

say three feet or under, it may be safely concluded that there is a total thickness of workable coal of at least 100 feet.

Below the base of the section the rocks are disturbed and broken, but the black shales last mentioned appear to continue for some distance farther. These are succeeded by 500 feet or more of soft grey sandy argillites, fairly calcareous and occurring in thick beds. Below the argillites comes an uncertain thickness, possibly 1,000 feet of thin shaly limestone and calcareous shales. Although not seen in this place, a band of rather coarse-grained fragmental limestone belongs to this horizon. The lowest beds of the series are not exposed here, but where seen elsewhere, consist of black shales with two or more layers of hard fine-grained dark-coloured dolomitic limestone. Their thickness has not yet been ascertained, but they appear to be several hundred feet at least.

Toward the top of the section, it will be noted that the beds largely consist of conglomerate and gritty sandstone. The conglomerate especially is very hard. Its pebbles are principally of black and grey chert, embedded in a matrix so silicified that cleavage-planes cut both pebbles and matrix as if the rock were of homogeneous texture. The preservation of the coal-measures is in a great degree due to the presence of these hard beds, which prevented erosion, and by their great strength saved the more yielding beds of the underlying coal-measures from crushing and folding. The conglomerates and sandstones are false-bedded and of irregular thickness, and individual beds cannot be expected to be continuous over very large areas. The beds consisting chiefly of nodular limestone, near the top of the section, and another similar bed occurring a few feet higher up in the series, have been recognized in several places in the same relative position to the conglomerates, and may be regarded as a definite horizon for the correlation of the strata at widely separated points.

Above the top of the measured section, the overlying rocks are seen northward along the escarpment, the first succeeding bed being ten feet of soft brown shale, then the second band of nodular limestone in brown shale already mentioned, followed by 200 feet or more of alternating layers of brown shale and sand-