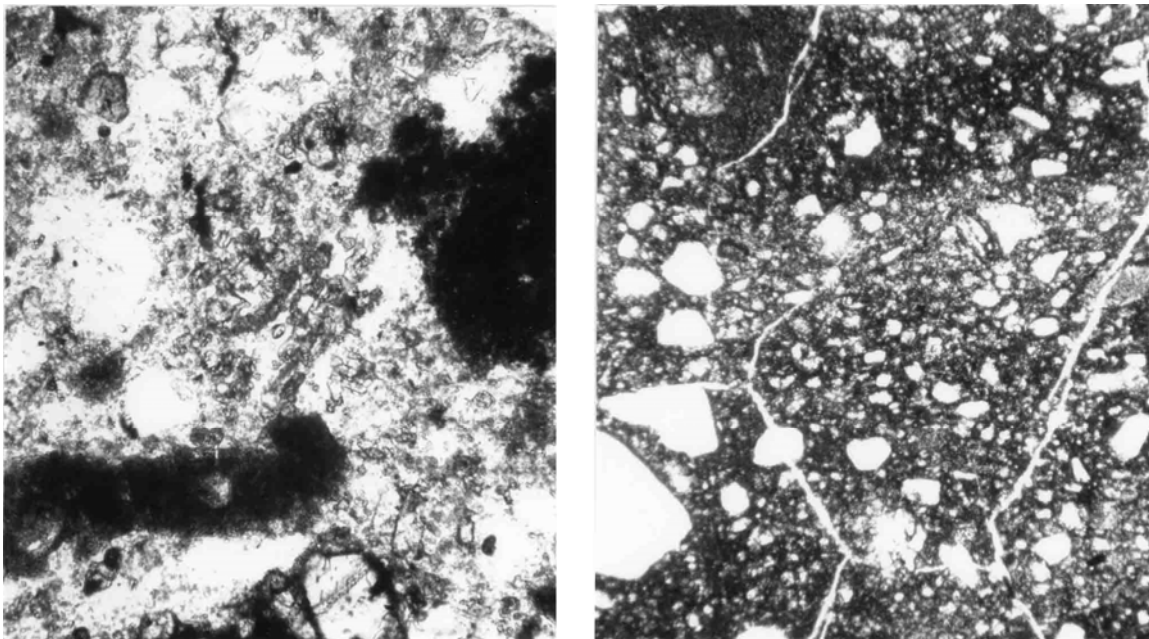


FIGURE 2. a) 67055,9. General view, ppl. Width 1 mm.
b) 67055,10. Aphanitic breccia, ppl. Width 2 mm.

CHEMISTRY: Clark and Keith (1973) and Eldridge et al. (1973) provide whole rock K ($\text{K}_2\text{O} = 0.19\%$), U (0.99 ppm) and Th (3.6 ppm) abundances. These values are extremely high for North Ray Crater samples.

EXPOSURE AGES: Yokoyama et al. (1974) conclude that the cosmogenic nuclide data of Clark and Keith (1973) and Eldridge et al. (1973) show that 67055 is saturated with ^{26}Al . Thus 67055 has been exposed for at least a few million years.

PROCESSING AND SUBDIVISIONS: 67055 was not subdivided until 1979 when loose chips (,3 and ,4) were taken for thin sections (Fig. 1).