LOCAL GEOLOGY

Rock Types

At the main shaft site of the Rudisill mine (figure 5) unweathered fragments of granitic rock (mostly quartz diorite), phyllite, and quartz vein material, apparently from deep in the mine, can be found scattered over the surface. The granitic rock is composed mainly of medium to coarse-grain crystals of feldspar, quartz, and hornblende with minor epidote. Hornblende is partially altered to chlorite. The phyllite (a slate-like rock) is very fine grained with well-developed schistose texture and composed mainly of chlorite, quartz, and sericite. The quartz vein material is not always distinctive as a vein but may occur as lenses of varying sizes within the phyllite. Iron oxides contained within and/or intermingled with the quartz is probably the remains of oxidized pyrite. When gold is present, quartz or pyrite is commonly the host material. The above described quartz vein material and phyllite can be found scattered on the surface at both the Rudisill and St. Catherine sites indicating both mines are in the same material. This observation, along with an analysis of the structural trend of the phyllite zone, also suggests the mines are on the same lode.

Undisturbed, weathered-rock (saprolite) exposures can presently be seen behind the Burnup and Sims, Inc. shop, 1429 Mint Street; in the vacant lot in front of Little's Hardware Company between Bland and Commerce Streets; and in roadcuts near the St. Catherine mine (figure 6). The granitic rock varies in texture from massive to intensely foliated; the foliation apparently being due to shearing. In fact, the phyllite itself may be intensely sheared granitic country

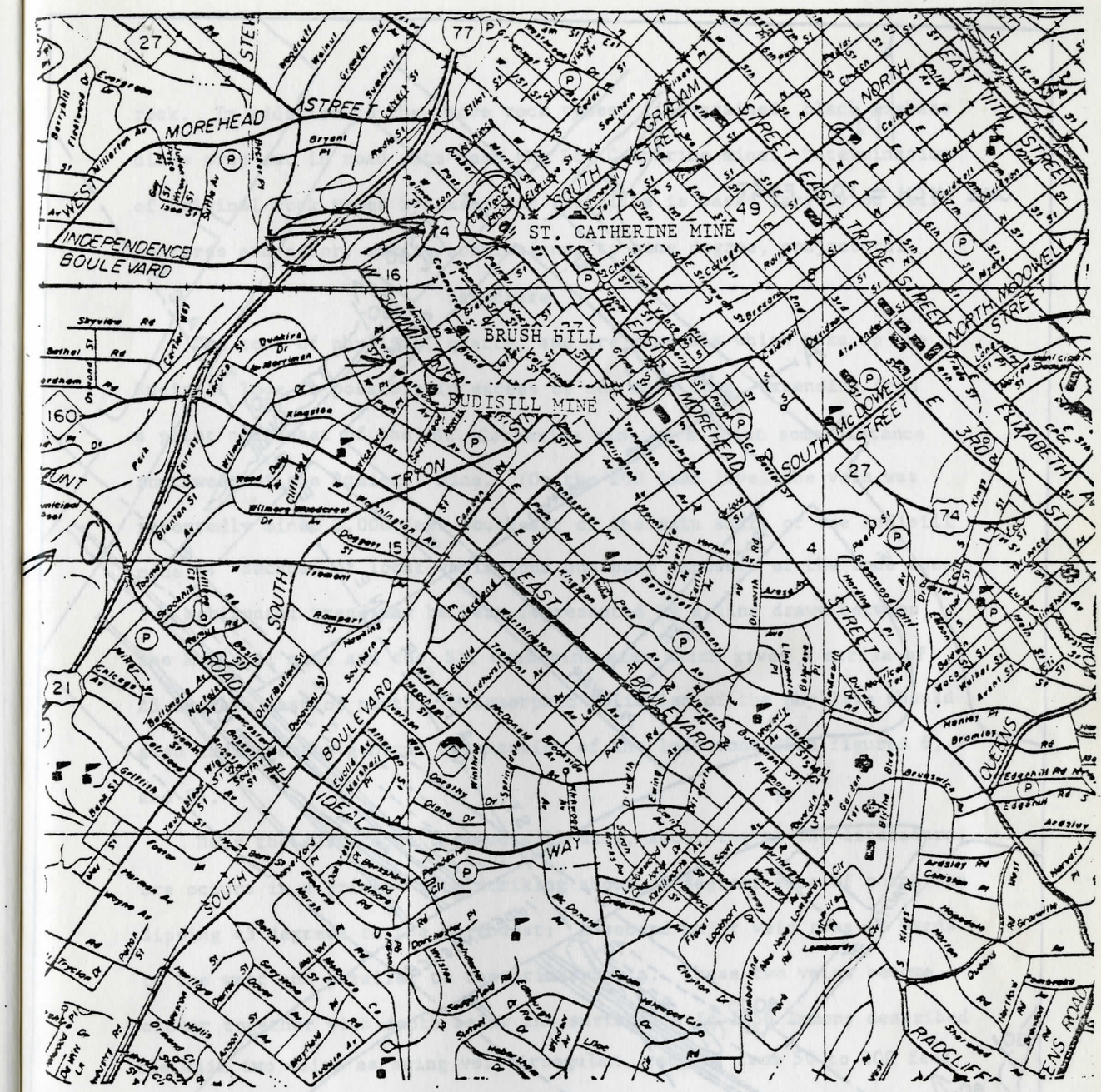

Figure 5. Map of downtown area, Charlotte, N. C. showing the location of the Rudisill, St. Catherine and Brush Hill mine workings.