

15670 MEDIUM-GRAINED OLIVINE-NORMATIVE ST. 9A 2.00 g
MARE BASALT

INTRODUCTION: 15670 is a medium-grained olivine-bearing mare basalt which is vuggy (Fig. 1). Some olivines form phenocrysts up to 2 mm across, and pyroxenes are up to 3 mm long. One small area is rounded and has a glass patch; there are no zap pits. 15670 was collected as part of the rake sample from Station 9A.



Figure 1. Pre-chip view of 15670. S-71-49761

PETROLOGY: 15670 is an olivine-bearing mare basalt (Fig. 2). The dominant phase is pyroxene which includes small granular grains and large (up to 3 mm long) zoned and twinned pigeonites. A few olivines are phenocrysts up to 2 mm across which are anhedral and contain crystallized silicate melt inclusions. The groundmass is an ophitic to subophitic arrangement of smaller pyroxenes and some olivines, and plagioclase. Opaques range from chromite to ulvospinel to ilmenite. Cristobalite is present. Steele et al. (1980) used the ion probe to analyze for minor elements in plagioclase, reporting 13

ppm Li, 1570 ppm Mg, 465 ppm K, 325 ppm Sr, and 25 ppm Ba, for an $An_{90.1}$ composition. The reported value of 4.5 ppm Ti is evidently a typographic error; comparison with the plotted data suggests the true value is 405 ppm. Hence these plagioclases have the high Mg, Sr, and Ti of other mare basalts.

PROCESSING AND SUBDIVISIONS: 15670 was chipped into three pieces. ,0 is now 1.24 g and ,1 is 0.18 g. ,2 was mainly used up in making thin sections ,2 and ,6.

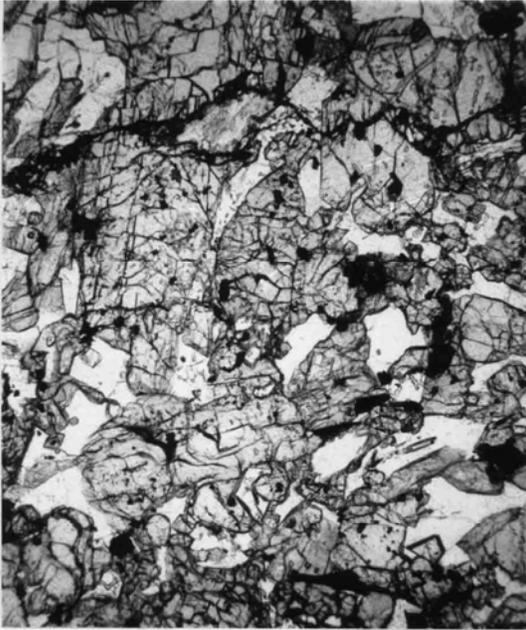


Fig. 2a



Fig. 2b

Figure 2. Photomicrograph of 15670,2. Widths about 3 mm.
a) transmitted light; b) crossed polarizers.