

Roger Howe Quarry, Tebay

Roger Howe quarry, on the west slopes of the Howgills, is a good place to study the local bedrock.

The rocks are Silurian, about 420 million years old; the Windermere SuperGroup rocks, the Bannisdale Formation of the Kendal Group. They are grey silty mudstones, or turbidites, deposited in a deep ocean by underwater avalanches, later highly folded, altered to slates, faulted, uplifted and eroded. They split into flattish layers.



Turbidite layers, of darker muds and lighter sands



Steep hillside north of the quarry shows a glaciated landscape of WSG. Originally glacially over-steepened truncated spurs, covered with glacial deposits, the hillside has slumped down. Small terracettes indicate that these downslope movements are still occurring.



A tiny exposure in a drain along the new path shows the nature of the material overlying the bedrock. It has unsorted fragments in a clayey matrix, with no layers. It is impermeable and may be dripping with water.

The Tebay Gorge



A view of the River Lune near Roundthwaite, looking north to the M6

The River Lune, which flows south from Tebay, cut the original pre-glacial gorge. Around 30,000 years ago ice from Scotland flowed south down the gorge. Later ice may have moved north and/or east. The last ice melted around 18,000 years ago, leaving an ice-sculpted valley, with a flattish floor and steep truncated spurs each side. Glacial meltwater further eroded the gorge and the river now flows over river terraces.



This steep woodland below Tebay is a river cliff, showing that the river was once much higher here

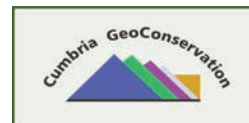
NY 609 032, the Roundthwaite Beck cuts into river deposits, in the Lune Gorge, looking to the M6 and Howgills



St James Church, Tebay



WESTMORLAND DALES



This leaflet was produced by Cumbria GeoConservation a specialist group of Cumbria Wildlife Trust
www.cumbriageoconservation.org.uk

TEBAY GORGE WALK

A geology walk from
Lune's Bridge to Tebay



Park at Lune's Bridge NY 61284 02856, off the A685 just south of Tebay. OS Explorer Map OL 19

The walk is on minor roads, and footpaths, which may be wet and muddy at times.

2½ miles 2½ hours.

The walk starts by looking at the rocks in the River Lune from Lune's Bridge, then takes the new off-road footpath created by Westmorland Dales apprentices in 2023, into Tebay to look at the church, then to descend to the River Lune, over the river, under the railway & motorway and back along the minor road to Roundthwaite.

This walk gives a unique view of the Lune Gorge, the underlying rocks and their influence on the scenery. Look at the all-round views, and admire the unusual nature of St James Church Tebay.

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

1. Lune's Bridge NY 61284 02856.

The River Lune is here actively cutting down through ancient Silurian rocks, possibly weakened by the Chapel Beck Fault, and by post-glacial meltwater. Looking south, grey waterworn rocks can be seen dipping. The single-arch bridge has strong rock stanchions either side, at a narrow point in the river.



2. Coping Stones Note the different rocks used in the bridge. Blocks of white limestone and buff sandstone are set

above the dark slaty layers of the Silurian bedrock. Turn left, cross the road carefully, to take the new footpath signed to Tebay. Go through the gate and up to the quarry on your right.



3. Roger Howe Quarry NY 61392 03029. Look closely at the different quarried rock faces, to see bedding dipping at about 50 degrees to the N, and light and dark turbidite layers. Details of the bedding can be seen in the broken rock fragments on the quarry floor. From the quarry there is a good view across the Lune Gorge. Continue along the new path, and examine the soil sections exposed in the drains on the upper side.

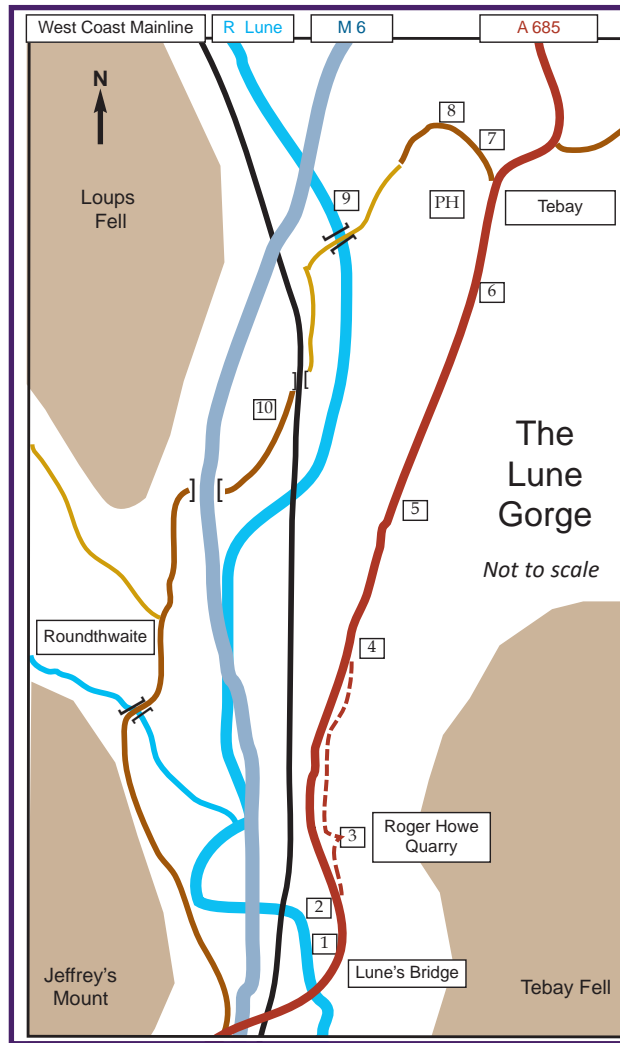


4. View stop NY 61397 03538 Look back to see the jagged skyline of the older more resistant rocks of Whinfell Ridge to the south, in contrast to the smoother, flatter-topped Carboniferous hills north of Tebay



Go through the gate and continue on the metalled path.

5. Lunesdale Building Tebay Glance across the road at the use of local rock, making flat, dark slaty layers in the house opposite. Pause by a seat at NY 61574 04025, and look across the Lune Gorge: an important routeway for roads, railway and motorway.



6. Fossils in the Methodist Church NY 61669 04258

The Methodist Church is built largely of layers of local dark slaty stone, with two limestone layers; limestone quoins each side, around the doors and windows. Fossil gastropods and brachiopods, replaced with quartz, are clearly outlined in the limestone blocks.



Note the Shap Granite erratic NY 61673 04386 opposite the Cross Keys, easily identifiable with big pink crystals. Cross the road, carefully and turn left into Church Street and left to the Church.

7. Detail of Tebay St James Church NY 61605 04444

The Church has an unusual design, and is faced with shaped ashlar blocks of Shap Granite. Look for the large pink crystals of feldspar.



8. Shap Quarry View The Shap Pink quarry can be seen on the skyline. Ice moved loose blocks of the granite eastwards across and down the Lune Gorge in the Ice Age.

At this point you may wish to return to Lune's Bridge. To continue, head steeply down the footpath towards the blue footbridge across the River Lune NY 61362 04333. The steep slope down to the river may be due to the Chapel Beck Fault.

9. River Lune A river cliff can be seen to your left, indicating an older course of the river. The River Lune is here flowing across a wide flood plain, composed of deposits laid down by the river. There was formerly an important ford here: the only direct access to Tebay from the west.



Cross the footbridge, and note the skew arch as you go under the railway NY 61293 04040. Turn left on the old road.

10. Cobble wall The old wall is made of rounded river gravel cobbles.



Follow the old road south, with the River Lune, M6 and railway on your left.

There is alternative/additional parking at NY 61051 02934. Look across to the quarry you visited and complete the walk.