15547 COARSE-GRAINED OLIVINE-NORMATIVE MARE BASALT ST. 9A 20.1 g

INTRODUCTION: 15547 is a coarse-grained, granular olivine-normative mare basalt (Fig. 1). It contains olivine, most of which is not phenocrystic. The yellow-green olivines are conspicuous macroscopically. The sample is angular and tough. Slickensides occur on one face. A few zap pits occur on two sides, and vugs are present. 15547 was collected in the vicinity of the moderately fresh, blocky, 3 m-diameter crater from which 15535 and 15536 were sampled, but it has not been identified on photographs.

Figure 1. Pre-chip, macroscopic view of 15547. S-71-44969

PETROLOGY: 15546 is a coarse-grained olivine-normative mare basalt consisting of generally large, anhedral crystals (Fig. 2), i.e., it is granular, not diabasic. Olivines are sparse, irregular, most less than 1 mm across, and form cores to or inclusions in the dominant pigeonite. A few olivines have silicate liquid inclusions. Small, euhedral olivines are enclosed ophitically in plagioclase, which are about 2 mm across and have irregular twinning. Several pyroxenes are either irregularly zoned or shocked; some are twinned, cristobalite is ubiquitous, and fayalite, sulfate, ilmenite, and rare glass form a residuum. Opaque phases include chromite, ulvospinel, ilmenite, and rare Fe-metal. The texture of 15547 is very similar to that of 15546 but it is a little coarser-grained.

PROCESSING AND SUBDIVISIONS: Several chips were removed from 15547, and ,0 is now only 12.51 g. ,1 (4.65 g) consists of several chips from different parts of the rock. ,2 was a single chip, partly used to make thin sections ,6 to ,8.

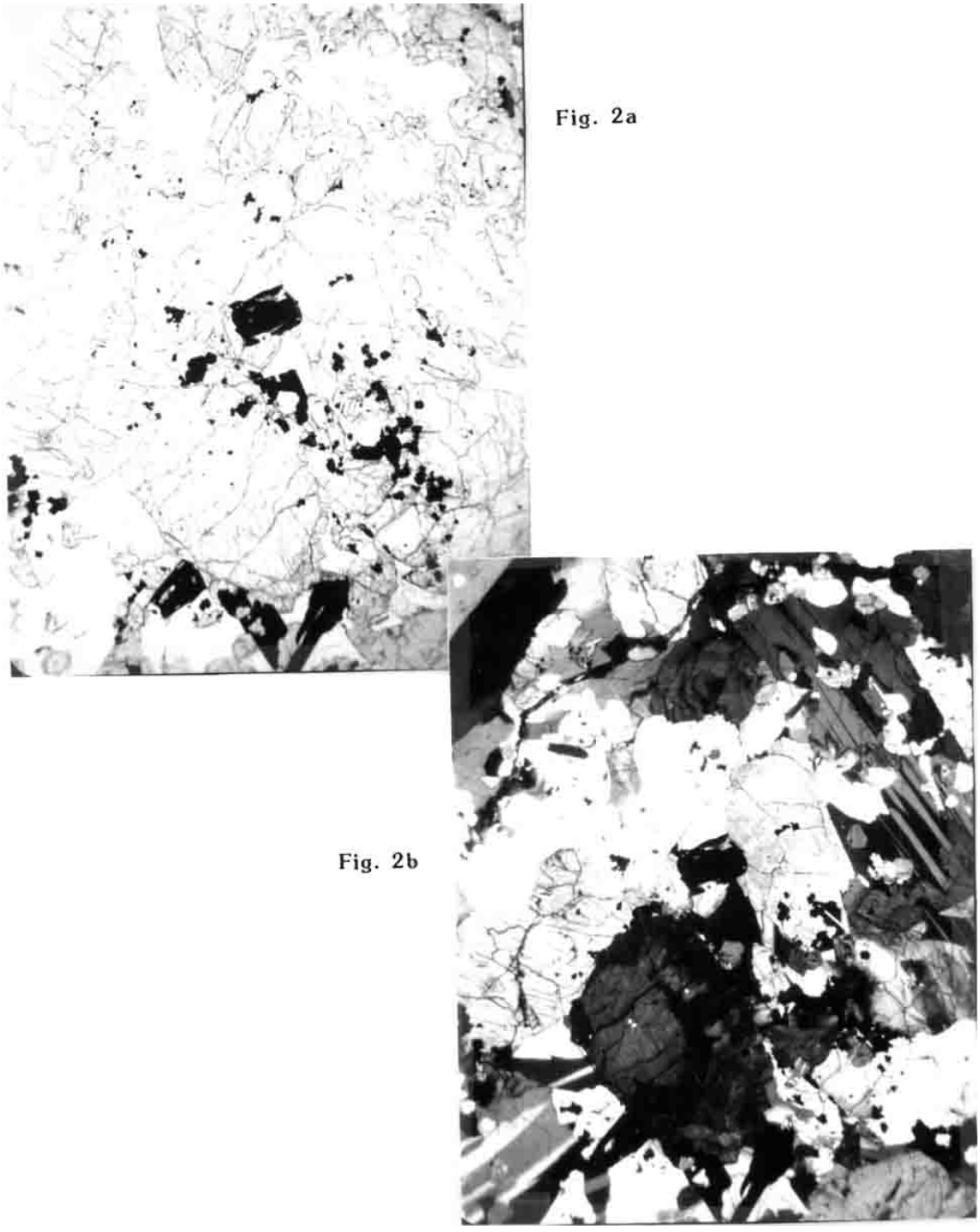

Figure 2. Photomicrographs of 15547,7. Widths about 5 mm. To left and upper right are euhedral olivines and some pyroxenes enclosed in plagioclase. Lower center is an anhedral, larger (about 0.5 mm) olivine, a) transmitted light; b) crossed polarizers.