
Standedge Road Cutting

Highlights

Standedge Road Cutting provides the most complete and well exposed sequence through the Kinderscout Grit, including both upper and lower members, and the intervening Coreticulatum (Butterly) Marine Band.

Introduction

This cutting [SE 018 095]–[SE 023 098] along the A62 road, 3 km south-west of Marsden, West Yorkshire, provides an extensive section through the Kinderscout Grit Formation, as developed in the Pennine Basin, and not far (c.15 km north) from the type area of Kinder Scout. The best description of the site is to be found in Stevenson and Gaunt (1971).

Description

Lithostratigraphy

Exposed here are about 120 m of mainly arenaceous strata belonging to the Kinderscout Grit. Five cycles can be recognized, consisting of coarse conglomeratic grits at the base, fining-upwards into flaggy fine-grained sandstones and siltstones. The lower parts of each cycle often show cross-bedding, whilst the upper beds are mainly flat-bedded. Trails, burrows, and casts and adpressions of stems such as *Calamites* occur commonly in the flaggy beds.

Between each sandstone cycle is a bed of dark grey shales, sometimes associated with a seat earth and thin coal. Between the upper two cycles there is also a thin marine band, known as the Butterly Marine Band (see below), which serves to divide the Kinderscout Grit into two members.

These beds have long been recognized to be fluvial in origin, probably derived from the north (Trotter, 1951; Holdsworth, 1963; Collinson, 1968; McCabe, 1975, 1977). According to Collinson (1988) they were formed on the top of an extensive, turbidite-fronted delta system that prograded southwards over the Central Province during the middle Namurian (the so-called Kinderscout Delta), and represent major distributary channels that were rapidly filled by sand during flood-events. After the channel was filled, there followed an interval of emergent conditions allowing some vegetation to become established and even peat-development to occur, although in at least one case the quiescent period was disrupted by a marine incursion.

Biostratigraphy

The Coreticulatum (Butterly) Marine Band, which divides the upper and lower Kinderscout Grit, is a persistent feature over large areas of the Central Province. In some areas, such as just north of Manchester, the band contains ammonoids of the *Reticuloceras coreticulatum* Subzone, which indicates the uppermost Kinderscoutian. Here, however, the assemblage is restricted to marine bivalves and brachiopods. The nature of the exposure at Standedge hinders any large-scale collecting, but nearby Red Brook Clough as yielded an extensive assemblage, including *Lingula mytilioides* Sowerby, *Orbiculoidea nitida* (Phillips), *Aviculopecten dorlodoti* Delepine, *Edmondia josepha* De Koninck, *Retispira undata* (Etheridge), *Sanguinolites ovalis* Hind and *S. tricostatus* (Portlock) (see Wray, 1929; Ramsbottom in Stevenson and Gaunt, 1971).

Interpretation

This is one of the most complete and easily accessible sections through the Kinderscout Grit in the Pennine Basin, and shows details of the sedimentology particularly well. The nearest comparison is with exposures near Kinder Scout itself, such as in the upper reaches of Grindsbrook near Edale (Collinson and Walker, 1967). However, these do not show the

full sequence through the Kinderscout Grit as is seen at Standedge. The upper part of the Crimsworth Dean sections also passes through the entire Kinderscout Grit, but the exposure is far less complete and is disrupted by faults.

This is the last member of a sequence of sites representing the gradual southwards progradation of the Kinderscout Delta over the Pennines Basin; the others are River Noe (basinal deposits), Mam Tor and Alport Castles (turbidites), and Blackden Brook (delta front deposits). It is one of the best exposed and studied examples of a large turbidite-fronted delta of any geological age in Britain, and is of great significance for understanding how such sequences are generated in a general context, as well as being important for understanding the geological evolution of this part of Britain during the Carboniferous.

Conclusions

Standedge Road Cutting shows the most complete succession through an interval of rocks known as the Kinderscout Grit, which is one of the thickest sandstone units in the Millstone Grit of the Pennines. It represents deposits formed in a large river delta (often referred to as the Kinderscout delta), that extended southwards over the area about 318 million years ago. The grit typically consists of two discrete beds of coarse sandstone, separated by marine shales known as the Butterly Marine Band, all of which can be seen at Standedge.

[References](#)