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# Loch Eishort

[NG 668 169], [NG 677 161]

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## Introduction

The Loch Eishort GCR site displays a reference section that is representative of the upper part of the Kinloch Formation, the youngest formation of the Sleat Group, which is well exposed in coastal exposures north-west of Drumfearn on the Sleat peninsula of Skye (Figure 4.10). Exposures of the formation near Kinloch, 3 km to the north-east, originally designated as the type area by Peach *et al.* (1907), are less suitable for the examination of sedimentary structures. The Kinloch Formation is about 1100 m thick and is composed of fine-grained grey sandstones and subordinate fissile mudstones of fluvial and lacustrine origin. The beds dip 40°–50° to the north-west and lie on the lower right-way-up limb of the Lochalsh Syncline.

## Description

The GCR site stretches from the craggy summit of Mullach an Achaidh Mhoir [NG 6770 1618] down its north-western flank to the raised-beach and rock-platform outcrops around the 'neck' near the head of Loch Eishort. Exposures are best seen on the coastal section. The Kinloch Formation here comprises fining-upward sedimentary cycles, individually 25–35 m thick, with strongly contorted, cross-bedded sandstones at the bases of the cycles, passing upwards into interbedded sandstones and siltstones (Stewart, 1966a).

The sandstones at the base of the cycles are uniformly fine-grained and of medium-grey colour. Large-scale trough-cross-bedding can be identified, and ripple-drift lamination is very common. The darker-grey fine-grained siltstones that form the top parts of the cycles have been preferentially ground down by glaciation and are now covered by shingle. These concealed siltstones can be seen on Skye 500 m south-west of Ob Gauscavaig [NG 591 115]. They consist of millimetre- and centimetre-thick beds of fissile, grey siltstone, commonly ripple-laminated (Stewart, 1966a). These correspond to the 'carbonaceous shales' that were searched unsuccessfully for fossils by the Geological Survey (Geikie, 1900).

## Interpretation

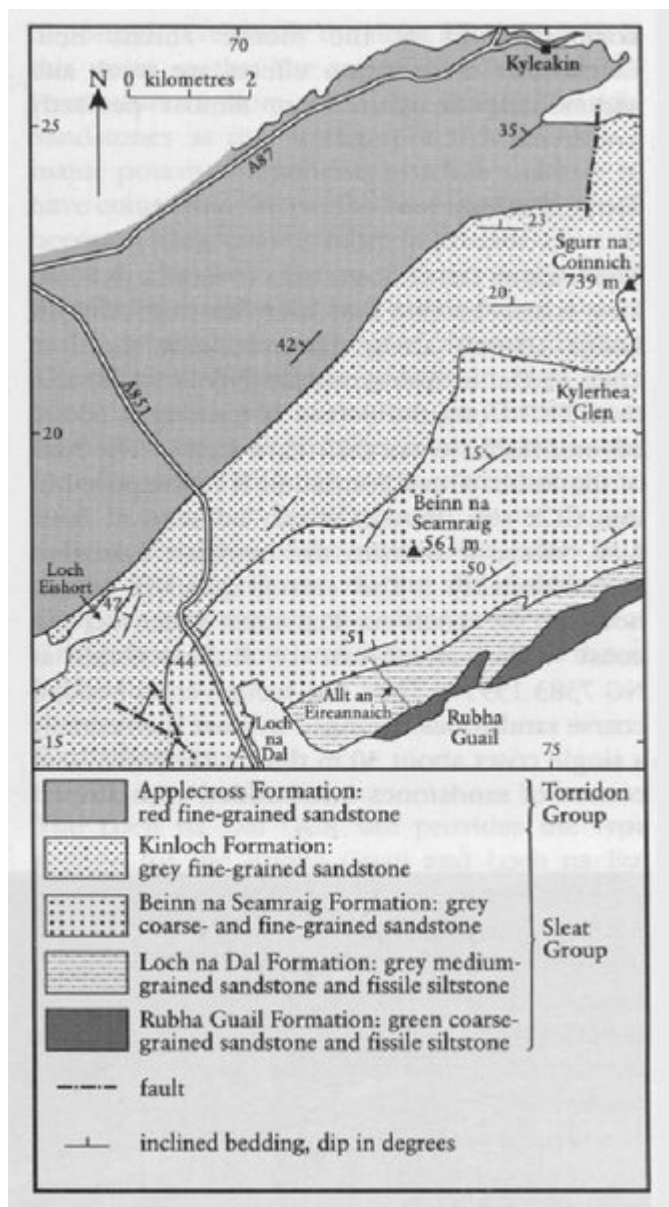
The sedimentary cycles at Loch Eishort are interpreted as having originated as alluvial-fan sandstones interfingering with lake or shallow-marine sediments. They are analogous to the Rubha Dubh Ard and Achduart members, which occur at the base of the overlying Applecross Formation (Torridon Group) and are described in the Achduart GCR site report (this chapter; Stewart, 1966a). Palaeocurrents in the Kinloch Formation flowed eastwards (Sutton and Watson, 1964), towards a permanent water body that expanded westwards periodically across the alluvial fans. The formation is interpreted as having been deposited in a NNE-trending fault-bounded trough (Figure 4.2) in which fine-grained sediment was deposited in an axial lacustrine or shallow-marine environment, while coarser-grained alluvial sediment was supplied from the western flank.

## Conclusions

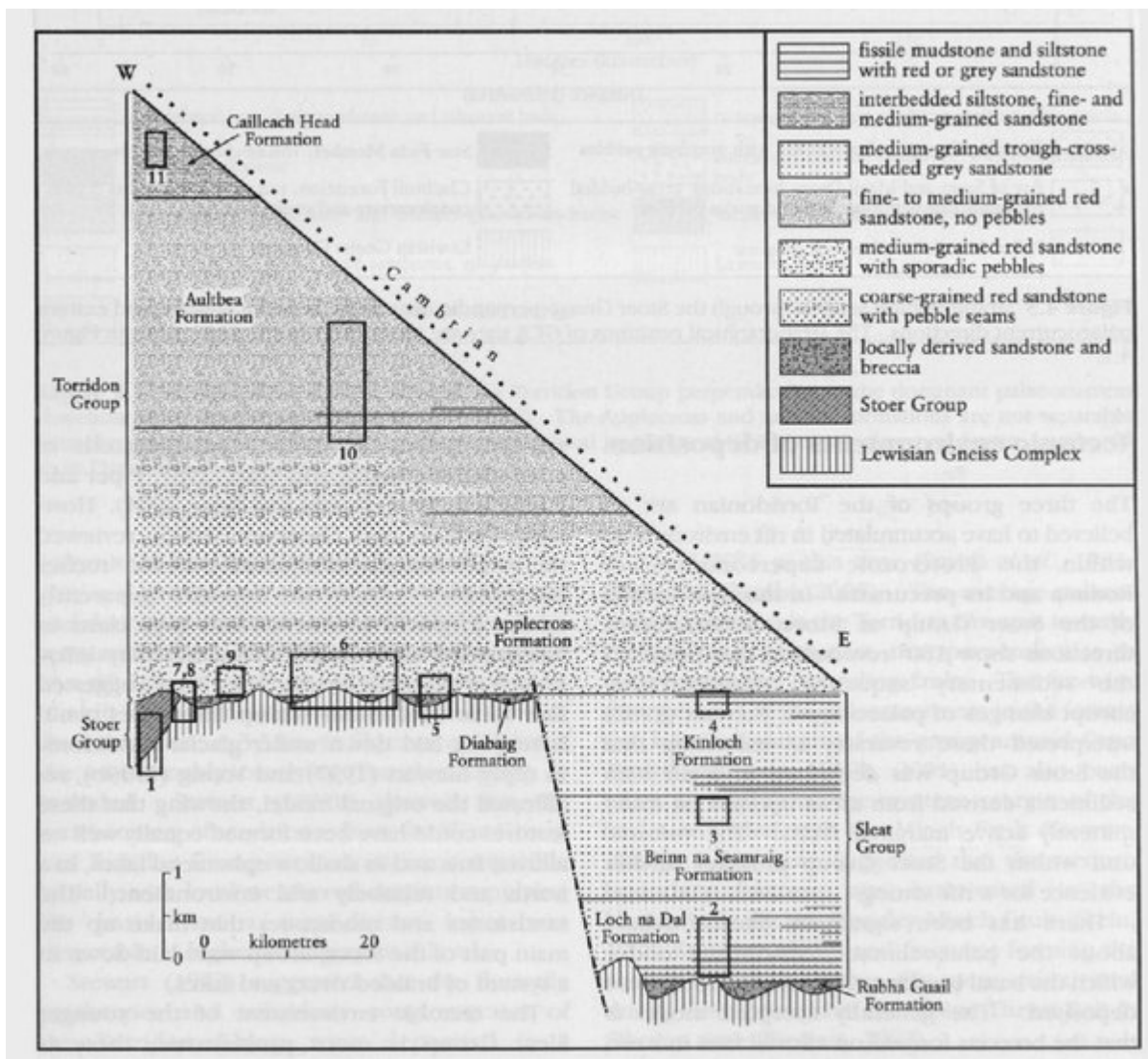
The Loch Eishort GCR site provides a reference section for the sandstones of the Kinloch Formation of the Sleat Group, which are not particularly well exposed elsewhere. As such it complements the Kylerhea Glen GCR site, and together they provide a picture of the depositional environment and palaeogeography of the upper part of the Sleat Group. The sandstones at the Loch Eishort GCR site show excellent examples of sedimentary structures that include trough cross-bedding, convolute bedding and ripple-lamination. They are interpreted as having been laid down on alluvial fans

and in ephemeral lakes in an early Neoproterozoic rift environment. The site provides a useful teaching and reference section, suitable for further study, and is of national importance.

### References



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



(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.