

A section across the summit from the Beaver river to the Wind shows a series of closely folded and sometimes faulted limestones and slates with some quartzites and conglomerate. Cutting these are some diabase dikes and intrusive rocks. The succession in descending order is somewhat as follows:—Massive dove coloured limestone becoming shaly at the base; bands of black slate; massive granular limestone containing fossils; ferruginous slates weathering red, and black weathering conglomerate at the base. Remnants of a coarsely crystalline quartzite at the top of the series sometimes form the peaks of the higher mountains. These strike as a rule from west to northwest, and dip at various angles forming a succession of synclines and anticlines. Many of the streams have cut out their valleys in the anticlines with the result that the sides of these valleys often present precipitous slopes and cliffs to the streams.

The great valley at the head of Braine creek, which forms the pass across to the Wind river, is apparently a great line of weakness, which has resulted in an overthrust fault, thus bringing up the underlying ferruginous slates to the surface. Along this line of weakness the slate has been much folded and contorted, and the limestone shows evidence of metamorphism in being converted into a white marble, which cleaves easily into the large rhombs of calcite. Another fault also occurs a few miles above the mouth of Braine creek, but its character is indefinite, and, unlike the other, is not marked by any great valley, though the metamorphic action resultant on the fault is plainly noticeable.

As we approach the Wind river, the upper limestones are replaced by the ferruginous slates, being brought up to form the summits of the mountains by a wide anticline. These dip down again to form the wide structural valley of the Wind river. The appearance of the ferruginous slates is a noticeable feature in the topography of the region, for the slopes take on a dull reddish colour due to the oxidation of the iron in the slates.

With the exception of some limonite in the rocks at the pass, no indications of economic minerals occur. While a few small colours of gold were obtained on the Beaver, these disappear entirely on Braine and Nash creeks.

NASH CREEK.

Some fossil corals and brachiopods collected from the limestone at the summit and lower down Braine creek have been identified by Dr. Whiteaves as Devonian forms.

Nash creek is considerably larger and longer than Braine creek. From the top of a mountain, 2,700 feet above the stream, a good view of the valley was obtained; it has a length of about 25 miles, and rises in a large lake two or three miles long. The general direction of this valley is almost true east and west in its lower part, bending slightly