



## South Wales RIGS Group Site Record RIGS Description

**SECTION A**

General	South Wales
<b>Site Name:</b> Pen Cerrig Calch	<b>File Number:</b> Site_DH_10
<b>RIGS Number:</b> 636	<b>Surveyed by:</b> Elizabeth Bew
<b>Grid Reference:</b> SO 2180 2230	<b>Date of Visit:</b> 22 <sup>nd</sup> August 2010
<b>RIGS Category:</b> Scientific, aesthetic	<b>Date Registered:</b>  <b>Owner:</b> Unknown
<b>Earth Science Category:</b> Stratigraphic, structures	<b>Planning Authority:</b> Powys County Council
<b>Site Nature:</b> Mountain Top	<b>Documentation prepared by:</b> Rhian Kendall
<b>Unitary Authority:</b> Powys County Council	<b>Documentation last revised:</b> 22 <sup>nd</sup> February 2012
<b>OS 1:50,000 Sheet:</b> 161	<b>Photographic Record:</b> Attached
<b>OS 1:25,000 Explorer Sheet:</b> OL13	
<b>BGS 1:50,000 Sheet:</b> 214	
<p><b>RIGS Statement of Interest:</b></p> <p>The site is part of a network of early Carboniferous sites (RIGS and GCR) in south Wales that, collectively, allow the regional stratigraphy and carbonate sedimentology to be studied. The site forms part of the sub-network of sites for the Dinantian limestone.</p> <p>Pen Cerrig Calch is the most northerly exposure, in South Wales of the Carboniferous limestone. Its northerly position provides valuable insight into the depositional environment beyond the main limestone outcrop. It also provides evidence of a major fault near Crickhowell which continues north east towards Forest Coal Pit.</p>	

**Geological setting/context:**

Pen Cerrig Calch is the most northerly exposure of Carboniferous Limestone in South Wales. Exposed at this site are 20m of strata, the sequence of which is composed of red and white sandstones and limestone, overlain by a quartz sandstone.

The lowermost unit of red and white sandstones is the Uppermost beds of the Quartz Conglomerate Group of the Old Red Sandstone and are correlated with the beds at the summit of the Sugar Loaf mountain which is to the east of this locality. These conglomeratic beds are generally red in colour but are sometimes almost colourless making them very similar in appearance to the Marros Group (Millstone Grit) rocks.

The Quartz Conglomerate Group is overlain by a sequence of limestones, divided into three lithological units. A lower limestone, followed by a Crinoidal limestone which is in turn overlain by a Yellow Oolite.

The oldest limestone unit appears to conformably succeed the Quartz Conglomerate Group. T N George called this the Modiola Phase which can be correlated with the base of the Avon Group (Lower Limestone Shales), elsewhere along the northern crop of the limestone. These beds total about 3 to 4.5m thickness and are thinly bedded muddy limestones with interbedded grey and yellow mudstones. Fossil diversity and frequency is low.

The Crinoidal Limestone is grey and coarse grained and overlays the Modiola Limestone with a gradual transition between the two units. This unit is approximately 4.5 to 6m thick. Fossils are abundant in this unit and are typical of the faunas found in the K1 zone. These include spirifers, *Syringothyris*, *Productus* and *Camarotoechia*.

The highest unit – the Yellow Oolite is approximately 10.5 to 12m thick. It is a coarse rock, composed of ooliths of variable size. The beds are occasionally stained with iron and the ooliths area sometimes stained red. Fossils are rare.

The quartz sandstone which overlies the limestone is thought to be Millstone Grit (Now renamed Marros Group) however, some workers think that it could be a sandstone horizon within the Carboniferous Limestone.







At Pen Cerrig Calch, rocks dip 15 degrees SE, however, if this is projected, it would put the limestone beneath the position see in the main outcrop. This would indicate the presence of a Calidenoid fault between these two points. The throw of this fault, named the Coedcerrig Fault is estimated to have a throw of about 200m.

**References:**

DAVIES, J H, HOLRODY, J, LUMLEY, R G, OWEN-ROBERTS, D. 1983. Geology of Powys in Outcrop.

GEORGE, T N. 1928. The Carboniferous Outlier at Pen-Cerig-calch. Geological Magazine (1928) 65, pp162-168

**SECTION B**

<b>PRACTICAL CONSIDERATIONS:</b> Please score Accessibility and Safety Red Amber or Green			
<b>Accessibility:</b>			X 
Comment: Fairly easily accessible from footpaths			
<b>Safety:</b>			X 
Comment: Upland area so appropriate foot-ware and clothing required			
<b>Conservation status:</b> There are no known conservation designations of this RIGS			

<b>OWNERSHIP/PLANNING CONTROL:</b> <b>Owner/tenant:</b> Unknown  <b>Planning Authority:</b> Powys County Council <b>Planning status/constraints/opportunities:</b> There are no known planning constraints or opportunities
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<b>CONDITION, USE &amp; MANAGEMENT:</b> <b>Present use:</b> Countryside <b>Site condition:</b> Good if a little overgrown  <b>Potential threats:</b> None  <b>Site Management:</b> None
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<b>SITE DEVELOPMENT:</b> <b>Potential use (general):</b>  <b>Potential use (educational):</b> This site and the adjacent Table Mountain and the Darren make an excellent educational resource for geology students to highlight stratigraphy and faulting as well as landslide studies
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<b>Other comments:</b>
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## Photographic Record



Limestone outcrop on Pen Cerrig Calch. Photograph by Elizabeth Bew



Sandstone boulders on Pen Cerrig Calch. Photograph by Elizabeth Bew