Close Quarry, Embleton

Leader: Phil Davies 8 September 2021

The disused Close Quarry lies above the settlement of Embleton and is accessed using a track that goes up the hill from a point east of the Wheatsheaf Inn (NY 17326 30516). Before setting off Phil Davies outlined some of the history of the quarry. It is understood to have operated between 1907 and 1950, a narrow gauge railway taking quarried rock from the quarry itself down to processing facilities next to a siding connected to the defunct Cockermouth, Keswick and Penrith railway line. Old lead workings were exposed during the development of the quarry.

The quarry lies in a large intrusion of diorite intruded into Ordovician age Kirk Stile Formation sedimentary strata (Skiddaw Group). Over the decades the operators took out many thousands of tons of high quality rock for roadstone, railway ballast and sett making. There are many diorite bodies within the Skiddaw Group in the area, some smaller ones having been examined during a field trip to Watch Hill, Cockermouth in August 2021.

Close Quarry may be seen from across the valley of Dubwath Beck, for example from Sale Fell, but its impressive size only becomes apparent upon entering it: it is an amphitheatre-like bowl, some 200 metres across. Tipped quarry spoil blankets a large area of the steep, partially tree covered slopes below it.

The geological part of the excursion started in the upper quarry area, the most notable feature there being the irregular interface between the 'roof' of the intrusion and the sedimentary country rock present near the crest of the excavation. This was examined using binoculars (Figure 1). Piles of Kirk Stile Formation debris were noted at the toe of some quarry faces. The material was notably slaty in nature. No convincing fossils were found. Elsewhere the diorite could be examined, this being generally fine grained and having the 'salt and pepper' black-and white speckled appearance characteristic of this rock type in unweathered specimens. There was discussion about whether this large rock mass could be described as a 'sill'. It was concluded that this term is inappropriate because the body doesn't appear to lie parallel to the bedding in the country rock (unlike at least some of the diorites on Watch Hill).



Figure 1 Upper quarry

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The group moved on to examine the lower quarry area, pondering whether or not this was somewhere in the centre of the intrusion given that its base was not seen (Figure 2). Clive Boulter spotted a feature that he interpreted as an example of an implosion breccia (Figure 3). These are formed when excess fluid pressure in the walls of a fissure dislodges fragments of rock that eventually become encased in a fine grained mineralised matrix – a reddish brown colour in this case.

The group completed its tour of the quarry workings in about an hour and half before moving on to the Embleton Spa Hotel nearby for a sociable meal on the terrace there.



Figure 2 Some of the group in the lower quarry



Figure 3 Implosion breccia