

## Geological excursion to Crummack Dale - Tuesday 24<sup>th</sup> July 2018

### Meeting point:

Horton-in-Ribblesdale at the footpath which sets off over the railway track at circa NGR SD803726. Parking is available on the south side of the road at SD805727 and alongside the access road to Horton Quarry at SD803725. Please do not park by the houses on the quarry access road nor obstruct quarry or industrial unit traffic.

A few cars need to be left at Austwick so that the excursion can start at Horton-in-Ribblesdale and finish at Austwick, from where drivers can be ferried back to Horton-in-Ribblesdale. If anyone who arrives early is prepared to move their car straight away to Austwick and find another driver to collect them and return them to Horton-in-Ribblesdale, that would be most helpful as it would save time. Two cars at Austwick would almost certainly be sufficient.

### Meeting time:

10.30am on Tuesday 24<sup>th</sup> July. If anyone is late they could probably catch up at the first locality, which is marked as Moughton Whetstone Hole (spring) on my old version of the 1:25000 topographic map, Outdoor Leisure 2. The current version is Sheet No. OL2. We will be visible from the top of the valley at the start of a very obvious track between two drystone walls.

### Other admin:

There is a grocery shop in Austwick which sells good coffee. There is a public lavatory between shop and village hall. There is at least one pub. Limited parking is usually available near the school at SD770506 or on the road to the southeast at circa SD768503.

There is a famous café in Horton-in-Ribblesdale. Last time I went the food was great and the staff very friendly. You will need to check but I think it would be open for breakfast on 24<sup>th</sup>.

See <http://www.horton-in-ribblesdale.com/pen-y-ghent-cafe.shtml>

There are no facilities between the start and finish of the excursion, so attendees will need to bring packed lunches and drinks etc.

### Walking distance and conditions:

From Horton to the highest point at the top of Crummack Dale is about 90m climb in 1.5km. After that it is downhill all the way. Total lateral distance is about 7km. The final kilometre or so of the route is down Crummack Lane, a metalled road which runs into Austwick. If someone is struggling to walk the distance a car could be driven up the lane to collect them.

There are a few stiles, typically over drystone walls and so quite high. They all have good steps. Otherwise paths are of 'easy hill walking' standard. Some are bridleways. A short distance, perhaps a hundred metres, at the top just before the descent into the dale is over partially vegetated limestone pavement.

The exposures at Nappa Scars are at two levels. Access to the upper one is straight forward. Access to the lower one is well worth the effort but the grassy bank below is quite steep and would be slippery in the wet. Attendees will have to make up their own minds about whether they can access the lower exposure safely. I will bring photographs of the lower exposure to discuss at the upper exposure, so those choosing to stay at the upper exposure will not miss out.

**What is the geological interest:**

Crummack Dale exposes one of the Craven inliers. We will see Carboniferous limestones, Silurian turbidites (with cleavage in the mudstone facies), a Silurian mudstone with spectacular Liesegang rings, a well exposed syncline in Silurian rocks and a superb and very unusual non-planar unconformity where a Carboniferous limestone / siliciclastic conglomerate overlies bedded and cleaved Ordovician basement. Those willing to walk an extra 0.5km will also see the famous Norber erratics. All this is set in a glaciated landscape.

If you have one please bring a compass, or a compass clinometer. We will measure the strike of the Silurian rocks. We should be able to measure the strike of the cleavage too. Rather more challenging we will attempt to measure the strike of the Ordovician, bedding and cleavage.

The Settle Memoir (Sheet 60) has a chapter on the area but Crummack Dale crosses the boundary between BGS Sheets 60 and 50. I have the 'solid and drift' version of Sheet 60. The hard rock geology would be much easier to understand in the 'solid' edition.

For flower lovers, two carnivorous plants can be seen in the dale. Butterwort was in flower at my recce in June but only the leaves will be on show in July. The round leaved sundew should be in leaf by mid-July and we should see some examples where I saw them last year.

**Attendance:**

If you plan to attend please inform \*\*\*(MGA field secretary)  
or [secretary@geolancashire.org.uk](mailto:secretary@geolancashire.org.uk) so we know whom to expect.

Peter del Strother