
Oakenhill Railway Cutting

Highlights

Oakenhill Railway Cutting is the best exposure of the Suprapennant Formation in the Forest of Dean, and includes some of the youngest coal seams to be commercially exploited in the Carboniferous of Britain.

Introduction

As with the Grovesend Formation in South Wales, exposure of the Suprapennant Formation in the Forest of Dean is generally poor (see comments on Penllergaer Railway Cutting in previous chapter). The only extensive exposure, other than extractive workings, to be described in the literature is along this disused railway cutting, just south of where it passes under the Parkend to Yorkley Road, 1.5 km east of Parkend, Forest of Dean, Gloucestershire [SO 631 080]. The exposure has now become largely overgrown, but preliminary excavations undertaken in 1984 showed that the sequence is still visible under the vegetation and a relatively thin cover of soil. The geology of the site as originally visible, is summarized by Trotter (1942).

Description

Lithostratigraphy

The sequence described by Trotter (1942) is 22.6 m thick. It is typical of the lower part of the Suprapennant Formation (known as the Household Coals Member), being dominated by grey shales and sandstones, with three coals, the Rocky, Starkey and Parkend High Delf seams. During exploratory excavations made in 1984, as part of the GCR survey, a 0.80 m thick coal underlain by 2.35 m of seat earth was uncovered near the road-bridge. By comparing the position of this seam with the British Geological Survey map for the area (Sheet 233), this may be the Twenty Inch Seam, but more comprehensive excavations would be needed to confirm this.

Biostratigraphy

Palynology

Spinner (1965) described the megaspore *Lagenicula verrugosa* Spinner from the Starkey Seam at Oakenhill Cutting. Other than the Forest of Dean, Spinner stated that it had only been reported from the upper Bolsovian of Egypt (Dijkstra, 1955).

Plant fossils

No macrofossils have been described from this site, but Trotter (1942) records them from equivalent horizons at other, nearby localities. Typical elements include *Neuropteris ovata* Hoffmann, *Macroneuropteris scheuchzeri* (Hoffmann) Cleal *et al.*, '*Alethopteris decurrens*' (probably *A. robusta* var. *longipinnata* Wagner), *Asterotheca miltoni* (probably *Lobatopteris vestita* (Lesquereux) Wagner), *Cyathocarpus arborescens* (Brongniart) Weiss and *Sphenophyllum emarginatum* Brongniart. This is an assemblage typical of the upper part of the *L. vestita* Zone, indicating the upper Westphalian D.

Wagner and Spinner (1972) listed plant fossils from a short distance above the Twenty Inch Seam in the north-eastern part of the coalfield that indicate the *O. cantabrica* Zone (Cleal, 1986a). The sequence at Oakenhill Railway Cutting must therefore be immediately below the Westphalian D-Cantabrian (i.e. Westphalian–Stephanian) boundary.

Interpretation

This site shows a typical development of the Household Coals Member of the Suprapennant Formation in the Forest of Dean. The member is similar to the Grovesend Formation in South Wales, such as seen at Penllergaer Railway Cutting, except there are more and thicker coals. This part of the Forest of Dean sequence contains the youngest coals to be exploited extensively in Great Britain, and were still being worked in the early 1970s (there was an application to open up a new opencast near Oakenhill in the mid-1980s, but it was turned down on environmental grounds).

The Household Coal Member represents a time of relatively low tectonic activity in the Forest of Dean, allowing the build-up of fine-grained alluvial deposits and coal-forming peats. The lull was relatively short-lived, however; about 15 m above the Twenty Inch Seam, northerly derived sandstones (the Serridge Sandstone Member) occur again. This presumably reflects further uplift of the Wales–Brabant Barrier, as part of the late phases of the Variscan Orogeny.

Conclusions

Oakenhill Railway Cutting is the best exposure of the Suprapennant Formation in the Forest of Dean, about 305 million years old. The exposed sequence includes some of the youngest coal seams to be commercially exploited in the Carboniferous of Britain.

[References](#)