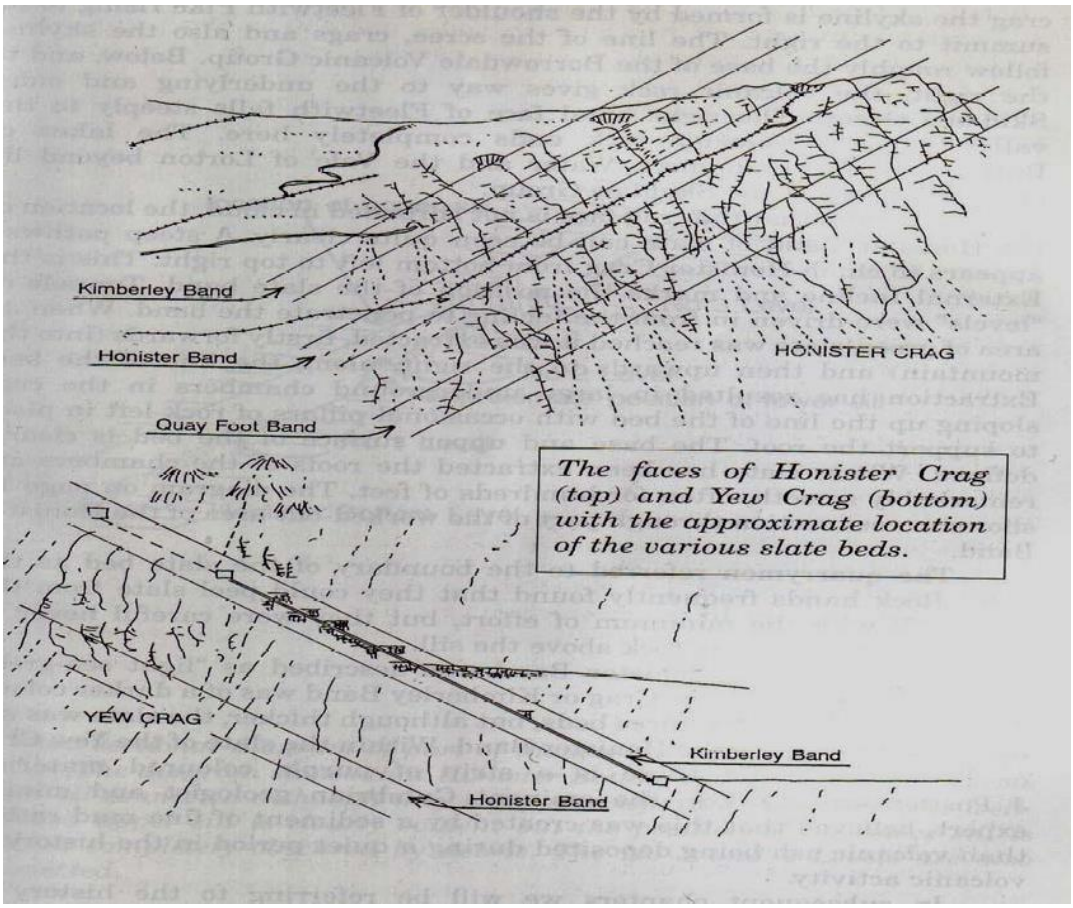
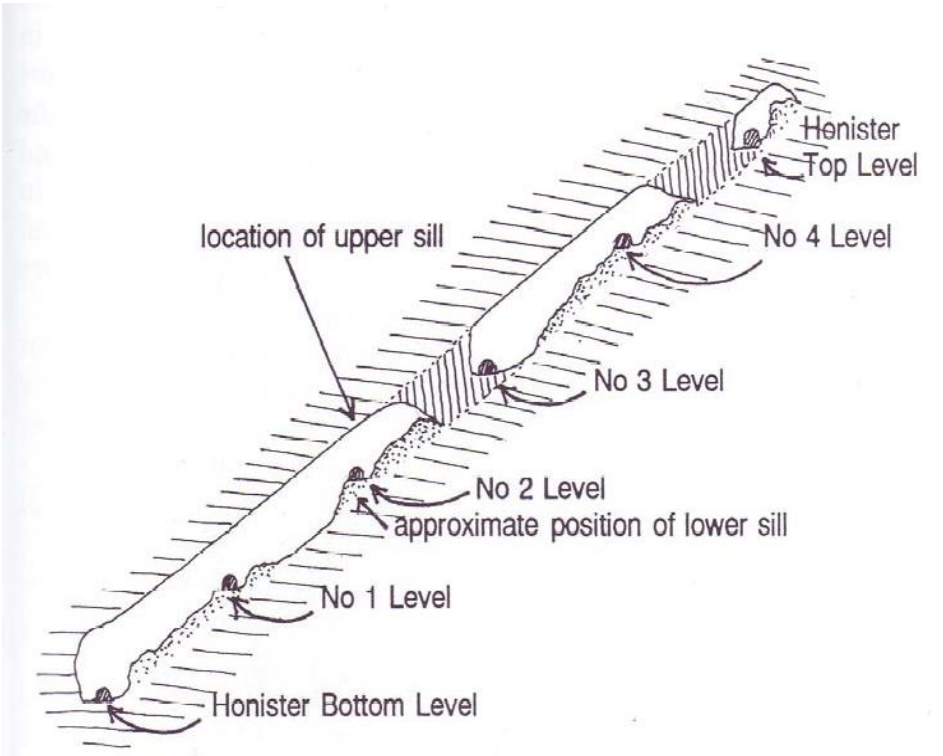
The Geology of Honister Slate Mine

- Although slate is referred to as **'slate metal'** by the miners, it is, of course, not a metal but a type of rock.
- About **450 million years ago**, the area around Honister Slate Mine was in the midst of volcanic activity.
- **Volcanic ash and lava** spread across Central Lakeland and from this the slate was formed.
- Slate was not formed just from volcanic debris (waste rubbish). It is a **metamorphosed (heat and pressure changed) rock**.
- Strong earth movements millions of years later resulted in the parallel layers or veins of slate now **lying at angles of thirty degrees below the surface.**
- At Honister, **three parallel beds of slate were formed**, as shown in the diagram below:



The faces of Honister Crag (top) and Yew Crag (bottom) with the approximate location of the various slate beds.

- The slate varies both in colour and texture as a result of the nature of the volcanic material ejected during an eruption.
- The **thickness** of the slate bands also varies from about **4 metres to about 14 metres.**
- At **Yew Crag** the slate band is normally about 11 metres thick and, on the other side of the Pass, the **Honister** band is around 6 metres thick.
- The 'slate metal' veins are **separated by layers of lava and ash** but these are totally unworkable and they form the **upper and lower sills** with the 'slate metal' vein lying in between.



A cross sectional diagram of part of the worked out area of the Honister Band. The diagram shows that Honister Bottom Level, No 1 and 2 Levels have all connected although they were once separate chambers. The well-defined upper sill is clearly evident but the position of the lower sill is almost completely obscured by debris. The No 3 and 4 Levels are also connected.