Capel Curig and Betws-y-Coed. Description of 1:25 000 sheet SH 75

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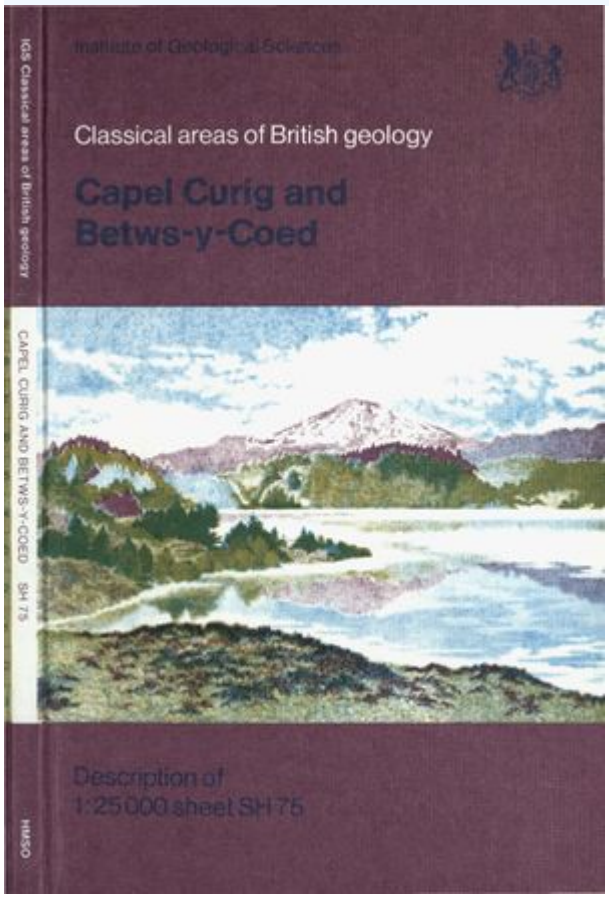
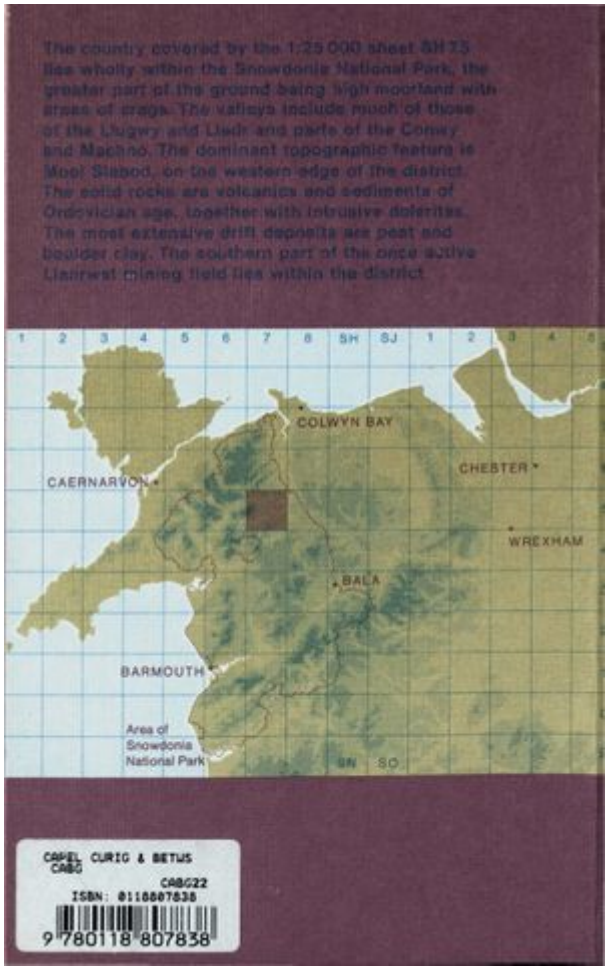
From: Howells, M. F., Francis, E. H., Leveridge, B. E. and Evans, C. D. R. 1978 Capel Curig and Betws-y-Coed. Description of 1:25 000 sheet SH 75 Classical areas of British geology, Institute of Geological Sciences. (London: Her Majesty's Stationery Office.)
Map: Sheet SH 75 Capel Curig and Betws-y-Coed. 1:25 000 series - Classical areas of British geology]

Under construction



Front cover.



Rear cover.
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Notes

National Grid references are given in the form [SH 7430 5001] throughout; all lie within the 100-km square SH. Numbers preceded by E refer to thin sections in the collections of the Institute of Geological Sciences, and numbers preceded by RV or DT to specimens in the fossil collections.

Preface

The first geological survey of the district by J. B. Jukes, W. T. Aveline and A. R. C. Selwyn was on the one-inch scale, published as an Old Series Sheet (78 SE) in 1852. The survey on which the present account is based was carried out by Drs Howells, Francis, Leveridge and Evans between 1968 and 1970 on the six-inch scale, supplemented extensively by aerial photographs. The published map (SH 75) covering the Capel Curig and Betws-y-Coed district is one of a series of sheets on the 1:25 000 scale being produced by the Institute of Geological Sciences to delineate the details of the complex Lower Palaeozoic geology of North Wales. The present account is designed to be read in conjunction with the map.

A.W. Woodland Director. 3 March 1977

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Glossary

Accretionary lapilli	Pellets formed by the concentric accretion of ash and dust around nuclei of condensed water drops or rock fragments in a volcanic dust cloud
Acid	Relating to igneous rocks containing more than 66 per cent of silica
Agglomerate	A volcanic rock formed of pyroclastic blocks or fragments generally more than 50 mm diameter
Albitisation	The partial or total replacement of the calcic (anorthite) component of plagioclase feldspar by sodic (albite)
Ash flow	A turbulent admixture of pyroclastic debris and hot gas which flows in directions imposed by the originating explosive eruption and by gravity
Axial plane	The surface that connects the axes of each plane within a fold
Basalt	A fine-grained lava or minor intrusion composed mainly of calcic plagioclase and pyroxene with or without olivine
Basic	Relating to igneous rocks containing less than 52 per cent of silica
Benioff Zone	The plane along which lithospheric plates sink into the upper mantle and where' earthquake foci are located
Breccia	A coarse-grained elastic rock composed of angular rock fragments set in a finer grained matrix
Caldera	A large volcanic depression generally circular in form which may include a vent or vents
Caledonian orogeny	Lower Palaeozoic earth movements which reached their culmination at the end of the Silurian
Columnar jointing	Prismatic fractures in lavas, sills or dykes which result from cooling
Convolute bedding	Complex contorted bedding laminae that are confined to a well-defined undisturbed layer
Cwm	An armchair-like hollow generally situated high on the side of a mountain; produced by the downcutting of a glacier
Devitrification	The replacement of glassy texture by crystalline texture in a volcanic rock during or after cooling
Disconformity	An unconformity in which the bedding planes above and below are essentially parallel
Dolerite	A medium-grained igneous rock generally forming minor intrusions and consisting mainly of calcic plagioclase and pyroxene, commonly with an ophitic texture, and sometimes olivine
Epiclastic rock	A sedimentary rock formed of fragments derived by weathering and erosion of older rocks
Eutaxitic texture	The texture in tuffs where shards and pumice are flattened and deformed around crystal and lithic fragments
Euhedral crystal	A crystal showing its natural faces without significant modification
Flame structure	Flame-shaped intrusions generally of mud grade that have been squeezed upwards into the overlying generally coarser layer

Fluxoturbidite	A sediment deposited under the influence of both turbidity currents and slumping
Gabbro	A coarse-grained intrusive igneous rock composed essentially of basic plagioclase and pyroxene with or without olivine
Gangue	The uneconomic minerals of an orebody
Greywacke	A poorly sorted sandstone with angular to subangular quartz and feldspar fragments and a wide range of lithic fragments set in a clayey matrix
Hyaloclastite	A deposit composed of comminuted basaltic glass formed by the fragmentation of the glassy skins of basaltic pillows or by the violent eruption of basaltic material under submarine conditions
Hydrothermal alteration	Alteration by or in the presence of water at high temperature
Ignimbrite	A form of tuff composed of fragments welded together as they coalesce
Inlier	An outcrop of rocks enclosed by younger strata
Isocline	A fold with parallel limbs
Lahar	A mudflow composed of volcanoclastic material
Lapilli	Fragments in the range of 5 to 50 mm ejected by volcanic eruption
Load cast	A sole mark composed of sediment of sand grade protruding down into finer grade material and formed as a result of unequal loading
Lode	A mineral vein in consolidated rock
Moraine	A mound of unsorted debris deposited by a valley glacier (in this account ground moraine is referred to as boulder clay)
Ophitic	An igneous texture where prismatic plagioclase crystals are intergrown with pyroxene crystals
Outlier	An outcrop of rocks surrounded by older strata
Parataxitic texture	An extreme variation of eutaxitic texture in tuffs where the shards are flattened and drawn out
Pericline	A fold in which the dip of the beds has a central orientation
Perlitic texture	Small-scale arcuate cracks caused by cooling in volcanic glass
Plate tectonics	Global tectonics based on an earth model characterised by a number of large lithospheric plates which move on the underlying mantle
Plunge	The inclination of a fold axis
Poikiloblastic texture	The texture formed where a newer recrystallised mineral surrounds relicts of earlier minerals
Pumice	A highly vesiculated glassy lava light enough to float
Pyroclastic	An elastic rock formed by explosion or eruption from a volcanic vent
Rhyolite	An extrusive igneous rock of acid composition, commonly porphyritic and flow banded
Roche moutonnee	An elongate crag scoured by glaciation with a smooth gentle upstream side and a rough steep downstream side
Septarian fractures	Radiating fractures at the centres of concretions which intersect concentric fractures and are generally infilled with calcite or quartz
Shard	A glass fragment typically found in pyroclastic rocks having distinctive cuspate margins
Sole markings	A term commonly used to describe the undersurfaces of a bed infilling underlying sedimentary structures
Solifluction	The slow, viscous downhill flow of waterlogged soil or other surface material especially in regions underlain by frozen ground

Spilite	An altered basalt in which the feldspar has been albitised and the dark (mafic) minerals altered to low-temperature hydrous minerals
Thixotropy	The property of some colloidal substances to change viscosity when sheared; disturbed water-laden sediments may behave in an analogous way
Tuff	A lithified deposit of volcanic ash
Tuffite	An admixture of pyroclastic (>25 per cent) and epiclastic (>25 per cent) material
Unconformity	A break in the stratigraphical sequence marked by a structural discordance
Vent	An opening through which volcanic deposits are extruded or ejected
Vesicle	A small cavity in a lava formed by included gases
Vitroclastic	Texture of a pyroclastic rock composed mainly of cuspate glass fragments
Welded tuff	A pyroclastic rock in which individual particles were sufficiently plastic to agglutinate

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