

15537 MEDIUM-GRAINED OLIVINE-NORMATIVE ST. 9A 1.90 g
MARE BASALT

INTRODUCTION: 15537 is a medium-grained olivine-bearing basalt. It is neither plagioclase-poikilitic nor olivine-phyric. It is a medium dark to brownish gray, angular, blocky, coherent, and vesicular fragment. The pyroxenes are brown, the olivines are yellow green. The vesicles are about 10% of the rock and average about 1 mm but some are as big as 3 mm. Zap pits are absent from one fresh face.

15537 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.

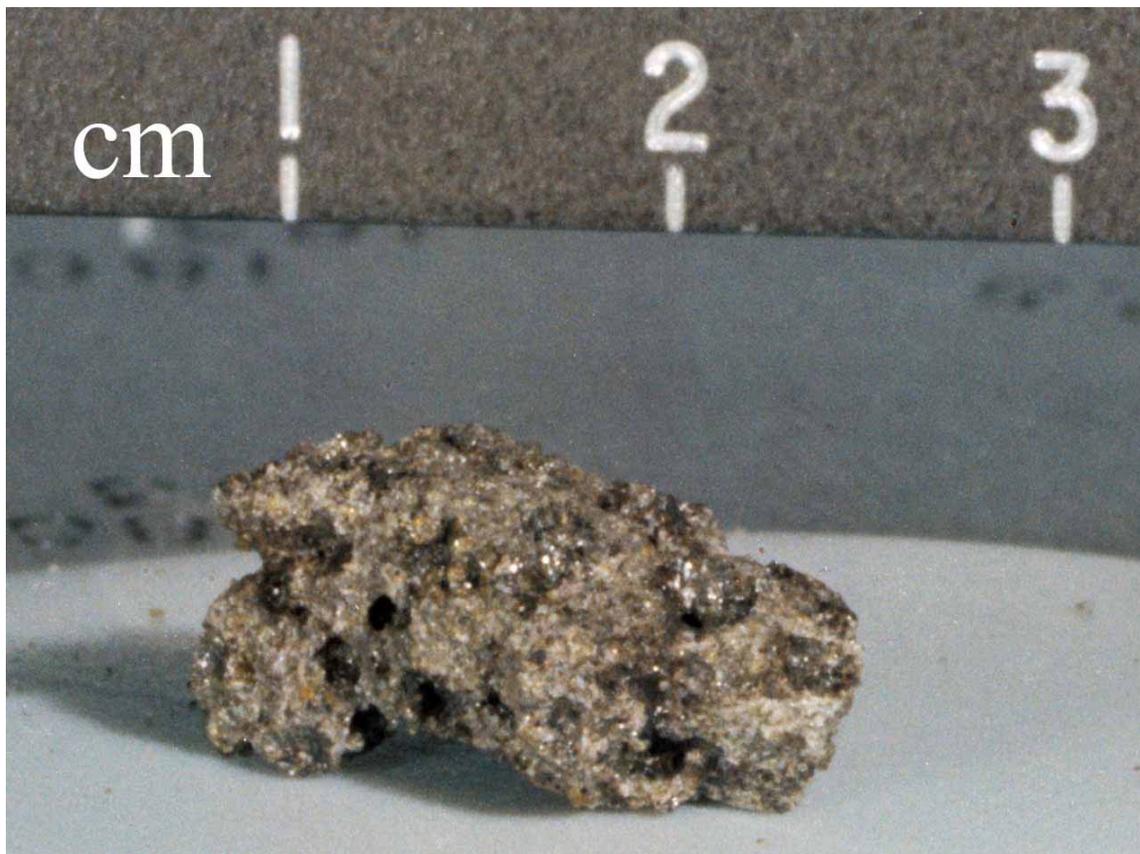


Figure 1. Pre-chip view of 15537. S-71-44523

PETROLOGY: 15537 is a medium-grained, olivine-bearing mare basalt (Fig. 2). The dominant phase is pyroxene, which occurs in grains up to 2 mm long. The olivines are not phenocrysts, most being less than 400 microns across and embedded in larger pyroxenes (Fig. 2c). The olivines are corroded, and several are polygonal aggregates. Some have silicate liquid inclusions. The plagioclases form laths, and are not poikilitic; most are less than 1 mm long. Chromite, ulvospinel, and ilmenite are present, but chromite is rare. Minor amounts of residual phases (glass, phosphate, troilite, fayalite) are present, but only one small grain of cristobalite is present in the thin section.

PROCESSING AND SUBDIVISIONS: A small chip ,1 was removed, and partly used to make thin section ,4. ,0 (1.53 g) consists of one main chip, a small piece, and fines.

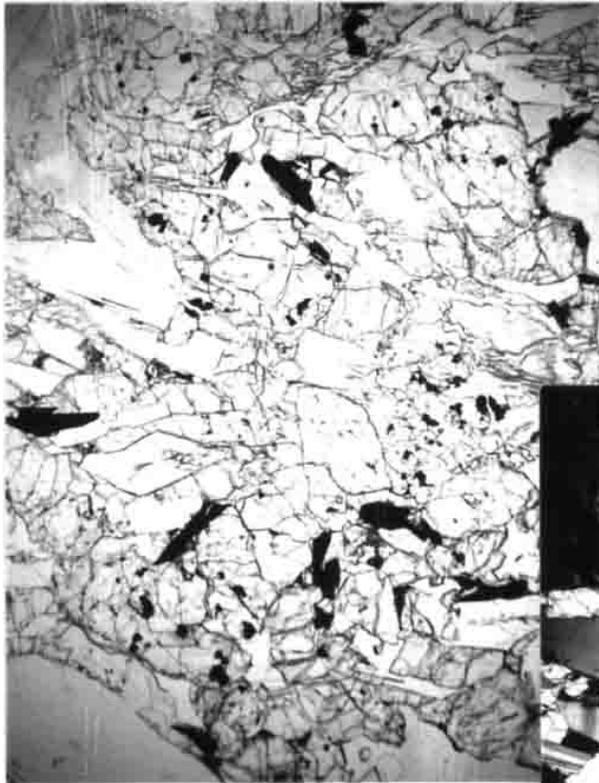


Fig. 2a

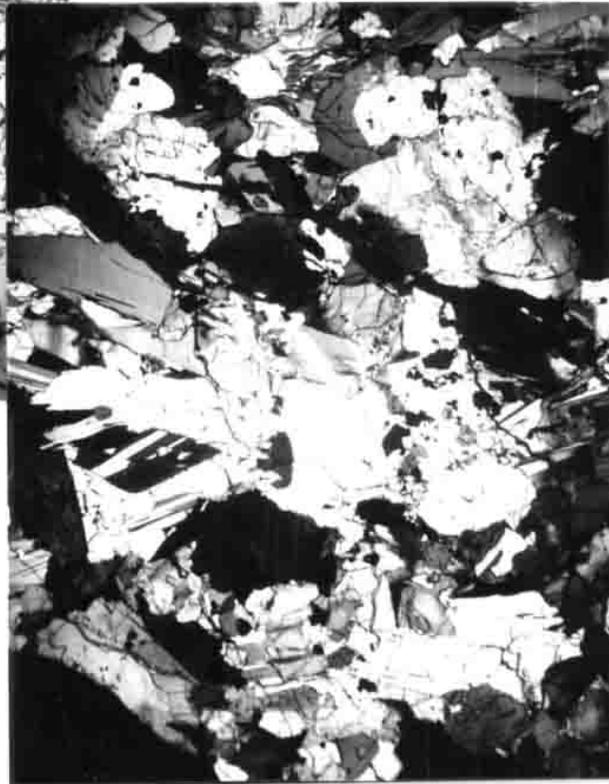


Fig. 2b



Fig. 2c

Figure 2. Photomicrographs of 15537.4. a) transmitted light; b) and c) crossed polarizers, a) and b) general view, showing mafic nature and lathy plagioclases. Width about 3 mm. c) olivines (dark) embedded in pyroxene (white). Width about 750 microns.