



South Wales RIGS Group Site Record

RIGS Description

SECTION A

General	South Wales
Site Name: Newbridge on Usk	File Number: Site_233_250_61
RIGS Number: 685	Surveyed by: South Wales Geologists' Association
Grid Reference: ST 3990 9360	Date of Visit: 27 th March 2010
RIGS Category: Scientific, educational	Date Registered: Owner: Unknown Planning Authority: Newport City Council
Earth Science Category: Stratigraphic, Palaeontological	
Site Nature: Disused Quarry	Documentation prepared by: Rhian Kendall
Unitary Authority: Newport City Council	Documentation last revised: 28 th March 2012
OS 1:50,000 Sheet: 171	Photographic Record: Attached
OS 1:25,000 Explorer Sheet: 152	
BGS 1:50,000 Sheet: E250	
RIGS Statement of Interest:	
<p>Quarry Mawr within Wentwood Forest has been proposed as a RIGS as it is a good example, in the far east of the Wales of the Brownstones Formation. The Brownstones are Devonian in age.</p> <p>Rocks from this formation are used extensively, but very locally as building stones. The quarry is a good resource for education as it contains sedimentary features that illustrate the environment in which these rocks were deposited. The quarry is also important for the understanding of vascular plant evolution as it is known to contain examples of plant fossils early in their history as they made the transition to land.</p>	

Geological setting/context:

Quarry Marr is a disused Quarry, 410m ESE of the ruins of Wills Wentwoods' House in Wentwood Forest which worked the Brownstones Formation.

The quarry has been proposed as a RIGS because it is a good example of a Brownstones Formation outcrop and also for its potential for plant fossils. It also displays a range of sedimentary features which would be educationally useful.

The Brownstones Formation is the highest unit in the Lower Devonian. The Formation is made up of purple-grey micaceous sandstones with bands of red and green calcareous mudstones. The highest parts of the Brownstones Formation contains scattered quartz, coloured chert, quartzite, fine grained grits and calcareous silt pebbles. Within the lowermost parts of the formation, calcretes are present. (Welch and Trotter 1961). The Brownstones Formation is made up of a series of upwards fining cycles. The sandstones form extensive sheets of tabular bedded, parallel laminated and tabular and planar cross bedded channelled sandstones. The sequence is thought to represent a prograding fan forming in a semi arid, seasonally wet environment. The finer grained sediments are likely to be deposited as floodplain muds and silts (Howells 2007).

The quarry is recorded in the Monmouth and Chepstow Memoir as having the following sequence:

Hard Brown Sandstone – 3.6m
Buff sandy shale – 0.6m
Conglomeratic cornstone – 3.8m
Brown sandstone, shaly at top – 2m

Recent field observations support this with the exception of a thinner lowermost unit which is now obscured by vegetation and scree. The plant fossils *Pachytheca* and *Psilophyton* have been recorded locally from a khaki-coloured pelleted sandstone. *Pachytheca* was recorded on the recent field visit but only unidentifiable pieces of vascular plant were observed on that occasion. Both were from the Buff sandy shale described in the sequence above.







The majority of outcrop to northern end of the quarry with the main outcrop is approx 40 m long and in places attains a height of approx 5 m.

References:

HOWELLS, MF. 2007. British Regional Geology: Wales (Keyworth, Nottingham: British Geological Survey

WELCH, F B A and TROTTER, F M, 1961. Geology of the country around Monmouth and Chepstow. Explanation of one-inch geological sheets 233 and 250. Memoir of the Geological Survey of Great Britain.

SECTION B

PRACTICAL CONSIDERATIONS: Please score Accessibility and Safety Red Amber or Green			
Accessibility:			
Comment: Easily accessible but difficult to find			
Safety:			
Comment: Hard hats should be worn as the quarry is up to 5m high			
Conservation status:			

OWNERSHIP/PLANNING CONTROL: Owner/tenant: Unknown Planning Authority: Newport City Council Planning status/constraints/opportunities:
--

CONDITION, USE & MANAGEMENT: Present use: None. Disused quarry Site condition: Good but becoming infilled with scree and vegetation Potential threats: None Site Management: Recommend that the site is cleared of vegetation and scree to maintain access to faces
--

SITE DEVELOPMENT: Potential use (general): Potential use (educational): The quarry has been proposed as a RIGS because it is a good example of a Brownstones Formation outcrop and also for its potential for plant fossils. It also displays a range of sedimentary features which would be educationally useful. It is however difficult to find.

Photographic Record



General view of the quarry (photo Malcolm Shaw)



View of succession within the quarry. The obvious bed half way up this picture is the calcrete. (photo Malcolm Shaw)