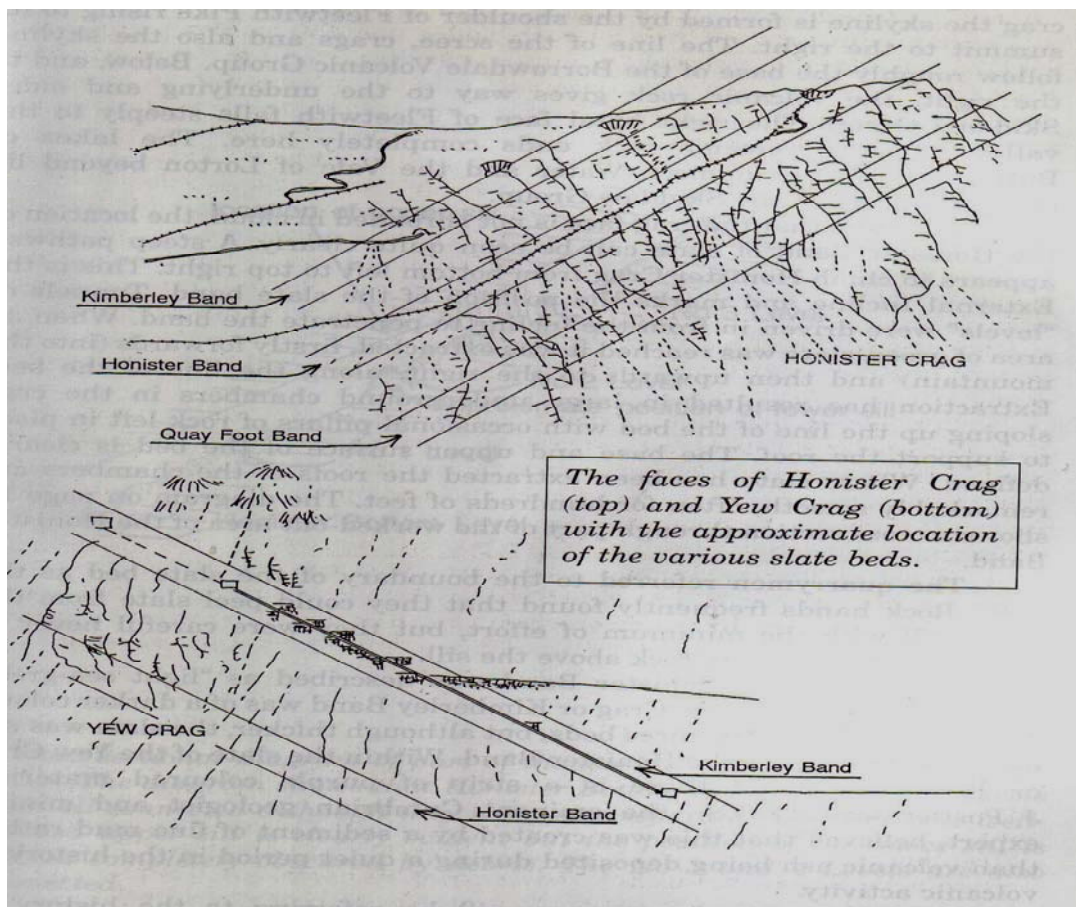
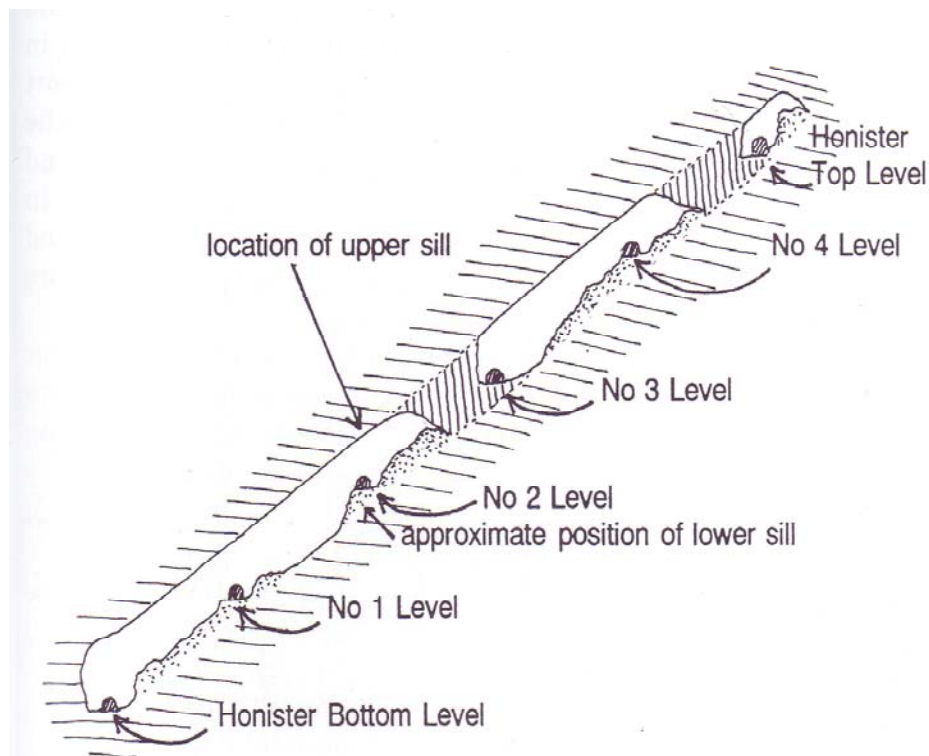


# The Geology of Honister Slate Mine

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 considerable volcanic activity. Volcanic ash and lava spread across Central Lakeland and from this the slate was formed. However, the slate was not formed simply from volcanic debris. It is a metamorphosed rock which was subject to strong earth movements millions of years later and this resulted in the parallel layers or veins of slate now lying at angles of thirty degrees below the surface. This metamorphism was caused, it is believed, by the tremendous pressures and increased temperatures exacted on the land masses when the continents collided, creating the unique properties of slate. At Honister, three parallel beds of slate were formed, as shown in the diagram below:



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 four metres to approximately fourteen metres. At Yew Crag the slate band is normally about eleven metres thick and, on the other side of the Pass, the Honister band is around six 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.*