

Site Name: Llananno Northwest

Grid Reference: SO 092748

RIGS Category: Educational & Scientific

Earth Science Category: Silurian (Wenlock) Stratigraphy and Structure

Geology 1:50,000: BGS Sheet 180, Knighton (not yet mapped)

RIGS Statement of Interest:

This road-cutting is one of three RIGS in the Llananno area that collectively provide an important section through the middle Silurian strata that were deposited near the southeastern margin of the Welsh Basin. Again collectively, the three RIGS reveal a profile through a major, southeastward overturned fold that may mark a step at the basin margin, the Tywi Lineament, which became reversed during regional compression. This structure, here referred to as the Llananno Monocline, may be the SW continuation of the huge fold inferred near the Tan Y Foel Quarry RIGS.

This RIGS is distinguished from the other two near Llananno because it contains a spectacular slumped unit that reveals down-slope movement into the Welsh Basin, exposes small tectonic folds, and there are calcite veins that offer information about deformation processes. Moreover, the rocks here are not inverted as they are at the Llananno Central RIGS a short distance to SE. The rocks exposed here, belonging to the Penstrowed Grits Formation, have been the subject of recent investigations by researchers at Cambridge University, and are described in a well-known geological field guide (location 6, Dimberline & Woodcock, 1993).

Most of the section comprises beds of sandstone, reaching 0.5 m in thickness, interlayered with thinner bedded siltstone and mudstone. Using current-indicators exposed in the quarry and elsewhere, it has been shown that the sandstones were carried by submarine density currents from southern parts of the Welsh Basin whilst some of the finer sediments were transported in from the basin margin to the east. Statistical data have been obtained from the quarry section to study rates of sedimentation.

Surveyed by: W.R. Fitches