15318 REGOLITH BRECCIA ST. 7 5.4 g

INTRODUCTION: 15318 is a glassy regolith breccia, containing varied glass, mineral, and lithic debris in a fine, glassy but friable matrix (Fig. 1). Mare basalt debris is present. The sample is gray-brown, rounded, and was dusty, with two large zap pits on one side. The sample was collected as part of the rake sample from the north-east rim of Spur Crater.

PETROLOGY: 15318 is a porous, glassy, regolith breccia (Fig. 2). Most glass is undevitrified, but some is devitrified. Green glass is most common, but pale yellow glass is prominent, some as spheres, and red/orange glass occurs as very small and sparse spheres and fragments. Dowty et al. (1973b) described 15318 as a polymict microbreccia, and noted the many mineral clasts, which are mostly feldspar. Lithic clasts include shocked and recrystallized fragments which appear noritic. The clasts in Figure 2b include a mare basalt (lower center), and a feldspathic breccia, possibly granulitic (upper center). Small KREEP basalt fragments are also present.

Hlava et al. (1973) reported analyses of glasses ranging from aluminous, highlands impact glasses to mare volcanic glasses. Their analysis of a red/orange glass was used as a starting composition for melting experiments by Kesson (1975, 1977). The composition might represent one of the least fractionated, most primitive high-Ti mare basalts. Olivine is the liquidus phase to at least 22 Kb, but at pressures of 25 to 30 Kb should be replaced by pyroxene. Delano (1980b) also analyzed red glasses in 15318, as well as 15425, 15426, and 15427, finding three distinct groups. Experiments on the most-magnesian group indicated multiple saturation at depths of over 400 km in the moon. The specific analyses from 15318 were not identified. Delano (1980a, 1981) analyzed yellow glasses in the same four samples, again without specifying which analyses were from 15318. The yellow glasses form two groups, one volcanic, the other impact in origin.

PROCESSING AND SUBDIVISIONS: 15318 had one end chipped off (Fig. 1) to produce ,1, part of which was made into thin sections ,2; ,6; and ,8. A potted butt remains. ,0 is now 4.4 g.

Figure 1. Post-split view of 15318,0 (left) and ,1 (right). S-71-59126

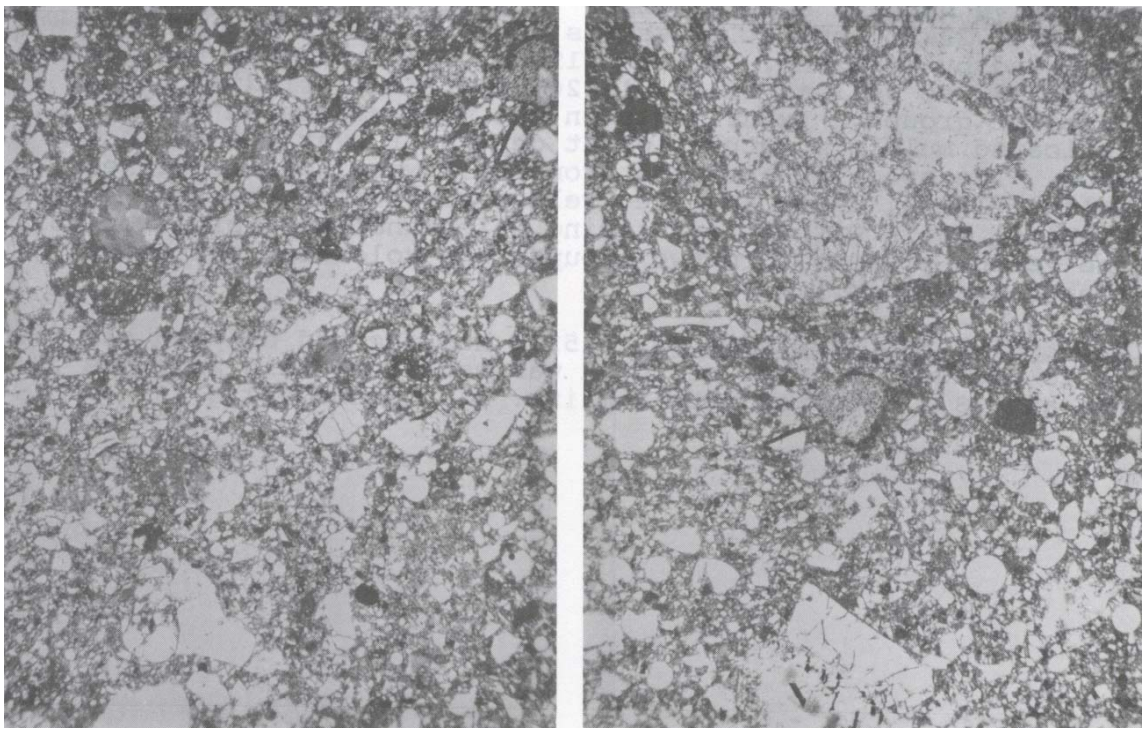

Figure 2. Photomicrographs of 15318,6. Transmitted light. Widths about 2mm. b) shows two clasts, a mare basalt (lower) and a feldspathic breccia (upper).