Great Scar Limestone

The underlying rocks in the Newbiggin - Bents area are divisions of **Carboniferous Great Scar Limestone** (GSL), deposited around 350 million years ago in a tropical sea south of the equator. The 'type localities', after which the rocks layers were named, are in the vicinity, where they can be seen more easily. On this walk you have to search for evidence of the underlying rock type, until you get to the open fell in the north.

Ashfell Limestone 340 Ma

The youngest rock encountered at the north end of this walk, is seen here in the A685 road cutting on Ash Fell Edge.

Ashfell Sandstone 344 Ma

An outcrop of red Ashfell Sandstone on Ashfell Edge shows similar carvings to those seen at Bents LGS.

Breakyneck Scar Limestone

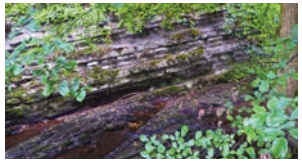
The type locality for this limestone is seen at Breakyneck Scar near Ravenstonedale.

Brownber Pebble Beds 345 Ma

Abundant white quartz pebbles in the large blocks in this wall near Brownber are examples of the pebble beds.

Scandal Beck Limestone

This limestone can be seen in the Scandal Beck near Ravenstonedale.



Coldbeck Limestone

The oldest limestone in the GSL is named after a locality near Ravenstonedale.

The River Lune

Newbiggin-on-Lune lies where the infant River Lune bends to flow west, before it turns south through the **Lune Gorge** towards its estuary into **Morecambe Bay** past Lancaster. The source of the River Lune lies on the upper slopes of Green Bell in the Howgills, just visible to the south.

Bents was given Local Geological Site (LGS) status in 2018 as part of the geology project *'Revealing the Foundations'*, of the Westmorland Dales Landscape Partnership. The small quarries and tor-like outcrops of Ashfell Sandstone have high value for their scientific, cultural, aesthetic and educational criteria.

Local Geological Sites are designated by Cumbria GeoConservation, a specialist group of Cumbria Wildlife Trust.

Cumbria GeoConservation

WESTMORLAND DALES

This leaflet was produced by
Cumbria GeoConservation.
www.cumbriageoconservation.org.uk

Newbiggin to Bents Walk

A geology walk from
Newbiggin-on-Lune to Bents and Brownber

Park neatly on the minor road signed to Asby (NY 70317 05315)

The walk is on footpaths across fields and may be muddy at times. **2½miles 2½ hours**.

The walk starts on a **minor road**, takes a **bridleway** north to join the **Coast to Coast** path to **Bents Local Geological Site** before returning past **Bents Farm** and **Brownber**.

*As you walk north you will walk over **progressively younger Carboniferous rocks** which are generally covered in **glacial deposits**. You will need to study the walls to get an idea of the underlying bedrock.*

Content by Sylvia Woodhead
Design by John Shippen **June 2023**

Walk up the minor road, High Lane, signed to Asby. The stone walls give hints about the underlying rocks. Cross the cattle grid on to the common and, at NY 7100 05652, take the bridleway to the right, signed to Ewe Hill.

1. Drumlin view As you walk northwards, the underlying rocks are mostly hidden under layers of material deposited around 11,000 years ago, by ice sheets which moved across the Lune valley. The moving ice shaped the hills into what is sometimes called 'basket of eggs' topography. You will see several examples of these smooth, rounded low hills.

2. Ashfell Sandstone lintel NY 70141 05997. The rocks used for Swallow Barn show examples of Ashfell Sandstone, which was worked locally for building stone and walls. This red sandstone was formed when rivers deposited sandy deltas in early Carboniferous seas. Current bedding in the sandstone can be seen in the barn and adjacent walls. *Follow the bridleway, then cross the field diagonally to a gate at the top, NY 70150 06378.*

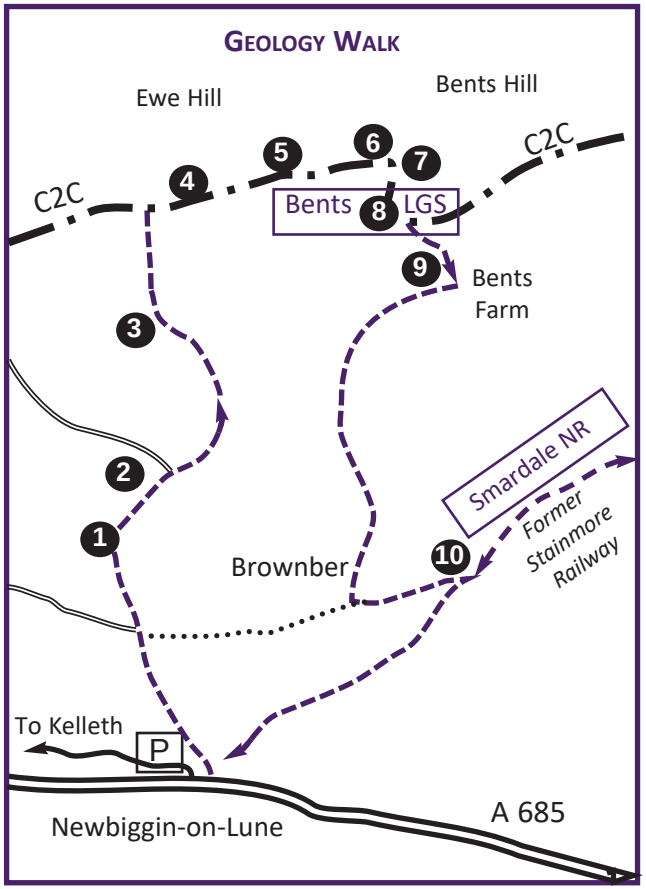
3. View back to Howgills As you ascend the slope, the view back to the older Silurian rocks of the Howgills opens up. Termed 'sleeping elephants' by Alfred Wainwright, these hills are formed of older Silurian rocks. The middle ground on this photo shows another typical drumlin hill.

Through the gate continue to Ewe Fell diagonally across the field to the gate to join the Coast to Coast path (C2C), and turn right. You are now walking eastwards, along the layers or strike of the rocks.

4. Soil section NY 7026206693

A small section under the soil shows some of the layers left by ice sheets, now covering the solid rocks. This deposit slumped downslope during freeze-thaw conditions at the end of the Ice Age. Whitish layers of Carboniferous Ashfell limestone can just be seen further up slopes of Ewe Hill.

Take a narrow trod angling 70°, ENE, off the C2C towards a small hill in the distance, pause at a small stream to find the sink hole.



5. **Sink Hole** NY 70455 06793 Smooth grassy terrain over superficial deposits gives little hint of the underlying limestone, except for a sink hole where joints in the limestone below have been widened by solution by rain water. A sandy deposit can be glimpsed in the bottom of the sink hole. A small stream flows south to Bents LGS.

6. **Ashfell Limestone scarp** 70634 06770 Looking along the hillside, the limestone layers are dipping towards the northeast. They are relatively thinly bedded. This natural scarp may also have been quarried on a small scale for the lime kiln just below. You may be able to see some fossils in the limestone faces.

7. Lime kiln NY 70634 06770 Although long fallen into disrepair, the local rocks used to construct this lime kiln can be clearly seen. The intact arch is made from Ashfell Limestone blocks, while reddish blocks of Ashfell Sandstone were used as fire bricks around the top of the kiln.

Descend to the wall to Bents LGS, which is part quarried & part weathered into rounded tors.

8. Ashfell Sandstone at Bents LGS NY 70677 06612 The east-west exposure of red Ashfell Sandstone has been designated a Local Geological Site for its geological importance in showing conditions during the early Carboniferous times. Current bedding can be clearly seen. Although hard and load bearing, the rocks can be easily carved, hence the initials seen along the outcrop. It is noticeable how few of the sandstone blocks are in the local walls. Probably the best of the sandstone quarried here went into buildings.

Turn right to Bents Camping Barn, and follow the flagged path across the field to a gate. Pause to look back for an excellent view of Bents LGS.

9. Bents view NY 70890 05782. Seen from near Bents barn, a 'sandwich' of red Ashfell Sandstone can be seen with whitish layers of younger Ashfell Limestone in the stepped hillside above, and the older Breakyneck Scar Limestone just seen in the foreground. The spring hints at underground water circulating in the limestone.

Walk out right along the farm track, which swings left and descends to Brownber Farm. Turn left signed to Smardale Fell past a barn.

10. Brownber Pebble Beds NY 70858 05782. The Brownber Beds, dolomitic (slightly yellowish) limestone with pebbly sandstone can be seen in this small exposure.

Turn right to join the old Stainmore railway line, now Smardale Nature Reserve, back to Newbiggin-on-Lune.