

**MWGG visit to Penistone Hill & Ponden Clough  
October 2013**



Having been postponed twice due to snow this 'March trip' eventually took place in early October. In the morning we assembled in the centre of Haworth and followed the Penistone Hill Geology Trail to look at the sandstones and mudstones of the Upper Carboniferous. Penistone Hill is an excellent vantage point to look across the gently dipping strata of the Pennine Anticline. Here the upper part of the Millstone Grit Series is well represented.



In Dimples quarry we saw the sandstone and mudstones sequence as well as a small coal seam with seat earth beneath. Plant fossils were preserved in the sandstone with a huge fossil tree root *Stigmara*, approximately two metres in length, still 'growing' in the sandstone.



Fine sandstones in West End quarry exhibited some superb cross bedding and trough bedding. We also saw the remains of quarrying and coal mining, notably a pump, still in situ, which had once pumped water up into the quarries for the



steam cranes.

A huge block of sandstone provided the base for the windmill which had once driven the pump. There were finger tips of quarry waste and many large blocks of sandstone with the holes where plugs and feathers had been used to cut them and 'dog holes' cut so the blocks could be lifted. Looking to the horizon the talk was of the effects of the Devensian ice sheet which had reached the moors just to the south, glacial spillways, the Stanbury Gold Rush and the Rev. Patrick Brontë's sermon on the Crow Hill Bog Burst of 1824.



After lunch, taken during a rainstorm, we drove to Ponden where we walked up on to the moor and into Ponden Clough.

Encouraged by the improving weather and sunshine most of the party descended a precipitous slope to walk on the flat stream bed which is formed of the top bedding plane of the very hard Keighley Bluestone (Yes, it is blue).

This hard compact siltstone (318-319 myrs), containing sponge spines, is only found in the Keighley area.



The Woodhouse Flags form cliffs at the head of the Clough. These fine to medium-grained sandstones contain a lot of mica flakes suggesting deposition in a slow current.

They contain the trace fossil *Olivellites Plummeri*, sinuous trails probable of a feeding worm.

By now the day was at its best and, with our samples of Bluestone, we strolled back to the cars in the bright late afternoon sun.

Full details of the geological background and geology trial can be found in the West Yorkshire Geological Trust's guide **Rocks and Landscapes of Penistone Hill, Haworth** ISN 978-0-9574342-1-9.