Blue Mountain Quarries. These are two openings just north of the highway and about 3400 feet by road from the Slatedale Hotel. The west (Quarry a) is a small hole about 90 feet square, showing 45 feet of slate above water level. Tunnels are said to have been driven into its northeast and northwest walls, the latter tunnel serving for drainage. One big bed (the upper one exposed in Quarry b, described below) is seen at the southeast edge. The beds strike N.75°E. and dip 43°N.; cleavage strikes similarly but dips 70°S.; the structure is thus the north limb of an anticline. The quarry is not now being worked. It is used for the disposal of waste from the opening to the east.

Quarry b is a large opening, roughly rectangular, measuring about 400 by 200 feet and 125 feet deep. It exposes the anticline mentioned in describing Quarry a and the complementary Prudential syncline to the south. In the west corner at a depth of 50 feet the beds strike N.70°E. and dip 4°N.; near the middle of the opening the dip on the working level is 30°S.; and at a depth of 60 feet along the southeast wall the dip is vertical. Thus the crest of the anticline mentioned in describing Quarry a, as well as the trough of the complementary syncline to the south are defined. The syncline has an axial plane striking N.83°E. and dips 55°S. and the fold pitches 5°E. There are three big beds, of which the upper (also seen in Quarry b) is 13 feet thick and the middle and lower are respectively 22 and 61/ feet in actual thickness. Besides being worked in the quarry bottom, the lowest big bed is mined along a tunnel in the northeast wall, but it rises so as to pass into the southeast quarry wall as it is followed south.

Near the trough of the syncline there is pronounced false cleavage on planes striking N.75°E. and dipping 43°N., accompanied by the usual curvature of the cleavage planes. Here also there is a “loose ribbon” (movement on the bedding plane), along which are numerous small, closely spaced, calcite-filled joints striking N.5-15°E., and standing more or less vertically.

This quarry is equipped with a small mill, consisting of a two-story building, the upper floor being used for lumber stock and as a repair shop. The present production includes structural slate, blackboards, and electrical slate, and some roofing slate.

The Blue Mountain quarries were opened in 1860 and since then have passed through many hands. At present they are operated by the Blue Mountain Slate Company, which acquired the property in 1898. (The pit has been idle since 1938.)

Blue Valley Quarry. This large, irregular opening is the west one of several extensive quarries situated about half a mile northeast of Rextown. Its maximum areal dimensions are about 685 by 400 feet, and some 40 feet of slate are visible above water level, covered by a thickness, locally amounting to 30 feet, of glacial till.

This opening shows two close folds, the Eureka syncline and the complementary anticline to the south. Both are tipped northward, so that the axial planes, which strike about N.75°E., dip 60-65°S. The anticlinal axis emerges at the surface about 255 feet north of the southeast edge of the quarry and the synclinal axis about 250 feet farther north. At the northerly edge of the opening there is evidence that the beds are flattening again near a second anticlinal crest.

Three big beds are seen here. One of these comes to the surface at the extreme southeast corner of the opening on the south limb of the anticline, intersects the surface once more on its north limb at about the middle of the opening, and reappears at the north edge on the north limb of the syncline already described. This is the Upper Star (Upper Empire, Upper Eureka) big bed. The next big bed below, which just fails to reach the surface at the northwest edge of the opening can be correlated by measurement with the lower big bed in the Empire quarry. The highest big bed exposed is that preserved in the syncline,—the Klondike or Lower Locke big bed also seen in the Locke, Royal Blue, and Kern quarries at Slatedale.

Shattered drill cores suggest the presence of a zone of movement at depth in the northwest end of the opening. This quarry was first opened