



YORKSHIRE GEOLOGICAL SOCIETY

CARBONIFEROUS GEOLOGY IN THE FOREST OF BOWLAND

FIELD EXCURSION

(joint meeting with the Craven and Pendle Geological Society)

Saturday 19th August 2017

10:30am – 4:00pm

Meet at Waddington Fell Quarry car park
(Grid Ref: SD 71859 47924)



Carboniferous Pendle Grit in Wiswell Quarry on the flanks of Pendle Hill, showing a megaflute on top of a bedding plane at the upper Wiswell Quarry (topographically higher but stratigraphically lower). ©Paul Kabrna

SUMMARY OF PROGRAMME

This trip will examine the Pendleian Pendle Grit Formation of the Craven Basin, northern England. The Pendle grit represents a sand-rich slope turbidite system, comprising channelised and sheet-like (lobe) elements.

We will examine the variability of the Pendle grit from a relatively proximal location (Waddington Fells Quarry) to a relatively more distal locality (Wiswell Quarry). In the proximal area, the Pendle Grit is predominantly a multi-storey and multilateral channel-filling sandstone, the position of which is believed to have been controlled by subsidence over pre-existing rift-related topography. The sandstones are typically amalgamated and thick-bedded high density turbidites incised directly into the underlying Bowland Shales, which should be exposed (quarrying activity permitting). We will examine the architecture and facies of these channel-fill bodies.

In the more distal locality the Pendle Grit represents a more sheet-like systems, with well-developed bed tops indicating waning flow conditions, and a lower overall degree of amalgamation. We will discuss the palaeogeography, the sedimentology, and implications of the architectural and facies distribution for hydrocarbon reservoirs.

In addition, a lunch stop will examine the underlying Dinantian carbonates, including Waulsortian mudmounds, at Salthill quarry, between the two Pendle Grit localities.

Hammering is not permitted on this trip. Waddington Fells Quarry is a working quarry and the owners require all visitors to provide their own hardhats and high-vis jackets. If you do not have these you will not be permitted into the quarry. It also gets extremely muddy and sticky in the quarry, so wellington boots are advisable.

Programme

10.30am: Meet at Waddington Fell Quarry car park (SD 71859 47924)

12.00pm: Depart Waddington Fell Quarry

12.30pm: Arrive at Salthill Quarry (lunch stop and geological excursion)

1:30pm: Depart Salthill Quarry

2:00pm: Arrive at Nick o' Pendle:

Stop 3: walk to Wiswell (SD 77172 38542) – Stop 4 (SD 75394 37032)

4:00pm: Depart Nick O' Pendle.