



South Wales RIGS Group Site Record RIGS Description

SECTION A

General	South Wales
Site Name: Primrose Hill Quarry	File Number: Site_DH_1
RIGS Number: 689	Surveyed by: Elizabeth Bew and Duncan Hawley
Grid Reference: SO 2070 2000	Date of Visit: 2011
RIGS Category: Scientific	Date Registered: Owner: Unknown Planning Authority Powys County Council
Earth Science Category: Stratigraphic, Palaeontological	
Site Nature: Disused Quarry	Documentation prepared by: Elizabeth Bew and Duncan Hawley
Unitary Authority: Powys County Council	Documentation last revised: 6 th March 2012
OS 1:50,000 Sheet: 161	Photographic Record: Attached
OS 1:25,000 Explorer Sheet: OL13	
BGS 1:50,000 Sheet: E232	
<p>RIGS Statement of Interest:</p> <p>Primrose Hill Quarry (Llanfair) near Crickhowell has been suggested as a RIGS for two reasons. The first is that it exposes a good section through the Senni Formation of the Lower Devonian which has been described in British Geological Survey their Abergavenny Memoir.</p> <p>The second reason for its proposal is because it is the location where a rare vertebrate fossil <i>Pteraspis cornubica</i> was discovered. This is one of only three sites in Wales. This fossil is important as it dates the rocks in the quarry and therefore allows it to be accurately correlated with other sites of this age.</p>	

Geological setting/context:

Primrose Hill Quarry is to be found approximately 0.5km north of Llanfair Farm to the West of Crickhowell.

The quarry exposes a stratigraphic sequence near the top of the Senni Formation. It is predominantly medium to thickly bedded sandstones with large scale cross stratification. The sandstones are green and red, medium to coarse grained, pebbly in parts. Intra-formational mudstone clasts are present in the scoured bases of units and some red-brown and green mudstone beds up to 2m thick occur. Fallen blocks of green sandstone contain red mudstone burrow fills.

Dips vary from 5 to 15 degrees to the south west. A detailed stratigraphic log from the quarry is given on the 1:10,000 geological map (Sheet SO 22 SW)

The Senni Formation is interpreted as having a fluvial origin. The intraformational conglomerates and sandstones are deposited within channels. They are stacked in high energy, multistory sequences. Finer grained sandstones are thought to be levee or crevasse splay deposits. The mudstones seen within the sequence represent floodplain environments and deposition in temporary lakes. (Barclay 1989)

Vertebrate fossils are very rare within the Senni Formation and are only known from three sites at the stratigraphic horizon exposed at Primrose Hill Quarry. The other two sites are Heol Senni Quarry in the Brecon Beacons National Park and Ferryside in Carmarthenshire.

White, in his 1938 paper, described three specimens found at Primrose Hill Quarry. He ascribed them to *Pteraspis (Rhinopreaspis) dunensis* (Romer), (syn *cornubica*), with various degrees of confidence due to the preservation of the specimens.

Pteraspids are an extinct group of primitive jawless fish that had protective armoured plating covering the front part of their body. This species is taken as the Breconian index fossil in South Wales and the Welsh Borders. Details of these fossils can be found in Whites paper, referenced below.

The whole quarry has been covered in vegetation. Only steep cliff sides are still exposed and there is limited access to base of cliff due to thick vegetation. It is approx 150m wide but encroachment by vegetation reduces the available faces. Remaining exposed sections are approximately 30m high and 60m wide.

References:







BARCLAY, W J. 1989. Geology of the South Wales Coalfield, Part II, the country around Abergavenny, Memoir for 1:50,000 geological sheet 232. 3rd Ed

BARCLAY, W J and WILBY, P R. 2003. Geology of the Talgarth District. A brief explanation of the geological map. Sheet explanation of the British Geological Survey. 1:50,000 Sheet 214 Talgarth.

DINELEY, D. & METCLAF, S. 1999. Fossil Fishes of Great Britain, Geological Conservation Review Series, No. 16, Joint Nature Conservation Committee, Peterborough

WHITE, E I. 1937. New Pteraspids from South Wales. Quarterly Journal of the Geological Society v94

SECTION B

PRACTICAL CONSIDERATIONS: Please score Accessibility and Safety Red Amber or Green			
Accessibility:			X 
Comment:			
Safety:		X 	
Comment: The site has high cliffs so hard hats should be worn			
Conservation status: There are no known conservation designations of this RIGS			

OWNERSHIP/PLANNING CONTROL: Owner/tenant: Unknown Planning Authority: Powys County Council Planning status/constraints/opportunities: There are no known planning constraints or opportunities
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CONDITION, USE & MANAGEMENT: Present use: None. Disused Quarry Site condition: Poor. Vegetation needs to be cleared to fully appreciate the features of this site. Potential threats: This site could be reopened as a quarry. This could result in new faces if extraction was managed sensitively. The site could also become in filled by vegetation and rubbish. Site Management: Site clearance could improve this site

SITE DEVELOPMENT: Potential use (general): Potential use (educational): This site is useful for the study of the Senni Formation and also for further research into the fossil assemblages that may be found here. This could include fossil fish or early plant fossils.
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Other comments:

Photographic Record



Cliff face looking north, 30m high