
Old Cambus Quarry

[NT 806 705]

Introduction

Old Cambus Quarry is situated 800 m southwest of the locality of Siccar Point, Berwickshire, which achieved classic status with Hutton's recognition in 1788 of the significance of the unconformity exposed there. At Siccar Point, vertical Llandovery shales and greywackes are covered by gently dipping breccias and sandstones of the Upper Old Red Sandstone, clearly representing two depositional episodes separated by a long period of time. However, the local Silurian rocks, referred to the Queensberry Formation of the Gala Group, are better displayed in the Old Cambus slate quarry (Figure 3.72). The strata here were mentioned by Geikie (1864) and briefly described by Peach and Horne (1899), who recorded an important and well-preserved graptolite fauna that they related to that of the Tarannon beds of Wales. Graptolites from the quarry were re-studied by Strachan (1982), who noted that not all of the species listed by Peach and Horne (1899) could be substantiated, but described a fauna that can be assigned to the lower part of the Telychian Stage.

Description

Peach and Horne (1899) described the strata in the quarry as grey and red fissile shales and grey flaggy shales, weathering brown and dipping at 30° to the SSE. Several horizons rich in graptolites occur, and Strachan (1982) tentatively recorded an assemblage of eight taxa, including *Monoclimacis galaensis* and specimens subsequently referred to *Streptograptus tenuis* and *Torquigraptus proteus* (Loydell, 1993). The fauna is indicative of a horizon in the uppermost *turriculatus* Biozone or the lowermost *crispus* Biozone (Strachan, 1982; Loydell, 1993; Zalasiewicz, 1994).

As well as the graptolites the strata contain diverse trace fossils, principally meandering tracks of *Dictyodora* (see (Figure 3.71)).

Interpretation

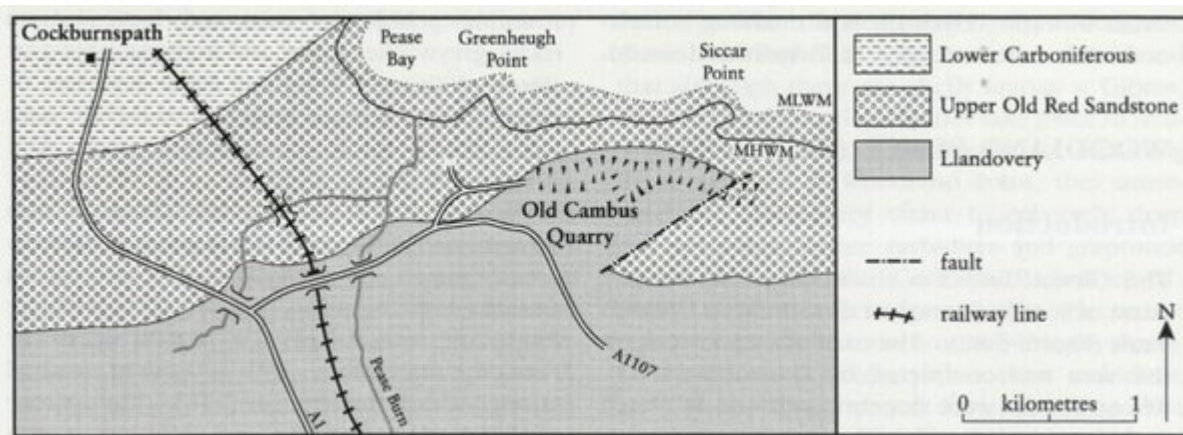
Old Cambus Quarry is at the north-eastern end the Southern Uplands, which have been interpreted to represent an accretionary prism or a back-arc accumulation that was deposited during the late Ordovician to early Silurian (see the Dob's Linn site report). The Queensberry Formation in Old Cambus Quarry compares closely with the rocks of the same unit exposed at the network site of Thornylee Quarry. Both localities display mud-dominated greywackes and shales deposited in a low-energy turbidite environment. The trace fossil assemblage, dominated by meandering tracks, and referable to the *Nereites* ichnofacies, is indicative of deep water. The major difference between the two localities is the abundance and diversity of graptolites at Old Cambus Quarry, allowing accurate dating of the local Llandovery sequence.

This site, in combination with those at Thornylee Quarry Grieston Quarry and Dob's Linn, helps to illustrate the range of lithologies and fossils present within early Silurian strata of the Southern Uplands area.

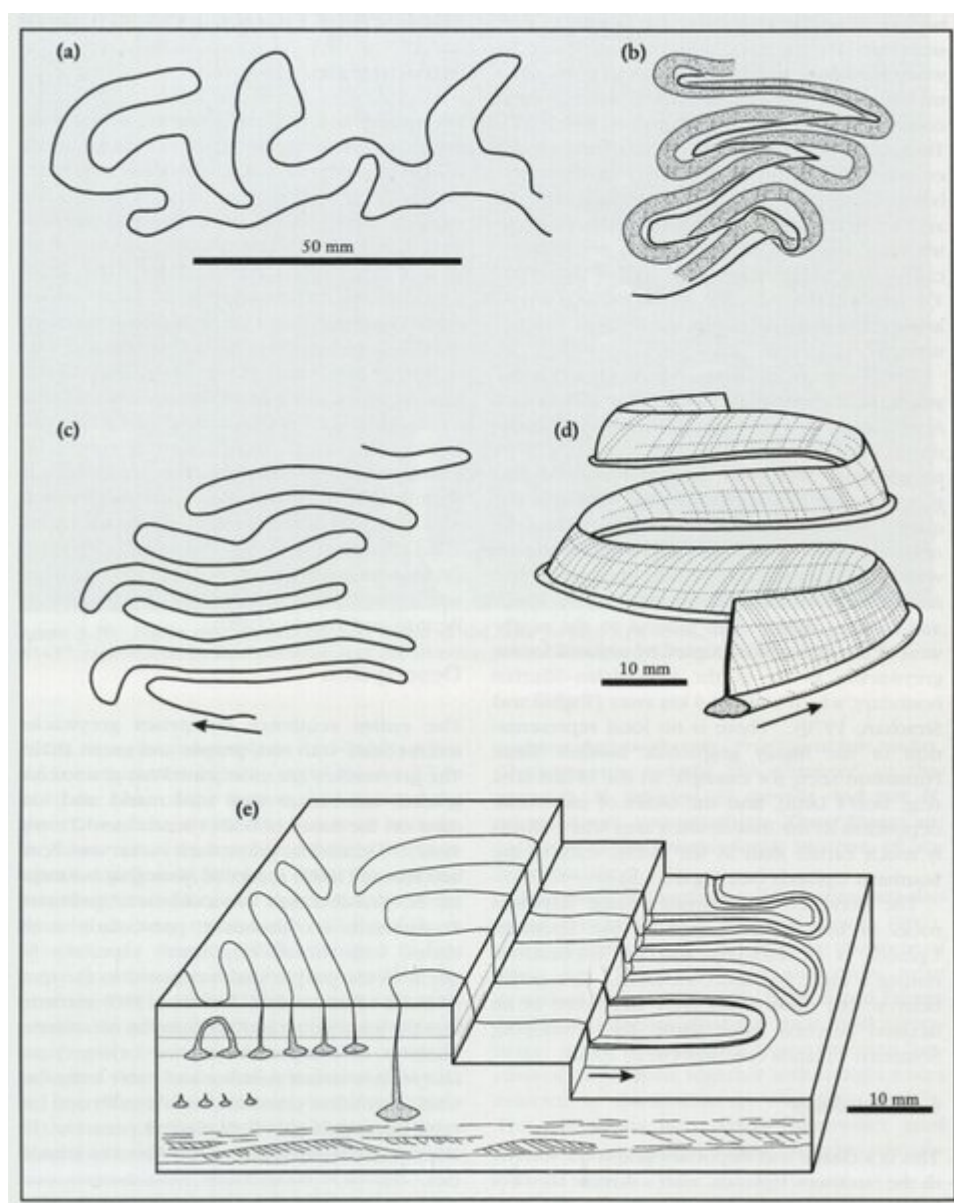
Conclusions

This exposure is representative of the late Llandovery Gala Group in eastern Scotland, and is important in studies of Silurian biostratigraphy, graptolite faunas, trace fossil assemblages and environments. The diverse and well-preserved graptolite fauna is one of the best recorded from the Gala Group, allowing dating of the strata as early Telychian, and enabling correlation with other sections in Britain and worldwide.

[References](#)



(Figure 3.72) Geological map of the area around Siccar Point and Old Cambus Quarry (after Craig, 1986).



(Figure 3.71) The ichnospecies *Dictyodora scotica* from Thornylee Quarry (after Benton and Trewin, 1980). (a) irregular meanders; (b) plan view of basal burrow (stipple) and top wall (solid line); (c) regular meanders; (d) reconstruction of three-dimensional morphology showing basal burrow and wall; (e) block diagram to illustrate different preservational aspects of burrows in plan and in section. Arrows indicate direction of travel of burrowing animal.