
Ketley Claypit

Highlights

Ketley Claypit shows one of the best exposures of red beds of the Upper Carboniferous Etruria Formation (Figure 7.7).

Introduction

This claypit [SO 897 887] east of Standhills Road, between Kingswinford and Bromley, Staffordshire, shows a large exposure of Etruria Formation in the South Staffordshire Coalfield. It is part of a quarry which is still intermittently active, and the extent of the exposure depends on how recently it was worked. At its best, however, it is the most extensive available exposure of this formation. The site was briefly described by Whitehead and Eastwood (1927), and a fuller account given in an unpublished thesis by Besly (1983).

Description

The main face at this claypit shows a thick sequence of red and purple mudstones, with occasional beds of sandstone. They represent the upper part of the Etruria Formation, and are overlain at the top of the face by sandstones of the Halesowen Formation.

Interpretation

The Etruria Formation is an interval of red beds in the English Midlands, that occurs between the Productive Coal and Halesowen formations. Biostratigraphical control on the interval is extremely poor, but it seems to be diachronous, becoming younger away from the Wales–Brabant Barrier (Besly, 1983, 1988; Besly and Turner, 1983). There seem to be two main facies-associations in the formation, which Besly refers to as alluvial plain and alluvial fan associations; the Ketley sequence represents the former, whilst New Hadley Brickworks represents the latter. The alluvial plain association consists mainly of fluvial channel, over-bank and crevasse-splay deposits, and thus does not differ significantly from deposits of the Productive Coal Formation, except in being red and having a greater development of palaeosols.

The mechanism for generating the red coloration has been a matter of some dispute, but Besly has shown that it was produced during and immediately after deposition of the sediment. It seems to reflect substrata that were better drained than present during the formation of the grey Productive Coal Formation, which in turn reflects reduced rates of subsidence; this is also supported by the increased abundance of palaeosols. The reduction in subsidence rates probably reflects the stabilizing effect of the Wales–Brabant Barrier, and possibly some topographic changes produced by Variscan tectonics. There is no support for the view that the red Etruria Formation reflects climatic aridification (e.g. Hedemann and Teichmüller, 1971; Bless *et al.*, 1984).

Conclusions

Ketley Quarry shows one of the best exposures of red beds of the Upper Carboniferous Etruria Formation, about 310 million years old. The red coloration was probably a product of a relatively low water-table at that time, reflecting the marginal position of these sediments in the Pennine depositional basin.

[References](#)



(Figure 7.7) Etruria Formation exposed at Ketley Claypit. (Photo: C.J. Cleal.)