

INTRODUCTION: 15378 is a glassy-matrix regolith breccia which is somewhat friable. It contains lithic clasts, including KREEP basalts, mineral fragments, and glass balls, shards, and lapilli. Apart from green glass, any mare component is inconspicuous. One large lithic clast is conspicuous (Fig. 1). The sample lacks zap pits and has slickensides on at least one side. It was collected as part of the rake sample from the north-east rim of Spur Crater.

PETROLOGY: Brief reports of the petrography of 15378 were made by Steele et al. (1972a, 1977), with microprobe analyses of minerals. The sample is a glassy, opaque breccia (Fig. 2). According to Steele et al. (1977) thin section ,2 consists of 20% glass, 5% lithic clasts, 30% mineral fragments, and 45% fine matrix, without porosity. However, thin section ,6 does appear to be porous (Fig. 2b). The sample contains several igneous-textured clasts, including KREEP basalts (for which mineral data are given by Steele et al., 1977), and fine-grained breccia fragments.

Plagioclase mineral clasts are calcic ($An_{95.97}$) with less than 0.2% Fe, indicating a non-mare source other than KREEP (Steele et al., 1972a). Pyroxene mineral data is diagrammed by Steele et al., 1972a) and is highland in origin. The mineral fragments in ,6 include opaque minerals.

The large lithic fragment conspicuous in Figure 1 consists of light brown, yellow, and white minerals, but does not occur in the thin sections. One red-brown fragment larger than 1 mm is visible macroscopically.

PROCESSING AND SUBDIVISIONS: ,1 was chipped from the parent, then subsplit into ,1 and ,2 (Fig. 3). From ,2 the three thin sections ,2; ,3; and ,6 were made, all general matrix. The large lithic fragment appears to remain both in ,0 (2.47 g) and in ,1, which was originally chipped to contain it.

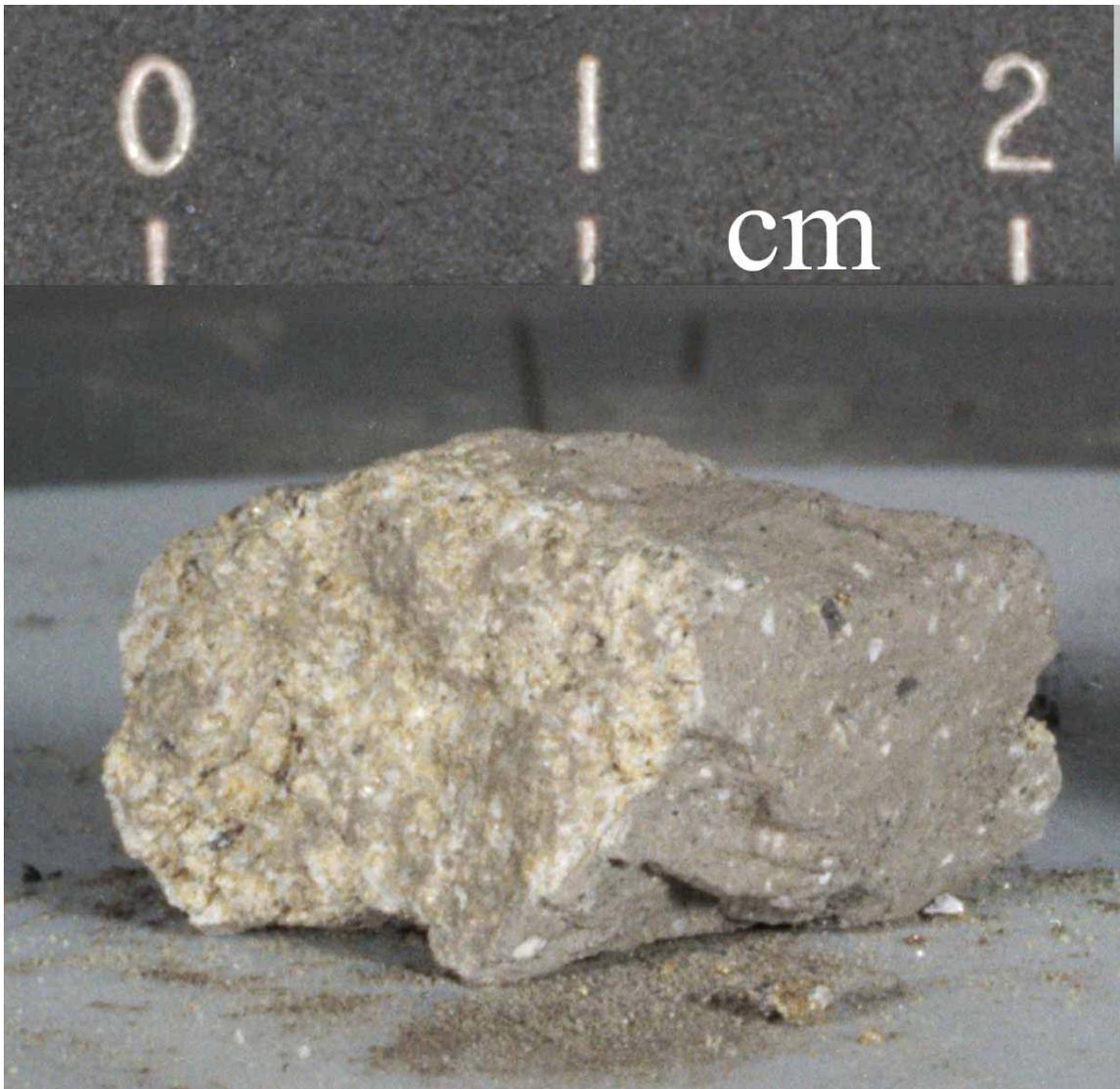


Figure 1. Macroscopic view of unprocessed sample, showing general dark matrix (right), and lithic clast (left). S-71-49078

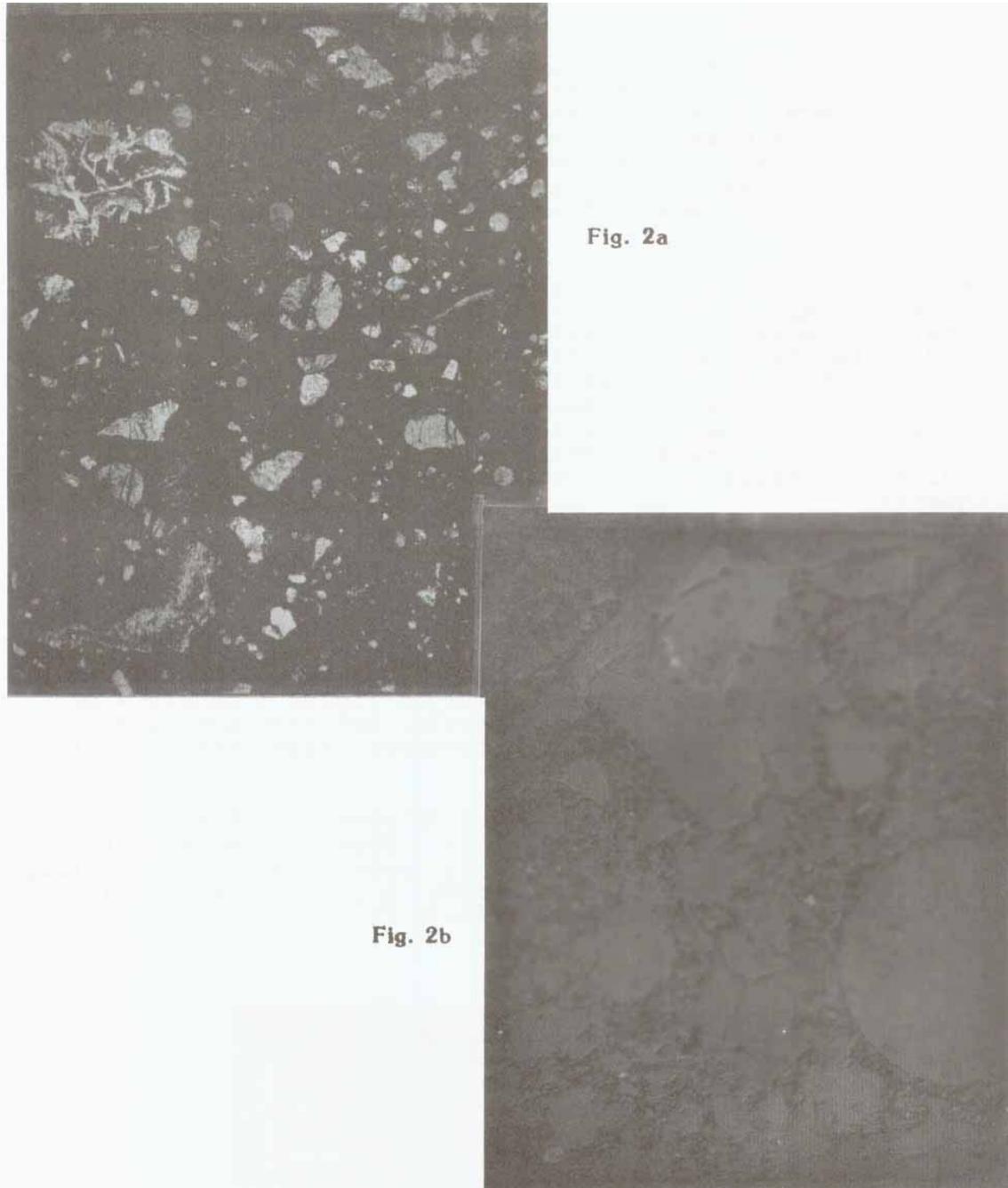


Figure 2. Photomicrographs of 15378,6.

- a) general matrix showing green glass balls, KREEP basalt (upper left), and glass lapilli (lower left) in an opaque matrix. Transmitted light. Width about 2 mm.
- b) reflected light view showing porosity of matrix, green glass ball, and lithic and mineral fragments. Width about 125 microns.

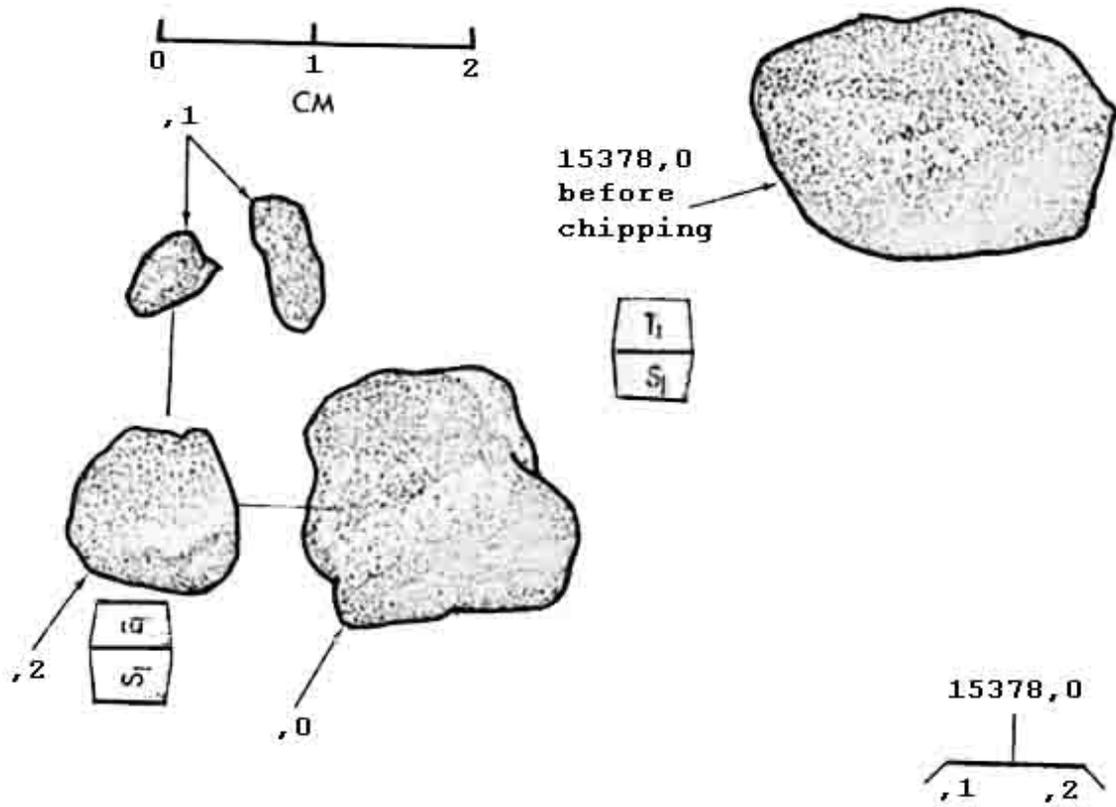


Figure 3. Chipping of 15378