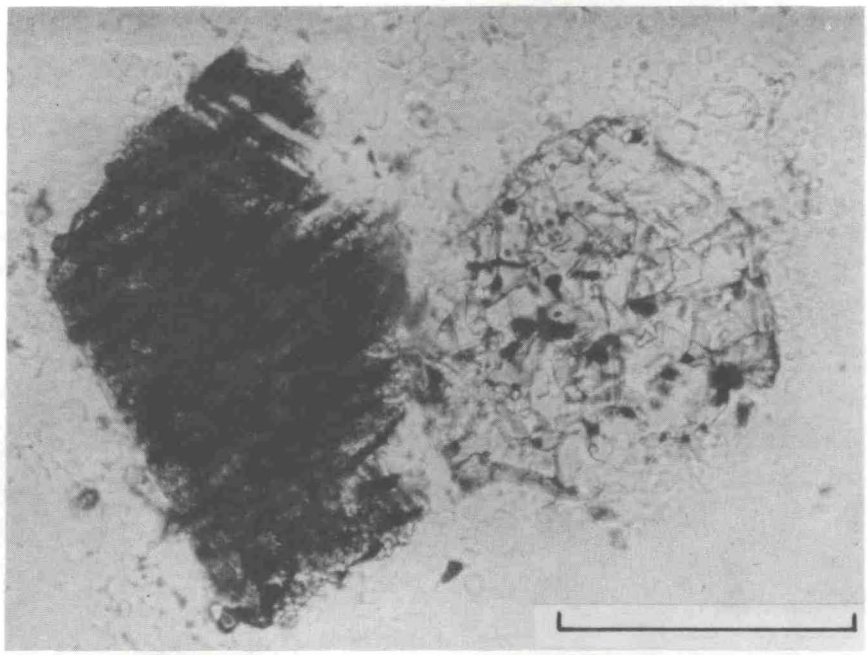

Figure 5. Very fine-grained feldspathic fragment (anorthosite?) (right), associated with fine-grained basaltic rock showing apparently oriented (quench?) opaque phases (left). The anorthositic fragment is microgranular and composed chiefly of plagioclase feldspar, apparently with minor pyroxene and opaque phases. Fragment 318,474 (left); plane polarized light; scale bar 0.1 mm.

A few feldspathic rocks show a uniform granular texture (primary?) (Figures 5, 7, 8) and are characterized by a relatively low content of opaques ($\leq$5 percent), by a predominance of plagioclase, and, in one analyzed fragment (301,4) by a lower TiO_2 content in the pyroxene (0-2 wt. percent) than that determined for a few basaltic pyroxenes (2.5 - 4 wt. percent) (Table 2). Area scans of light microbreccia fragments with a defocussed electron beam (Table 2) indicate a range of compositions corresponding to at least 50-75 percent plagioclase, with pyroxene as most of the remainder. Too few analyses were made to establish whether the pyroxene in the feldspathic rocks is consistently lower in Ca than the clinopyroxene in the basaltic rocks.

SHOCK-METAMORPHIC EFFECTS

Introduction

The Luna-16 soil fragments display numerous features characteristic of shock metamorphism produced by meteorite impact and virtually identical to features observed in Apollo 11 and 12 material. Two chief types of shock-metamorphic effects were observed: (1) unusual deformational features in

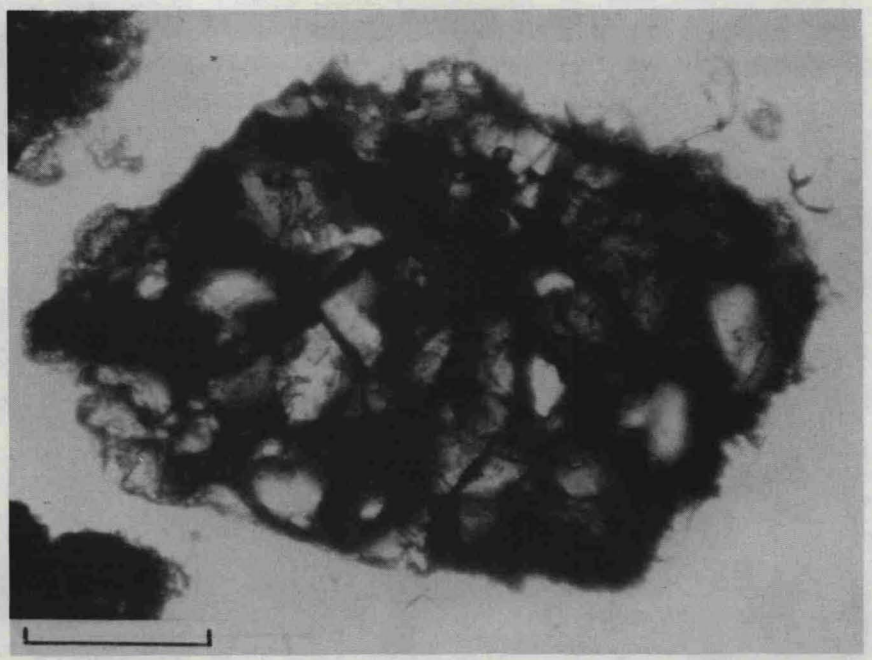

Figure 6A. Shock-metamorphosed(?) microgranular noritic fragment, composed of weakly birefringent pyroxene (gray) and nearly isotropic plagioclase(?) (clear). Dark brown intergranular areas are probably glass produced by incipient post-shock melting along grain boundaries. Fragment 301,4; plane polarized light; scale bar 0.1 mm.

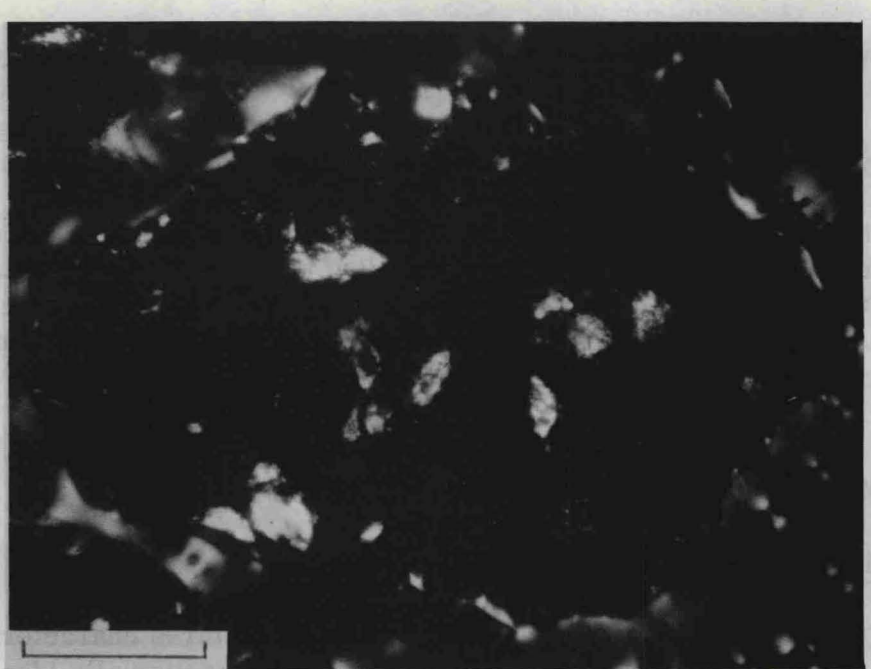

Figure 6B. Same view as Figure 6A; crossed polarizers. Virtually all of the plagioclase and most of the pyroxene grains have little or no birefringence. Most of the grains showing significant birefringence are apparently pyroxene.