

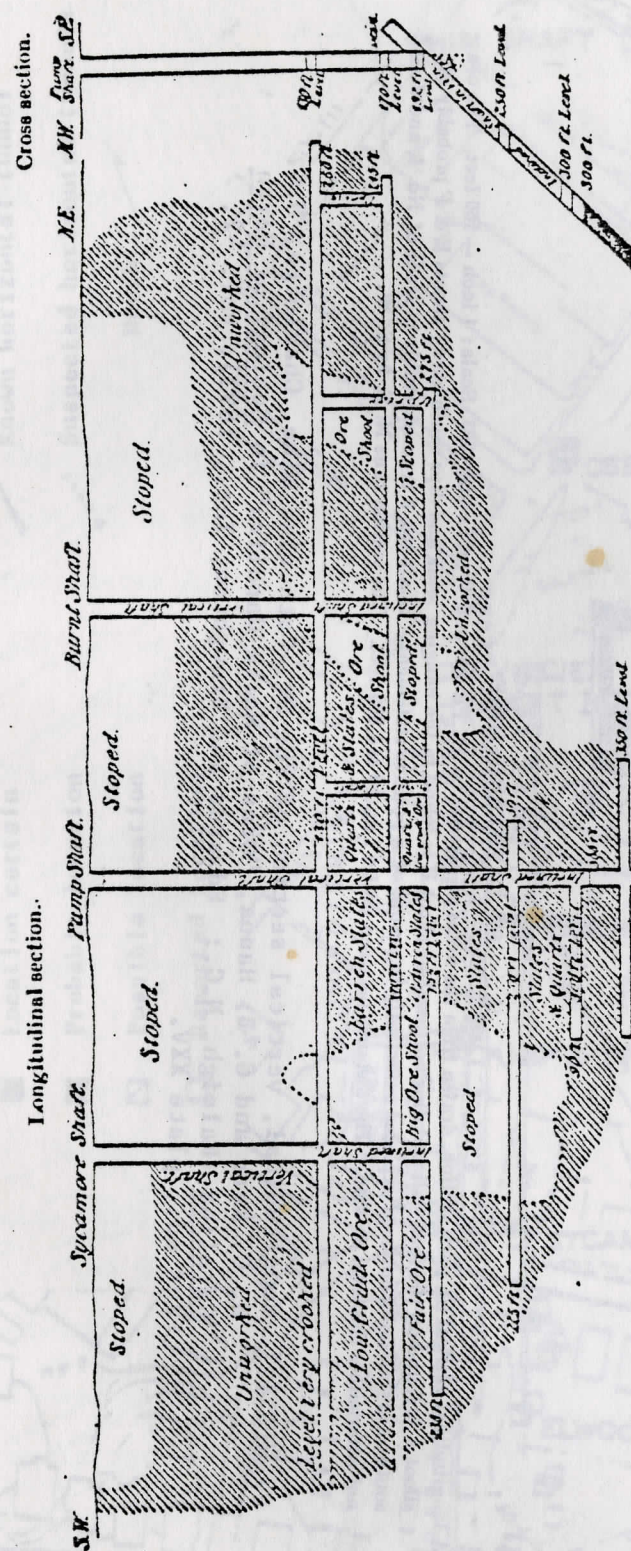
seems to be the case at both the Rudisill and St. Catherine mines. The veins pinch and swell commonly from 2 to 4 feet and are sometimes 6 feet thick. The swells form lens-shaped ore shoots usually elongated vertically with the long axis dipping steeply to the southwest (figures 11 and 12). The "Big Shoot" just southwest of the Rudisill mine pump shaft, now mined out, was up to 15 feet thick.<sup>16</sup> The ore bodies in the Rudisill mine are badly fractured by post mineralization longitudinal faulting. Diabase dikes are present, but their relation to the ore is uncertain.<sup>17</sup>

The ore throughout the lode is sulfide bearing quartz, the sulfide largely being pyrite. The gold is primarily finely disseminated within the pyrite,<sup>18</sup> but small amounts were found as free nuggets in quartz.<sup>19</sup> Above the water table pyrite oxidizes to iron oxide, but the gold present is unaffected producing what is known as brown ore. Traces of copper and small, but significant amounts of silver occur in the shoots throughout the Rudisill lode.<sup>20</sup>

#### EXTENT OF WORKINGS

##### Exploration on the Lode

The Rudisill lode has been explored and mined in open-cut trenches and underground tunnels at intervals along strike from Park Avenue<sup>21</sup> to a point some distance north of West Morehead Street<sup>22</sup> (figures 13 and 14). Underground on the 200 foot level a drift is reported to have been driven on the vein 2,000 feet to the southwest of the Rudisill mine Shaft<sup>23</sup> to a projected point just east of the intersection of Tryon Street and Worthington Avenue. Vertically, workings range from trenches along the surface to drifts 370 feet below at the St. Catherine mine and about 310 feet below at the Rudisill mine.<sup>24</sup> Adits behind 1906 Wood Dale



#### RUDISILL MINE.

Vertical (in part) longitudinal and cross-sections, drawn from the notes of Wm. I. Smart, 1893. Scale: 1 inch = 110 feet. The black color in the lower portion of the cross section indicates the unworked portion of the vein.

Figure 11. Longitudinal, vertical, and cross-sections of the Rudisill mine, Charlotte, N. C. W. C. Kerr and G. B. Hanna, "Ores of North Carolina" in *Geology of North Carolina* (Raleigh, N.C.: Edwards and Broughton, Inc., 1893), vol. 2, 2nd ed., plate XXIV