Ashclough

Highlights

Ashclough is considered the best exposure of the Maltby Marine Band in Britain.

Introduction

The cliff [SD 763 063] on the southern side of the River Roch between Little Lever and Kearsley, 5 km SE of Bolton, Greater Manchester, provides a fine exposure of upper Duckmantian strata in the Lancashire Coalfield. The geology is described briefly by Tonks *et al.* (1931).

Description

Lithostratigraphy

A full stratigraphical log for this section is not available, but about 100 m of strata are probably present. Most of the succession consists of mudstones and shales, and includes a thin coal known as the Ashclough Mine. There is also a band of sandy ironstone in the middle of the succession.

The topmost beds exposed are sandstones, which help maintain the face, and are known as the Nob End Rock. They were described by Tonks *et al.* (1931) as 'Sandstone with shaley bands' and, although forming a prominent feature here, are mainly restricted to this immediate part of the coalfield. They are separated from the underlying mudstones by a small fault, but according to Tonks *et al.* (1931) lie about 73 m above the Ashclough Mine.

Biostratigraphy

Marine bands

Just above the Ashclough Mine is a thin band of dark shale containing fish fragments. This is locally known as the Ashclough Marine Band which corresponds to the Maltby Marine Band in the classification of Ramsbottom *et al.* (1978).

Tonks *et al.* (1931) claimed to have located an exposure of another dark shale, this time above the Nob End Rock. They argued that this is the Dukinfield (i.e. Aegiranum) Marine Band. However, the outcrop cannot now be located.

Non-marine bivalves

Shales underlying the sandy ironstone in the middle of the succession have according to Tonks *et al.* (1931) yielded the following assemblage: *Anthracosia concinna* (Wright), *A. acutella* (Wright), *A.* cf. *aquilina* (Sowerby), *Anthraconaia librata* (Wright), *Anthracosphaerium* (*?*)*radiatum* (Wright) and *Naiadites* sp.

There are also records of '*C.*' cf. *blaydsii* (Brown) and '*C.*' cf. *nana* (Brown), but the taxonomy of these species is confused (Trueman and Weir, 1947). The assemblage clearly suggests the Lower '*similis–pulchra*' Zone, and the presence of A. (?) *radiatum* and *A. acutella* indicates the *A. atra* Subzone.

Interpretation

This is the only conservable outcrop of the Maltby Marine Band in Britain. It is one of the standard marine bands in the classification of Ramsbottom *et al.* (1978), which has played such an important role in establishing British Upper Carboniferous stratigraphy. Calver (1967) shows that it occurs extensively through the Pennine Basin, but mostly in underground workings. Calver named it the Two Foot or Ashclough Marine Band, presumably because of the natural

exposure. However, Ramsbottom *et al.* (1978) renamed it, because the only known occurrence of the marine band containing ammonoids was in the Maltby Colliery sinking (Edwards, 1952).

It is important as being the lowest of the marine bands in the interval of lower delta-plain deposits that characterize the upper Duckmantian and lower Bolsovian of this country. This interval represents the last occasion that marine conditions affected Britain until the Late Permian.

Conclusions

Ashclough is the best exposure in Britain of shales known as the Maltby Marine Band. This band, which is about 305 million years old, marks a time when the Coal Measures delta was flooded by a raising of the sea-levels. The resulting marine band is an important marker horizon, which has proved valuable for correlating rocks of this age over large parts of north-western Europe.

References