Leader: John Rodgers 4 August 2018

The valley of Scordale is deeply incised into the southwest facing Pennine escarpment and has a long history of lead mining. The aim of this excursion was to walk up the track beside Scordale Beck as far as the old levels, taking advantage of one of the few non-firing days on the MOD Ranges in this area, and to observe the geological features of the valley sides, the traces of mining activity and an outcrop of the Whin Sill. A bonus at the far end of Scordale was the opportunity to collect samples of yellow fluorite which is relatively rare outside this area.

A group of 21 met on the track just beyond Hilton village Town Head (NY 736 208) and took the bridleway on the southeast side of the beck. The first kilometre is underlain by the Lower Palaeozoic rocks that are part of the southern extremity of the Cross Fell Inlier, upthrown by movements along the complex Pennine Fault system. There was little evidence on the surface of these formations and much of the valley bottom is covered by “made ground” largely resulting from scree and landslips. However, the upper valley sides had excellent exposures of Lower Carboniferous Melmerby Scar Limestone Formation, forming near horizontal beds with characteristic vertical jointing. Erosion and rockfall have produced isolated pillars and tower-like structures, particularly on the north-west side.

A brief description of the mining activity was given en-route, and locations of former processing buildings were pointed out, including crushing and smelting plants. A noteworthy feature of the landscape are the hushes – erosion channels down the valley sides that were created after release of dammed water, the aim being to expose any underlying mineral veins. An infamous example of this is Lowfield Hush (named on the 1:25000 OS sheet), best seen from the point NY 755 216 which allows a view up the channel that cuts diagonally across the lower slope of the main valley. The practice of hushing led to significant pollution of the streams and rivers in the drainage basin and it is believed that an extraordinarily large one from Lowfield Hush led to the practice being outlawed in 1811. In the decades that followed the London Lead Co. operated the mines and invested in the local community around Hilton, creating a clean water supply and building a school. However, by the late 1870s the price of lead had dropped dramatically and mining ceased for a number of years. Activity resumed around the end of the century, but now it was barytes and witherite (valuable sources of barium) that were extracted. This continued intermittently in the early 1900s. In 1963 the remaining buildings were demolished and all but one of the adits were closed off by the MOD.

The party arrived at the end of the track and this made a good stop for lunch after which members were given time to explore the immediate area. A determined search in the stream bed led to numerous samples of cubic crystals of yellow fluorite. It was explained that fluorite and the barium minerals commonly accompany the lead mineral galena but tend to occur separately having been precipitated from hydrothermal solutions at different temperatures.

Most of the members were able to scramble up to the waterfall a little further up the valley, where an outcrop of the Whin Sill provided the resistant band. Samples extracted from the upper surface clearly showed a very fine grain size which contrasted with the coarser dolerite a couple of metres below, and thus demonstrating the chilled margin effect. Thankfully, the weather remained sunny and dry for the return walk down the valley, finishing around 3.30pm.



CGS members exploring the outcrops of the Whin Sill at the upper end of Scordale. (The main exposure is left of centre).