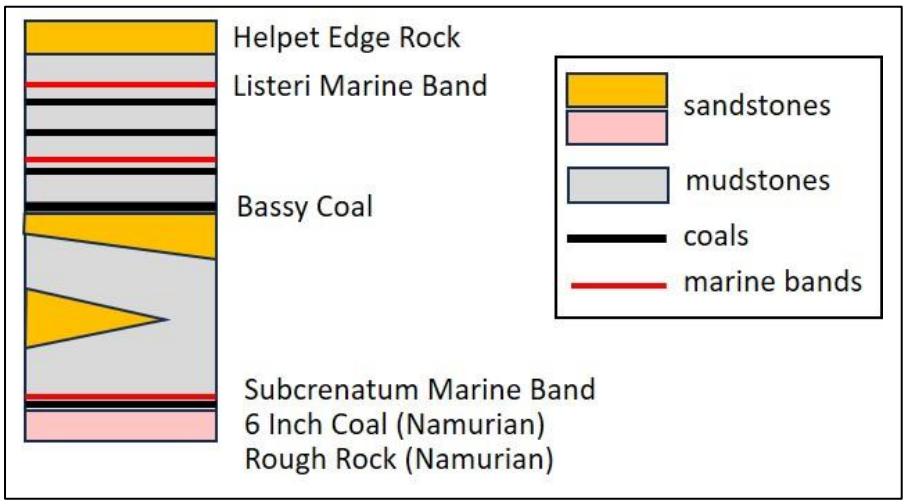
Excursion to *Sophie's* quarries, Besom Hill, near Sholver, and Poise Brook, near Offerton.

2 Aug 2026

This excursion was led by Sophie Bagshaw, who located the quarries, hence the title of the excursion. Peter and Brian assisted with the geological interpretation. Ten people attended.

Besom Hill

There was good parking in this nature reserve and an easy path. The quarry face, reached by a scramble up a fairly gentle scree-slope, exposes strata from the Pennine Lower Coal Measures.



Stratigraphic column for lower part of Pennine Lower Coal Measures and uppermost Namurian, based on BGS Geological Sheet 85, Manchester.

The Listeri Marine Band exposed in the quarry contains the goniatite *Gastrioceras listeri* and the bivalve *Dunbarella*. Examples of *Dunbarella* were found in the shales and, after a great deal of searching, goniatites were found in a nodule in the scree slope.



Goniatite in nodule from Besom Hill



Dunbarella (photo from Subcrenatum Marine Band in Todmorden)

In amongst the scree were abundant nodules of siderite, iron carbonate. It was readily identified, weathering rusty and feeling dense. The specific gravity of pure siderite is about 3.9, compared with about 2.8 for non-porous limestones and sandstones. Siderite can form in reducing conditions under coal swamps, but only when there is low availability of sulphate, so its presence here tells us something about lack of marine influence on ground water between marine transgressions. In the presence of sulphate, pyrite is formed preferentially. Also found loose was a hand specimen of shale containing ~4 mm diameter pyritised burrows. It seems likely that this stratum was associated with the marine band.



Shale containing pyritised burrows.

Poise Brook, Offerton (located on BGS Geological Sheet 98, Stockport)

Roadside parking on Woodlands Drive was adequate but only just, because of a cricket match. Access was southwards along the path at the top of the river gorge. The streamside exposure was accessed by crossing Poise Brook. That might have been difficult if the weather had been wet, but it wasn't.



Some of the group examining the plant bearing strata.

According to British Regional Geology (in Details, under the 'Area North of Marple' section) https://webapps.bgs.ac.uk/memoirs/docs/B01555.html the Pennine Lower Coal Measures in this location are dominantly argillaceous, and contain much carbonaceous shale and thick seat-earth clays. Thin bands of rooty sandstone are also present.

The group, led by Sophie, examined an exposure of grey mudstone and adjacent black carbonaceous silt containing millimetre scale lenses of bright coal. In the grey mudstone, fossil leaflets 1-15 mm long were abundant, some attached to central veins similar to the leaflets on the modern fern, polypody. Others, less common, were attached pinnately. Preservation was generally good, but not good enough to preserve sufficient of the veining on the leaflets to identify the plant with any confidence. Some remains of 'tree' trunks/stems were also found.



Possibly *Syringodendron* sp.



Pinnate leaflets. Species unknown. Scale in cm.



Fossil ‘fern’ (maximum breadth 15 mm) compared with common polypody, *Polypodium vulgare* (image courtesy of RHS). Note the attachments of the leaflets to the stalk, very different from those in the previous image.



Leaflet, species unknown. Scale in cm.



Seed, species unknown. Scale in cm.

It was a great day out and the weather was kind.

Peter del Strother

Brian Jeffery