

INTRODUCTION: 64818 is a coherent breccia (Fig. 1) composed of two lithologies: a dark, clast-laden, glassy breccia and a lighter colored, recrystallized anorthositic breccia. It is a rake sample from the rim of a small, subdued crater on Stone Mountain. Zap pits are abundant on some surfaces, absent from others.



FIGURE 1. Scale division in mm. S-72-55338.

PETROLOGY: 64818 is composed of two distinct lithologies: a glassy breccia and a recrystallized, anorthositic breccia. Warner et al. (1973) include this rock in a general petrographic discussion of Apollo 16 rake samples and classify it as a “meta-norite.”

The glassy breccia appears to coat and intrude the anorthositic lithology. It contains abundant clasts of plagioclase and, less commonly, mafic minerals in a continuous glassy matrix (Fig. 2). A single ~3 mm clast of cataclastic anorthosite was observed. The clasts have diffuse boundaries and show a poorly developed foliation.

The anorthositic breccia is an extremely cataclasized anorthosite, the finer portions of which have been recrystallized to a microgranular intergrowth of plagioclase and orthopyroxene (Fig. 2). Many of the larger fragments show severe shock effects. Phinney et al. (1976) studied this lithology using SEM techniques and found it to have a very low porosity with virtually no glass in the matrix.

PROCESSING AND SUBDIVISIONS: In 1972 a single chip (,1) of glassy matrix was removed and allocated to Phinney for thin sectioning and petrography. In 1975 the rock was broken into several pieces to fill further allocations, revealing the nature of the interior of the rock. A single chip of the anorthositic breccia (,6) was allocated for thin sections in 1975.

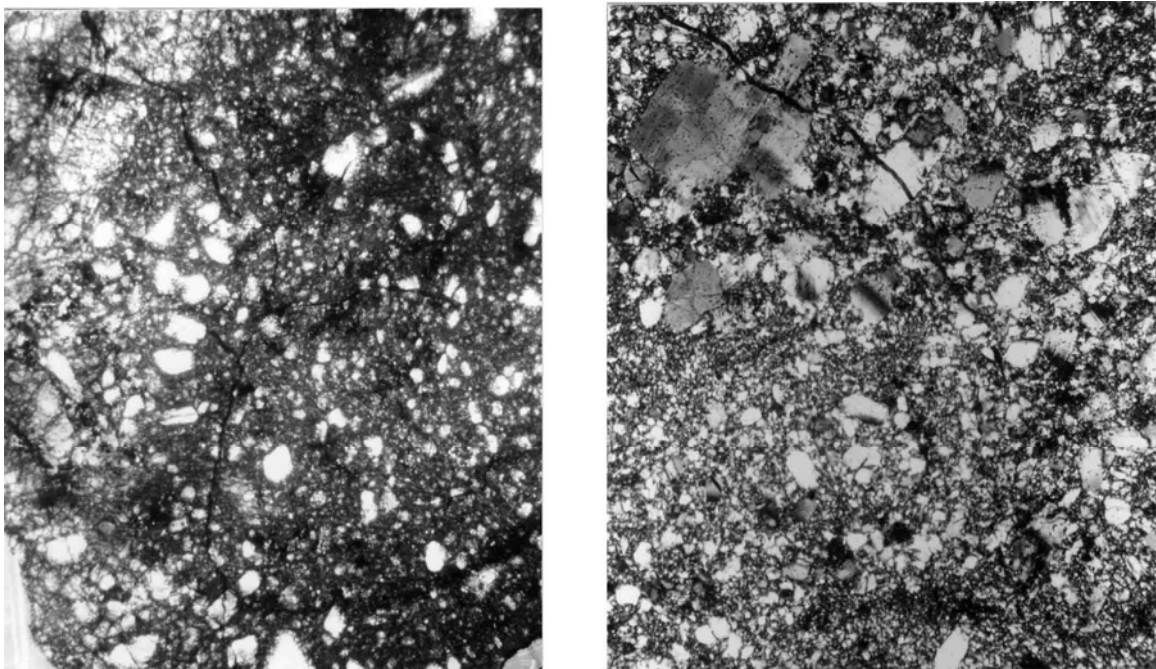


FIGURE 2. a) 64818,3, glassy breccia, ppl. Width 2 mm.
b) 64818,9, anorthositic breccia, xpl. Width 1 mm.