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# Blaenrhondda Road Cutting

## Highlights

Blaenrhondda Road Cutting is the best available exposure of the Rhondda Member on the north crop of the South Wales Coalfield (Figure 4.24). The strata here show marked differences from coeval strata on the south crop, and provide an important insight into the sedimentary evolution of the coalfield.

## Introduction

Roadside exposures on the east side of the Rhondda Valley road (A4061), 2 km north of Treherbert, Mid-Glamorgan, Wales [SN 927 016]–[SN 933 001] show a fining-upwards fluvial sequence in the Pennant Formation. Details of the site can be found in Kelling (1968, 1971).

## Description

Exposed in this road cutting are 49 m of Rhondda Member (South Wales Pennant Formation), in the form of a fining-upwards cycle. At the base of the cycle are a series of trough cross-laminated, medium-grained sandstones, many of which have a basal lag of coal and ironstone pebbles. These grade up into a series of channels and scours of varying size, filled with siltstones and mudstones. Over this unit is an interval of parallel-laminated, mainly silty mudstones, which grade up into a seat earth and a thin coal (Bluck and Kelling, 1963).

The sandstones at the base show a wide variation in palaeocurrent directions. Kelling (1964) initially interpreted this as indicating that sediment was being derived from the Wales–Brabant Barrier to the north, as well as from 'Sabrina' to the south. Later, however, he re-interpreted them as point-bar deposits formed in a meandering fluvial system (Kelling, 1971, 1974). The remainder of the sequence probably consists of crevasse-splay and back-swamp deposits.

No fossils have yet been reported from Blaenrhondda. However, Kelling (1971) suggests that the thin coal at the top of the sequence may be the Daren Rhestyn Seam in the lower Rhondda Member. Palaeobotanical evidence from similar strata in other parts of the coalfield indicates a position in the upper Bolsovian.

## Interpretation

This is one of the most instructive exposures of the lower Rhondda Member on the north crop. It can be clearly seen that these strata were formed in a flood plain setting in a medial part of the delta, with representatives of point-bar, crevasse-splay and back-swamp deposits. This is in marked contrast to the south crop exposures, such as Earlswood Road Cutting (see previous site report), where the sediments were deposited in a series of stacked, straight channels, formed in a more proximal position within the delta. This helps confirm that the Pennant Formation in South Wales was formed by a northerly-spreading delta complex.

## Conclusions

Blaenrhondda Road Cutting is the best available exposure of beds of the Rhondda Member (about 308 million years old) on the north crop of the South Wales Coalfield. They consist mainly of deposits formed in a flood plain of a large river-delta, and differ markedly from the much coarser, river-channel deposits found further south, such as at Earlswood Road Cutting near Swansea.

## [References](#)



*(Figure 4.24) Rhondda Member of the Pennant Formation exposed at Blaenrhondda Road Cutting. (Photo: C.J. Cleal.)*