

would not really impress visitors a great deal more than shallow workings.

2. Determine the stability and shoring that would be required to make workings safe and feasible of access.
3. Determine the amount of water pumping and its cost that would be required to keep dry the workings to be visited.
4. Allow for mapping and photographing the deeper workings and collecting artifacts for museum displays. In addition, virgin gold ore could be recovered for display.

The location of shallow workings and pumping tests could probably be performed initially by drilling from the surface. The condition and extent of workings, however, would have to be determined later by actually entering the mines. Since the cost of restoration and maintenance of an underground visitation route would far outweigh the cost of exploration for a suitable route, it is recommended that both the Rudisill and St. Catherine mine sites be investigated so that a determination of the less-costly restoration could be made.

The costs of locating and evaluating workings to determine suitability for restoration could reach \$75,000. There are many unknown factors concerning the physical conditions of the workings. For example, our experience at the Reed Mine was that many of the older, shallower workings were packed full of waste rock. In addition, there are safety and environmental requirements to consider. Nevertheless, the work could probably be accomplished within such a budget.

Costs of Underground Restoration

Very general cost estimates for restoring a section of an underground mine can be made drawing on experience during the 1975-76 construction at the Rudisill Gold mine in Cabarrus County, N. C. Underground restoration and supervision cost at the Rudisill Mine was approximately \$200,000. Work involved enlarging and stabilizing 360 feet of existing tunnels, driving and stabilizing 75 feet of new tunnel through solid rock, and shaping and stabilizing two 50 foot deep shafts. Stabilization is largely accomplished through the use of oak timber. At entrances to the mine where stabilization problems were severe, steel reinforced concrete liners are hidden by a timber facade. Neither pumping or forced ventilation is required nor is a lift system for visitors required at the Rudisill mine. Had these been installed, the cost would likely have been increased by approximately \$250,000. Actual cost estimates could be made with any degree of confidence, however, only after underground studies are made.

Other Considerations for Underground Site Selection

In addition to the cost of underground restoration, there are other considerations that must be weighed when choices are being made between the Rudisill and the St. Catherine mine sites.

Within the limitations of property available, the areas around both the Rudisill and St. Catherine mine should be considered in selecting a site for development of a historic park. The histories of these two mines are inseparable, and both played nearly equally significant and important roles in the history of Charlotte.