

INTRODUCTION: 15316 is a glassy, porous, regolith breccia, containing glass, mineral, and lithic debris in a fine-grained, brown, opaque matrix. In contrast with many other regolith breccias at Station 7, 15316 has more shocked clasts, and less distinct, reacted-appearing clast boundaries. Macroscopically it is similar to other gray-brown regolith breccias (Fig. 1). It appeared to have no zap pits. 15316 was collected as part of the rake sample from the north-east rim of Spur Crater.

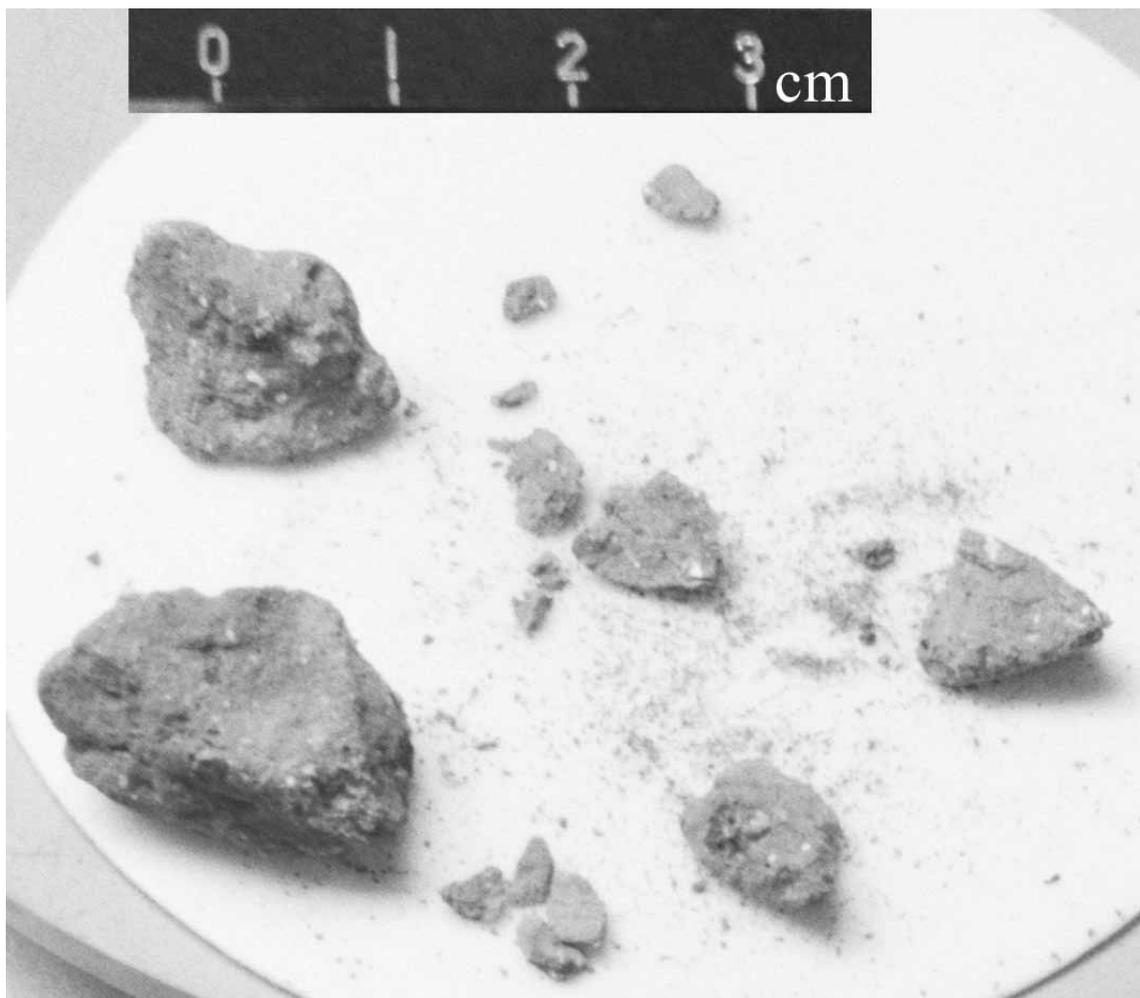


Figure 1. Post-split view of 15316. S-71-57206

PETROLOGY: 15316 appears similar to other glassy regolith breccias (Fig. 1) but in thin section it has a darker, more denser-appearing matrix, and clast boundaries are less distinct (Fig. 2). Nonetheless it is porous, and much of the glass is not devitrified. Steele et al. (1977) found it to consist of 10% glass, 5% lithic clasts (anorthosite), 40% mineral

clasts, 40% fine matrix, and 5% pore-space. They noted the reaction between the matrix and mineral clasts, and that the anorthosite clast (visible in Figure 2) was shocked. They also noted an unusual, small metal intergrowth (Fe-metal + Cr-containing sulfide) of

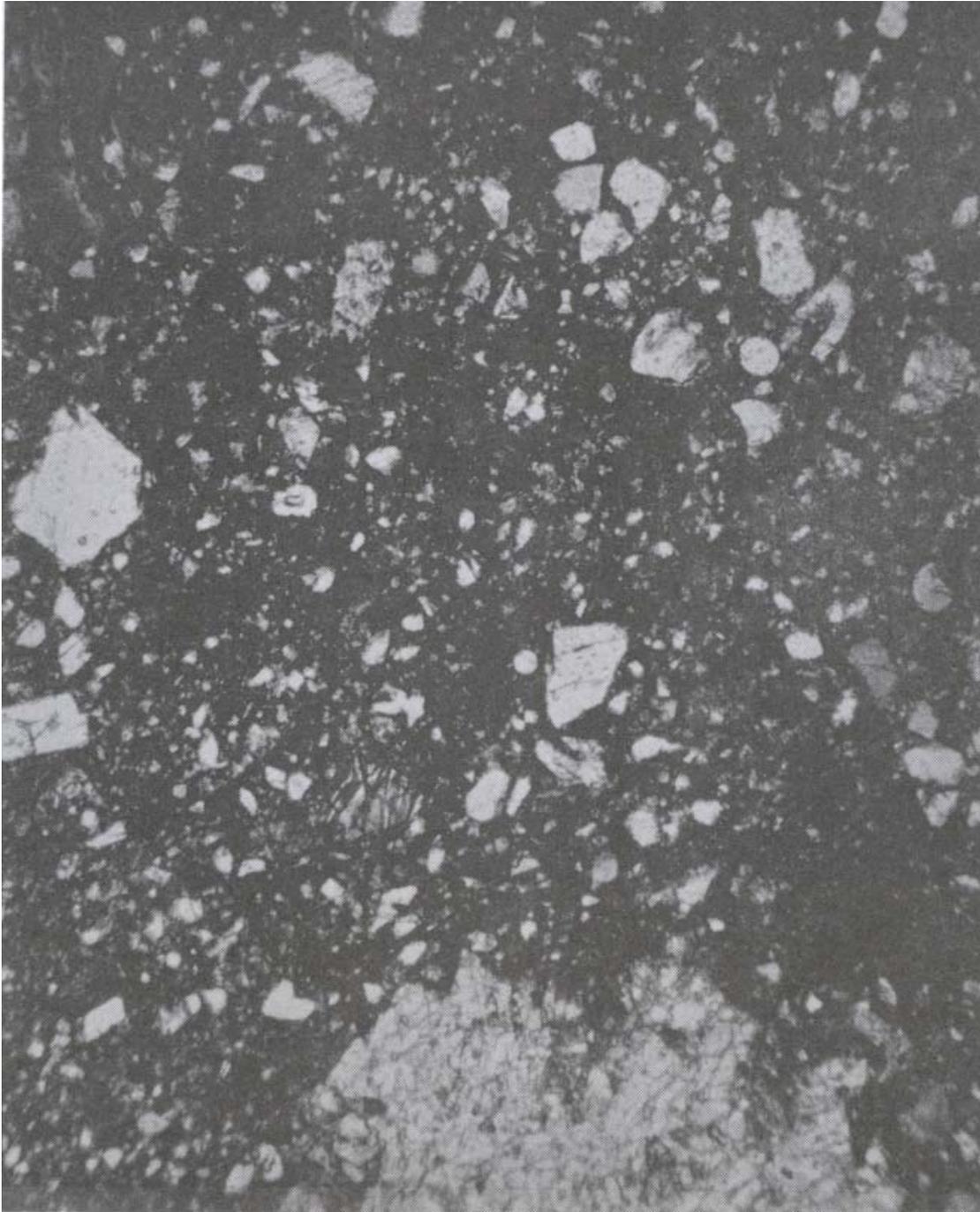


Figure 2. Photomicrograph of 15316,2, general view.
Clast in bottom center is shocked anorthosite described by Steele et al. (1977).
Transmitted light. Width about 2 mm.

possible meteoritic origin. The anorthosite has low-iron, high-Ca plagioclase, and small, minor pyroxene ($\sim\text{En}_{72-74}, \text{Wo}_{3-6}$). They also plotted an analysis of an exsolved pyroxene matrix fragment ($\text{En}_{70}\text{Wo}_3$). Steele et al. (1972b) reported that the mineral clasts included olivine ($\sim\text{Fo}_{87}$) and pink spinel, and a wide range of pyroxene compositions (Fig. 3). These pyroxenes include both mare and highlands compositions.

Other lithic clasts include small mare basalt and fine-grained, brown glassy breccias. Glasses are dominantly green glass spheres, but small lapilli-like glasses are also present.

PROCESSING AND SUBDIVISIONS: 15316 was chipped (Fig. 4). ,0 is now 3.61 g, and ,1 is 1.95 g. ,2 was mainly used to produce thin sections ,2 and ,6 with small potted butts ,8 and ,9 remaining.

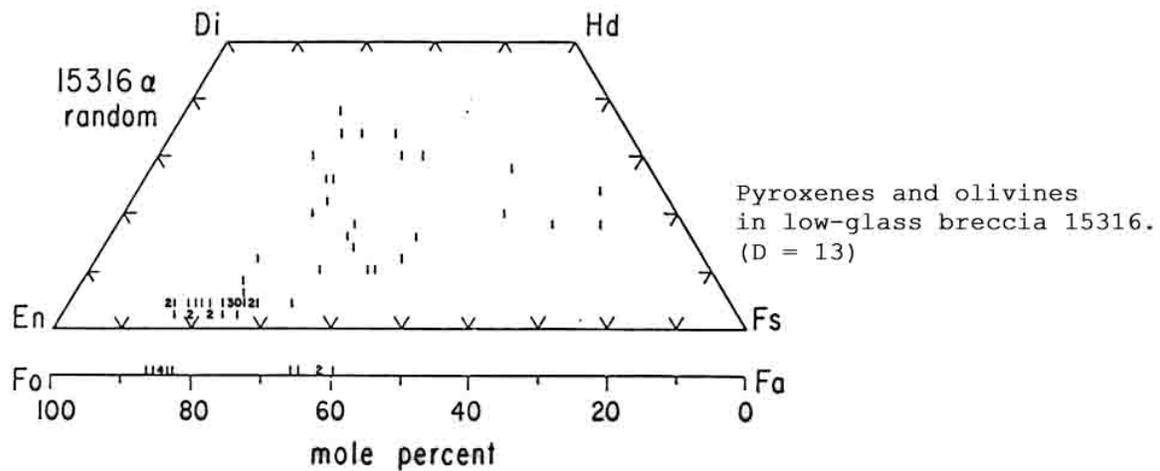


Figure 3. Compositions of mafic minerals in 15316 (Steele et al., 1972b).

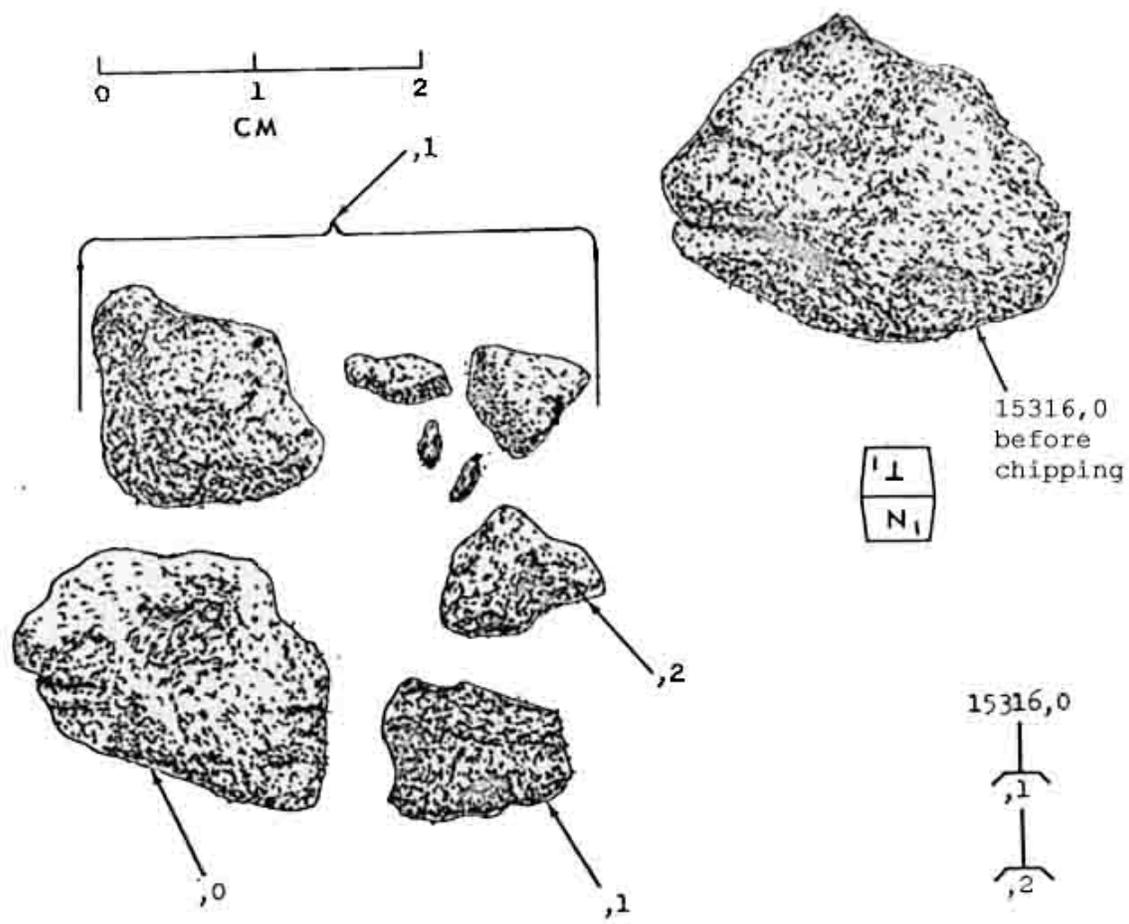


Figure 4. Splitting of 15316.