Kylerhea Glen

[NG 753 209]

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Introduction

This small site contains a representative and easily accessible reference section for the top part of the Beinn na Seamraig Formation, one of the component units of the Sleat Group. The formation consists of coarse-grained alluvial sandstones, with subordinate fissile grey mudstones, and is interpreted to have been deposited in a fault-bounded basin (Figure 4.2). The outcrops in Kylerhea Glen (Figure 4.10) display excellent examples of sedimentary structures in the sandstones, including current bedding, convolute bedding and slumping. The beds dip 22°–30° to the NNE and lie close to the hinge of the Lochalsh Syncline. Their structural position has probably accentuated the sedimentary features.

The rocks form extensive outcrops near the road at the head of Kylerhea Glen in the eastern part of the Sleat peninsula of Skye (Figure 4.10). The less-accessible type area for the formation, originally established by Peach *et al.* (1907), is at Beinn na Seamraig some 4 km to the south-west. Here, the formation is about 1100 m thick.

Description

The Kylerhea Glen GCR site consists primarily of craggy, etched sandstone outcrops of the Beinn na Seamraig Formation which lie some 1.5 km north of Bealach Udal. (Figure 4.12) shows the greater part of a continuous 15 m section through the site, and illustrates the variety of sedimentary structures present. The rocks are mainly coarse-grained sandstones and are greenish-grey in colour. Both trough and planar cross-beds are common, and around half of the beds show convolute bedding, which developed while the sediment was still wet, prior to consolidation and diagenesis. The bases of the sandstone beds are commonly erosive, while the tops frequently show ripple-drift lamination due to waning flow. Finer-grained beds are comparatively rare in the formation, but one is included in the measured section. It contains laminated siltstones and current-rippled, fine-grained sandstones similar to those seen in the upper part of the Loch na Dal Formation.

Interpretation

The coarse sandstones of the Beinn na Seamraig Formation were deposited in river and stream channels on a braided alluvial plain. The finer-grained beds, which in places form mappable units (Sutton and Watson, 1964), may represent the temporary advance of a lake margin across the area. Palaeocurrent directions derived from cross-bed and ripple-bedding orientations indicate a source area to the north (Sutton and Watson, 1964). However, Potts (1990) suggested that as the area lies within the Kishorn Thrust Sheet, it was possibly rotated *c.* 26° clockwise during Scandian deformation and thrusting.

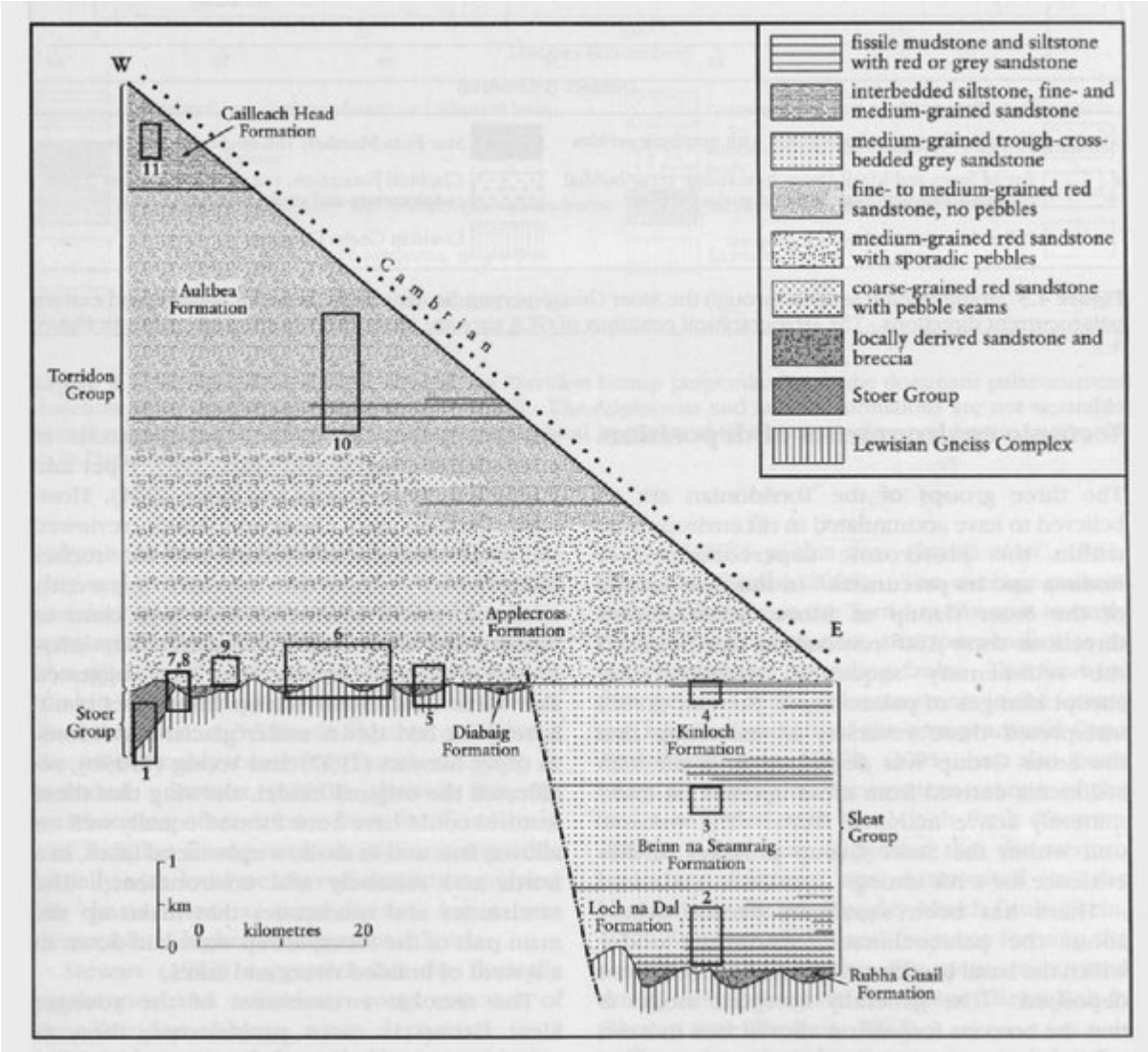
Hence, the original palaeocurrent direction may have been from the NNW The formation is interpreted as having been deposited in a NNE-trending fault-bounded trough (Figure 4.2) with coarser-grained sands supplied mostly from its north-western flank. The fine-grained sediment was deposited in an axial lacustrine or shallow-marine environment that prevailed periodically.

Conclusions

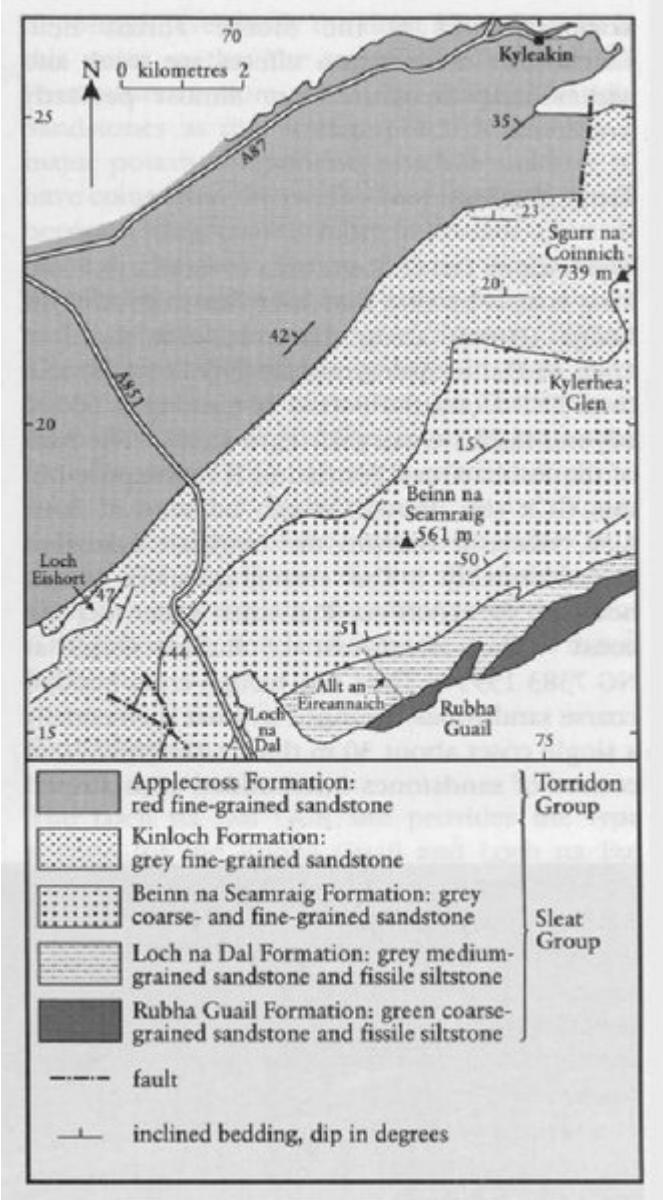
The Kylerhea Glen GCR site provides a coherent reference section for the Beinn na Seamraig Formation. This unit is restricted to Skye and Lochalsh, and except in Kylerhea Glen it is relatively inaccessible. The formation is over 1000 m thick and lies in the mid- to upper part of the Sleat Group, which formed in an early Neoproterozoic rift environment. It

contains excellent examples of sedimentary structures, such as cross-bedding and convolute bedding, in sandstones deposited mainly from braided rivers. Subsidiary fine-grained sandstones and siltstones represent deposition in short-lived lakes or during shallow-marine incursions. The site is nationally important to the understanding of the geological history and palaeogeography of the Sleat Group.

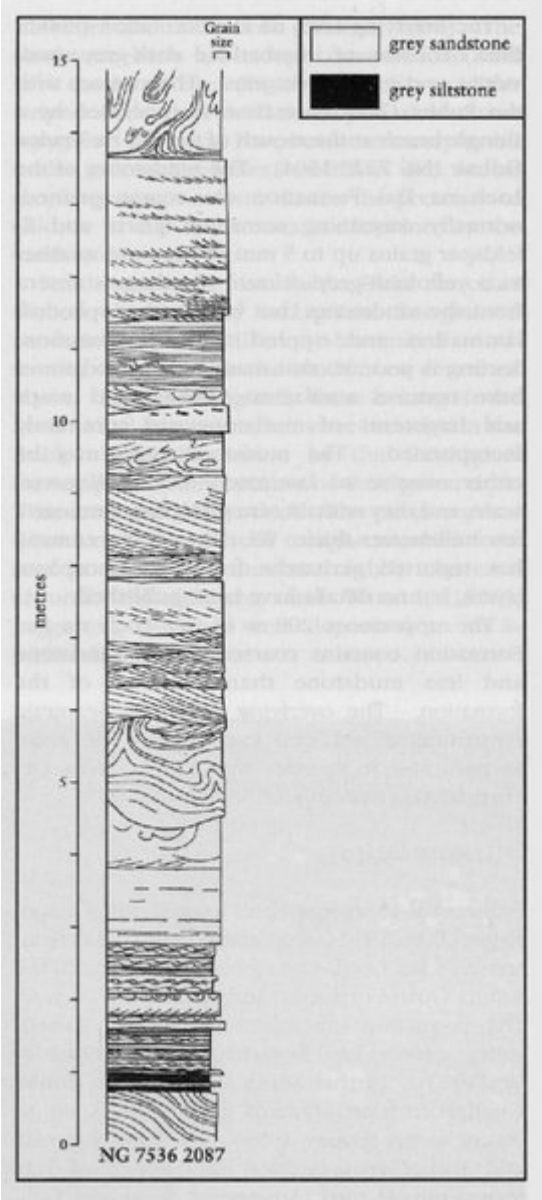
References



(Figure 4.2) Diagrammatic section through the Torridonian, parallel to the dominant easterly palaeocurrent directions. The stratigraphical positions of GCR sites are shown as boxes, numbered as in Figure 4.1.



(Figure 4.10) Geological map of the central part of the Sleat peninsula, Skye, showing the areas of the Loch na Dal, Kylerhea Glen and Loch Eishort GCR sites.



(Figure 4.12) Graphic log of part of the Beinn na Seamraig Formation in Kylerhea Glen, about 150 m north-east of the road summit. The grain-size scale at the top of the log spans +4 0 to 0 0 units (0.06–1mm). Sedimentary structures are illustrated schematically, but drawn as seen and to scale.