

15538 MEDIUM-GRAINED OLIVINE-NORMATIVE ST. 9A 2.60 g
MARE BASALT

INTRODUCTION: 15538 is a medium-grained olivine-bearing basalt with a texture and grain-size very similar to 15536, i.e., plagioclase-poikilitic and olivine-phyric. The sample is light or medium-gray, blocky, angular, and tough, with plagioclase-rich and pyroxene-rich bands like 15536. Only one side has zap pits, and the sample is probably a spall (perhaps from 15536 itself). The sample has 2% vugs, confined to the mafic bands. The pyroxenes are brown, the olivines yellow-green.

15538 was collected from the north rim of a moderately fresh, blocky, 3 m-diameter young crater, about 20 m east of the rim of Hadley Rille. It has not been identified on photographs.

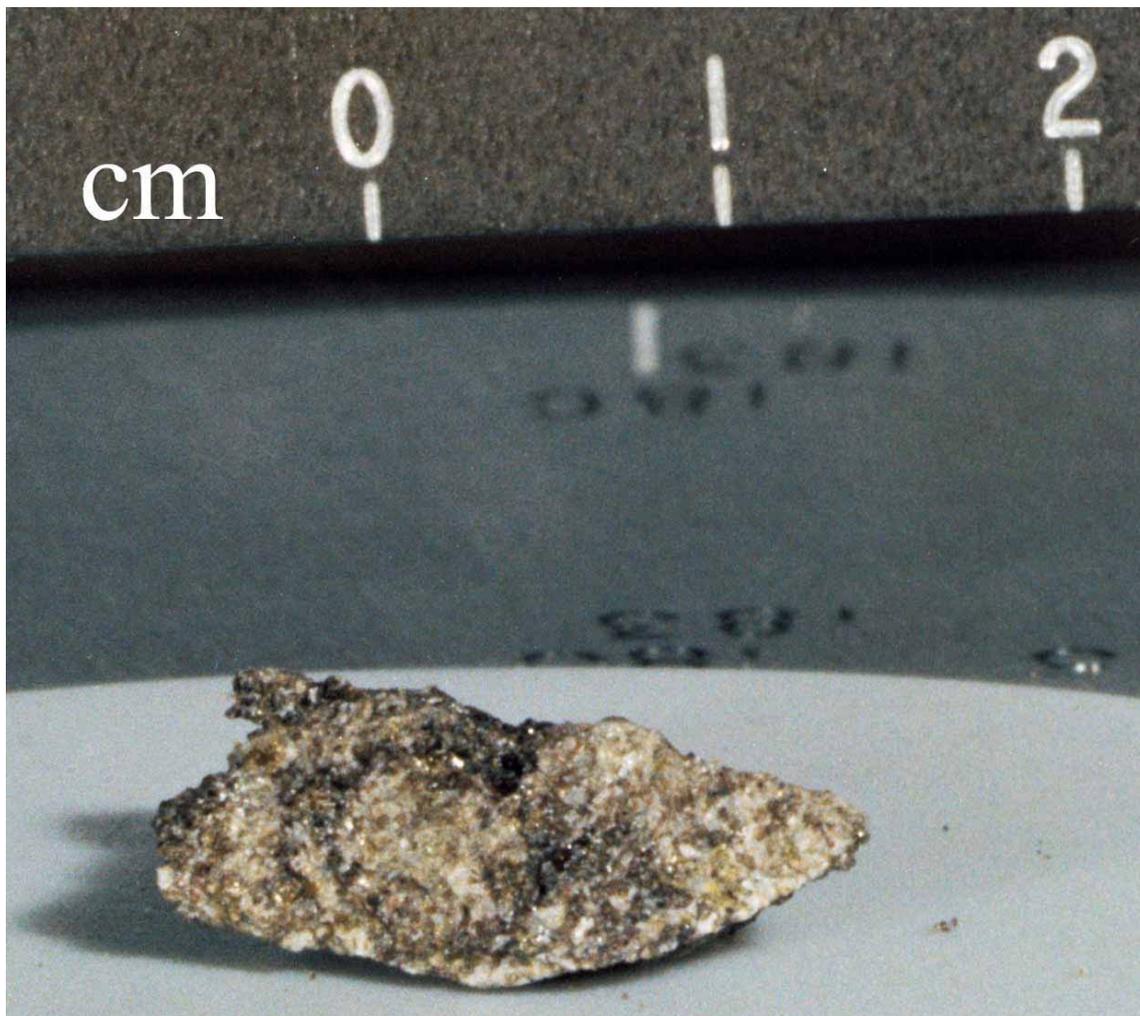


Figure 1. Pre-split view of 15538. S-71-44810

PETROLOGY: 15538 is a medium-grained, plagioclase-poikilitic mare basalt (Fig. 2) with olivine phenocrysts and is petrographically indistinguishable from 15536. It has the same grain-sizes, textures, and segregation into plagioclase-rich and plagioclase-poor areas. The olivine phenocrysts are not present in the (small) thin sections. Cristobalite and fayalite are conspicuous in the mafic-rich clusters. Sewell et al. (1974) tabulated five clinopyroxene and four plagioclase microprobe analyses. Wark et al. (1973) tabulated a comprehensive microprobe analysis of a zirconolite grain.

PROCESSING AND SUBDIVISIONS: A small chip ,1 was removed and entirely used to make thin sections ,4 and ,5. ,0 is now 2.40 g.

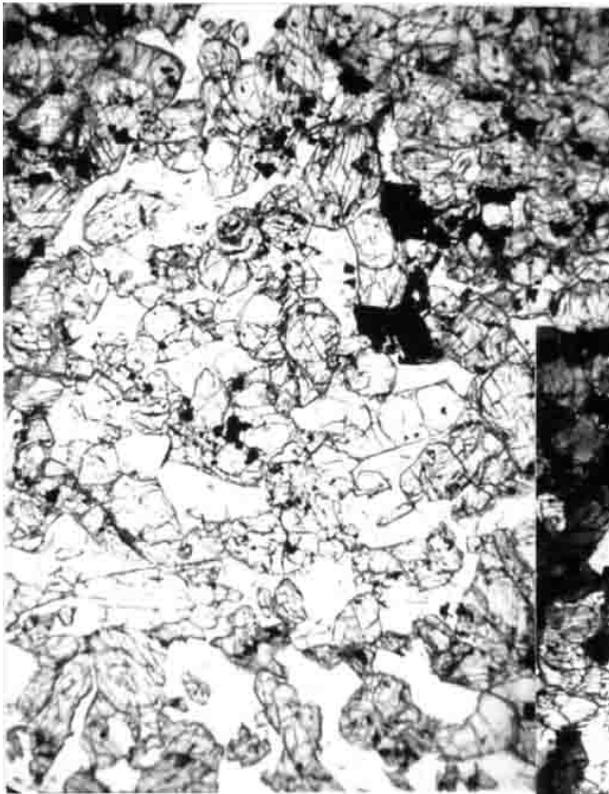


Fig. 2a

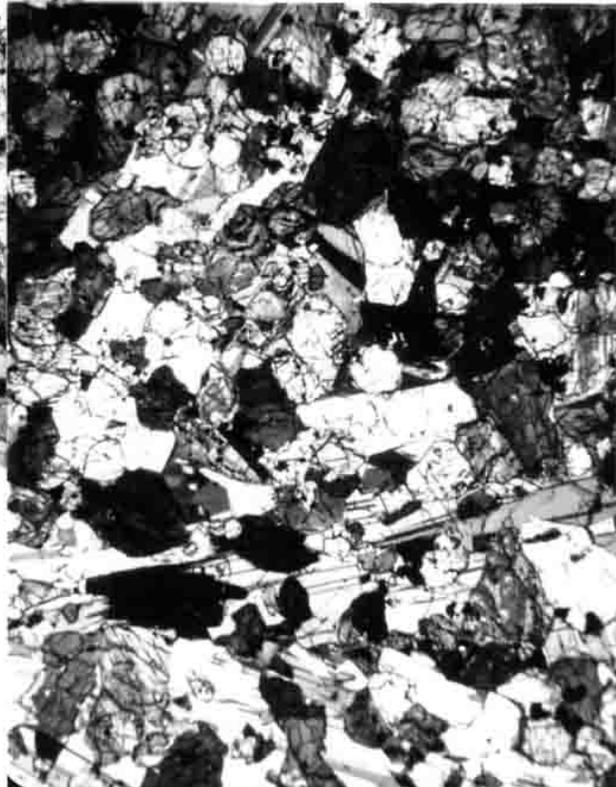


Fig. 2b

Figure 2. Photomicrographs of 15538,4 showing plagioclase-rich zone (bottom) and mafic-rich zone (upper). Widths about 3 mm. a) transmitted light; b) crossed polarizers.