



# A WALK AROUND STOCKSMOOR AND THUNDERBRIDGE TO LOOK AT THE ROCKS AND LANDSCAPES

Grid References SE 1811 and 1810

View of Hartley Bank Quarry from the car park

## Contact details:

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The rocks of the Stocksmoor area are **Upper Carboniferous** (Langsettian) in age, so they are about 310 million years old and fall within the Coal Measure sequence in West Yorkshire.

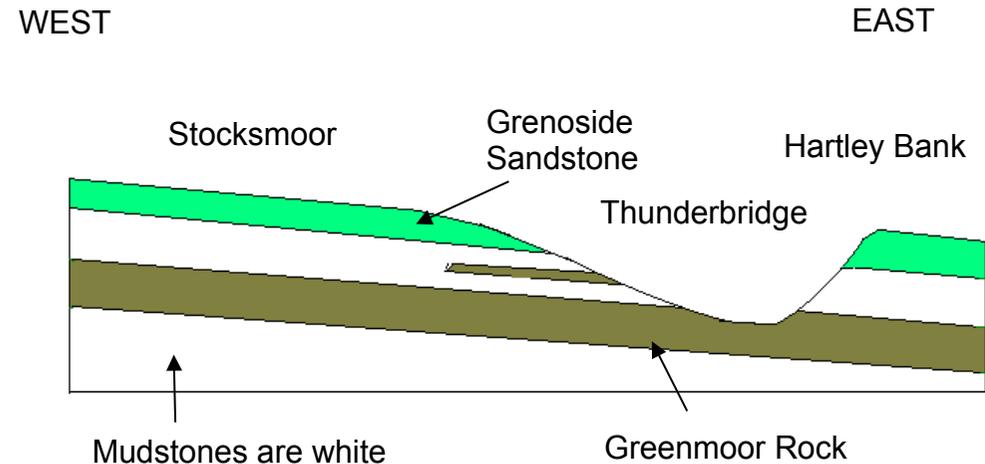
These rocks were laid down in **deltas** on the edge of a large continent, with mountains to the north and south. Sands and muds were deposited by rivers in shallow water. Because the continent was close to the equator, the climate was warm and wet so that tropical rain forest flourished. Dead plant material became trapped in stagnant swamps between river channels. Over geological time it was buried by muds and sands as the rivers in the delta changed position and built up more deposits. The water, oxygen and hydrogen were driven out of the plant remains, leaving only the carbon in **coal seams**.

After the sediments were formed close to sea-level, they were buried by hundreds of metres of sediment and **compressed**. As the sea water moved upwards it carried minerals which **cemented** the sand and mud grains together to make **sandstones** and **mudstones**.

There are several **coal seams** which have been exploited in the Kirkburton and Thurstonland areas, probably for several hundred years until the 1940s. However, the coal seams become thinner towards Shepley and Shelley, so were not exploited in this area.

The sandstones are excellent **building stones**, usually of a green/grey colour, rather than the typical yellow or cream of the sandstones of the Millstone Grits. The **Greenmoor Rock** and the **Grenoside Sandstone** are still quarried near the Sovereign, Shepley, but there were many small quarries

throughout the whole area for local buildings. Any waste rock would have been used for field walls.



Cross section to show the geology of the Stocksmoor area

The **landscape** of West Yorkshire is largely controlled by the underlying geology. The Greenmoor Rock and the Grenoside Sandstones are thick, resistant beds of sandstone which form many gently sloping **plateaux** on the east side of the Huddersfield area, including the slopes on which Shepley and Stocksmoor stand. The mudstones are less resistant and are weathered and eroded more easily, so are exposed in the valleys.

This pattern of erosion on the sandstones and mudstones is common and gives West Yorkshire its characteristic landscapes of flatter shelves formed by sandstones and steeper slopes formed by mudstones. It is interesting that Shelley's name derives from this feature and means a clearing on the shelf.