tain small inclusions of quartz and, rarely, apatite. The matrix contains mainly quartz and orthoclase microlites (generally 0.05 mm to 20 microns in diameter) with small, rounded, opaque minerals and rare chlorite. Matrix feldspars are partially replaced by white micas. Rare aggregates of white mica and chlorite (about 1 mm long) indicate the probable presence of former mafic phenocrysts.

One sample (ET–10) contains quartz microveinlets, possibly indicating hydrothermal alteration.

The quartz and feldspar matrix was originally the glassy matrix of an ash-flow tuff, now devitrified. The quartz veinlets, and replacement of feldspar by clays and white micas, support the conclusion of Ham and others (1964) that the rhyolite has been locally metamorphosed or hydrothermally altered.

Microscopically, the Pratt Hill quartzite is variable in composition, although quartz and white micas are the dominant minerals (figs. 31–33). Quartz ranges from a low of 37 percent to more than 99 percent (table 12), and averages about 50 percent. Quartz is angular to subangular, and where grains

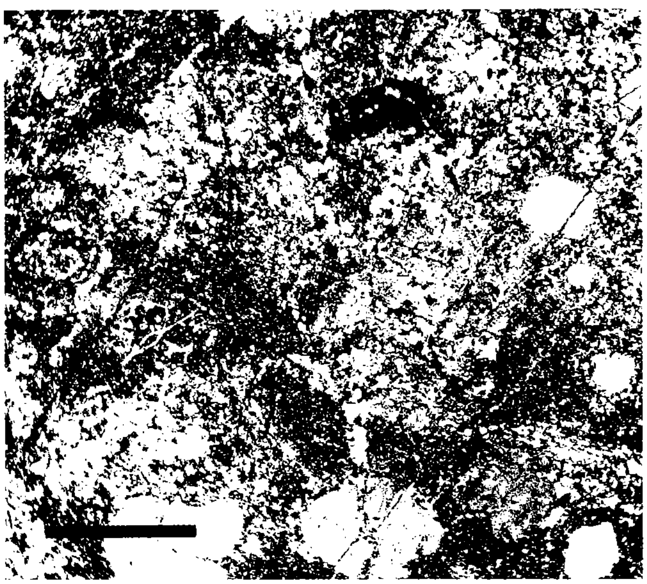

Figure 30. Photomicrograph (crossed polars) of Carlton rhyolite showing quartz and partly altered alkali feldspar phenocrysts. Sample (ET–10) collected at basal contact of rhyolite. Bar is 2.5 mm.

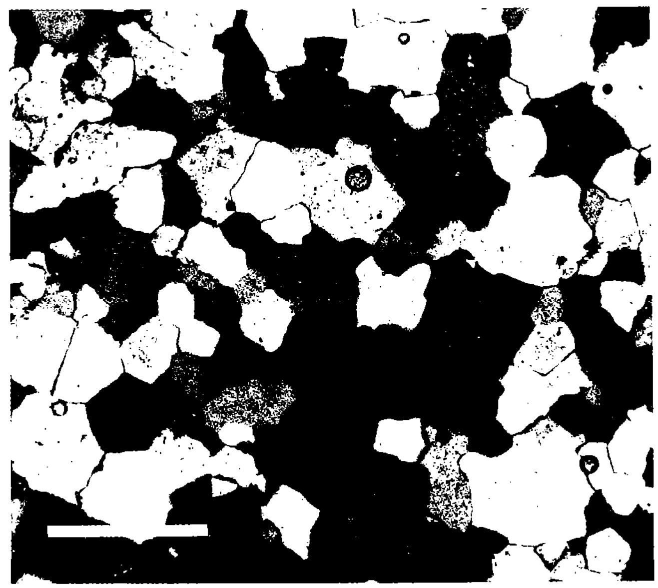

Figure 32. Photomicrograph (crossed polars) of pure quartzitic zone of Pratt Hill quartzite (PH–29). Bar is 0.25 mm.

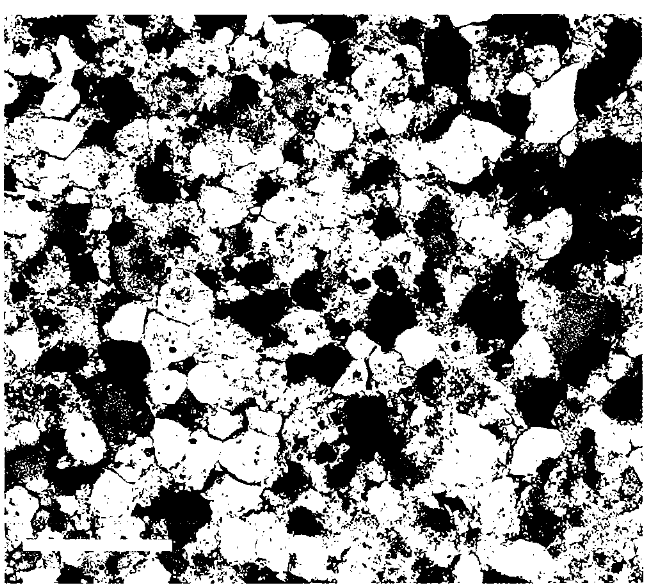

Figure 31. Photomicrograph (crossed polars) of Pratt Hill quartzite (PH–2), showing quartz and white-mica assemblage typical of this unit. Bar is 0.25 mm.

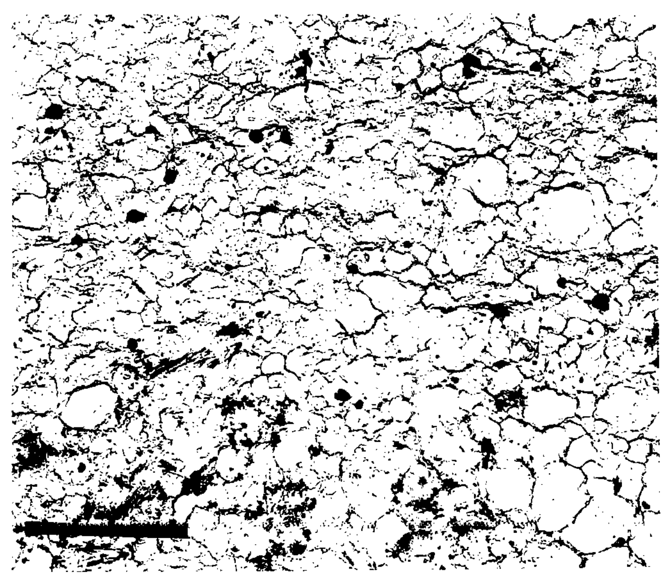

Figure 33. Photomicrograph (plane light) of Pratt Hill quartzite showing equant quartz grains in a chlorite-rich matrix. Sample (ET–11) collected immediately below upper contact of unit. Bar is 0.25 mm.