



Figure 6. Map Showing location of weathered rock exposures in the area of the St. Catherine mine.  
 H. S. Brown, A Preliminary Investigation with Recommendations of an Abandoned Gold Mine on the Kennamer Property, Charlotte, North Carolina (Report on file at Geological Resources, Inc.), Raleigh, N. C., 1975), 7.

rock. In addition to the above rock types, fine-grained, black diabase dikes crop out in road cuts near the St. Catherine mine. Determination of original rock types by examining saprolite is based largely on relic textures and color, making conclusions, to some degree, conjectural.

#### Structure

The zone of phyllite, quartz, and ore minerals which make up the Rudisill lode is possibly in excess of one mile long, extending from a point northeast of the St. Catherine mine to a point some distance southwest of the Rudisill mine. (On the 200 foot level the vein was reportedly mined 2,000 feet southeast of the main shaft of the Rudisill mine<sup>8</sup>). Because of local variations and poor exposure of the lode zone, it's horizontal trend may be best represented by a line drawn between the Rudisill mine and the St. Catherine mine which gives a strike of 25 degrees east of north. Metamorphic foliation of the phyllite should also indicate the general orientation of the lode zone (See figures 6, 7 and 8).

Near the surface at the Rudisill mine, according to the literature, ore occurs in a primary vein striking about 30 degrees east of north and dipping 45 degrees to the northwest: A second major vein runs 40 yards to the west and parallel to the primary vein. These two veins become closer together with depth below the surface.<sup>9</sup> In 1856 Emmons described the main two veins as being very irregular, ranging from 50 to 100 feet apart, and acting as boundaries along both sides of a zone of "slate" (phyllite) extending through "syenitic granite" (quartz diorite?) (Figure 9). He describes "darker trappean rock" under the eastern ("Back") vein which may be a diabase dike.<sup>10</sup> The local irregular nature of the "Back" vein can be seen in an exposed cut of the hill between