

U3A GEOLOGY GROUP REPORT Meeting on October 28th Bob Tuddenham

We had another interesting and varied meeting in October.

The main talk was entitled 'Rosedale and the Magnetic Iron Ore' given by Bob Tuddenham.

In 1856 iron ore was found in Rosedale, a beautiful dale in the North York Moors some ten miles north of Pickering. In the Upper Lower Jurassic strata were discovered two unusual deposits of magnetite, a mixed oxide of iron which is attracted to a magnet. It had a higher % of iron than the other, non magnetic, ores mined in the Cleveland Hills further north and mining commenced on a large scale. Local furnaces were constructed to calcinate the ore and in 1861 a railway was built across the North York Moors to carry this ore to the ironworks on Teesside. In total, 3 million tons of this magnetic ore were extracted and after 30 years the deposits were exhausted though it is still possible to find a sample if one has a magnet and knows where to look! Little is left to be seen on the ground apart from some rough moorland and a stream contaminated with iron waste. Above the mines are the remains of the calcinating kilns and the disused rail track now used as a footpath to the Lion Inn and further north across the moors.

Bob outlined the basics of the Jurassic geology of the North York Moors and of Rosedale itself to show where the ironstone strata were found. There has been considerable research into how these deposits arose and the actual formation of the magnetite is still uncertain.

In the tutorial session in the second half of the meeting, Trevor Morse raised the question 'Is the current climate change a geological topic/problem?' Trevor showed in a graph, the changes in global temperature in the geological record through the last million years and the factors causing this. He then explained in his view why the Anthropocene epoch does not really belong to geology.

As a conclusion to the meeting, Trevor showed some highlights from his recent cruise in Norway and briefly talked about its long and complex geological history which has been dominated by the Caledonian Orogeny.

Our next meeting will be at the The Witham on Monday morning November 25th at 10 am. All are welcome. Please contact the convenor for the programme and details.