South Wales RIGS Group Site Record
RIGS Description

SECTION A

General	South Wales
Site Name: Llanbadoc	**File Number:** Site_RSK_19
RIGS Number: 703	**Surveyed by:** South Wales Geologists' Association
Grid Reference: SO 3750 0020	**Date of Visit:** 17th July 2010
RIGS Category: Educational, Scientific, historical	**Date Registered:**
Earth Science Category: Stratigraphic, palaeontological	**Owner:** Unknown **Planning Authority:** Monmouthshire County Council
Site Nature: Disused Quarry and cottage	**Documentation prepared by:** Rhian Kendall
Unitary Authority: Monmouthshire County Council	**Documentation last revised:** 7th 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:

This is a two part RIGS. The site has been proposed because the disused quarries here expose rocks of the Lower Llanbadoc Beds which are not well exposed within the Usk inler.

The Lower Llanbadoc Beds are fossiliferous, making this site an excellent resource for the study of fossils and also for education. This quarry is also the type locality for two bivalves, meaning that it was the place that these species were first discovered and described.

Also of interest to the north of this site is a cottage, which is the birth place, in 1823 of Alfred Russel Wallace OM, FRS. Wallace was a naturalist, anthropologist and biologist and geographer. He proposed a theory of evolution by natural selection that prompted Charles Darwin to publish his more famous theories on the same subject.

Geological setting/context:

This site is the quarries on the west side of the Usk to Caerleon road to the north of Llanbadoc which is south of the town of Usk. It is put forward as a RIGS for a number of reasons: It is a good example of the Lower Llanbadoc Beds within the Usk Inlier. It is also a good fossil locality which is useful for education. It's also of note as the type locality for a number of fossil species.

The disused quarries here expose rocks of the Lower Llanbadoc Beds. These beds were known as the Aymestry Limestone and thought to correlate with the Upper Bringewood Beds of the Wenlock and Ludlow areas. The quarry is approximately 10m high and 80m wide.

The Lower Llanbadoc Beds approximately 35m thick and are thickly bedded, medium to dark green calcareous silty mudstones, calcareous siltstones and impure nodular limestones. The rocks are interpreted as being deposited in a "sheltered, low energy environment on the inner shelf, protected by carbonate barriers and shell banks on a shelf edge" (Barclay 1989)

The Lower Llanbadoc Beds are fossiliferous, containing*: Artypa reticularis, Leptaena depressa, Strophonella euglypha, Isorthis orbicularis, Spaerirhynchia wilsoni, Kionoceras angulatum, Pterina* sp, *Membexia lloydi, Poleumita globosa, Favosites* and solitary corals. (Walmsley 1982)

This quarry is also the type locality for two bivalves *Pteronitella inexpectata* sp nov and *Gosseletia? Tawneyi* sp nov

Also of interest to the north of this site is a cottage, which is the birth place, in 1823 of Alfred Russel Wallace OM, FRS. Wallace was a naturalist, anthropologist and biologist and geographer. He proposed a theory of evolution by natural selection that prompted Charles Darwin to publish his more famous theories on the same subject. He is sometimes described as a "bio-geographer" and as such theorised about the geographical distribution of animals and how natural selection leads to speciation. Wallace's interest in bio-geography led him to become one of the first scientists to raise concern on the environmental impact of human activity.

References:

BARCLAY, W J. 1989. Geology of the South Wales Coalfield, Part II, the country around Abergavenny. Memoir of the British Geological Survey, Sheet 232, (England and Wales).

Cowper Reed in Gardiner CI. 1916. The Silurian Inlier of Usk. Proceedings of the Cotteswold Naturalists Field Club, Vol XIX, pp129-170.

SQUIRRELL, H C and DOWNING, R A. 1969. Geology of the South Wales Coalfield, Part I, the country around Newport (Mon), British Geological Survey, Sheet 249 (third edition)

WALMSLEY, V G. 1982. In: The Silurian inliers of the south-eastern Welsh Borderland. Lawson, J D, Curtis, M L K, Squirrell, H C, Tucker, E V and Walmsley, V G. Geologists' Association Guide No. 5.

Alfred Russel Wallace. Wikipedia. Accessed October 2011. http://en.wikipedia.org/wiki/Alfred_Russel_Wallace

SECTION B

PRACTICAL CONSIDERATIONS:
Please score Accessibility and Safety Red Amber or Green

Accessibility:		X	
Comment: Very overgrown and steep in places. Could be improved with site clearance			
Safety:		X	
Comment: See above. It also has high faces 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: Monmouthshire County Council

Planning status/constraints/opportunities:

There are no known planning constraints or opportunities

CONDITION, USE & MANAGEMENT:

Present use: None. Disused quarry

Site condition: Poor

Potential threats: Encroachment by vegetation

Site Management: The site needs to be cleared of vegetation to facilitate access to the faces.

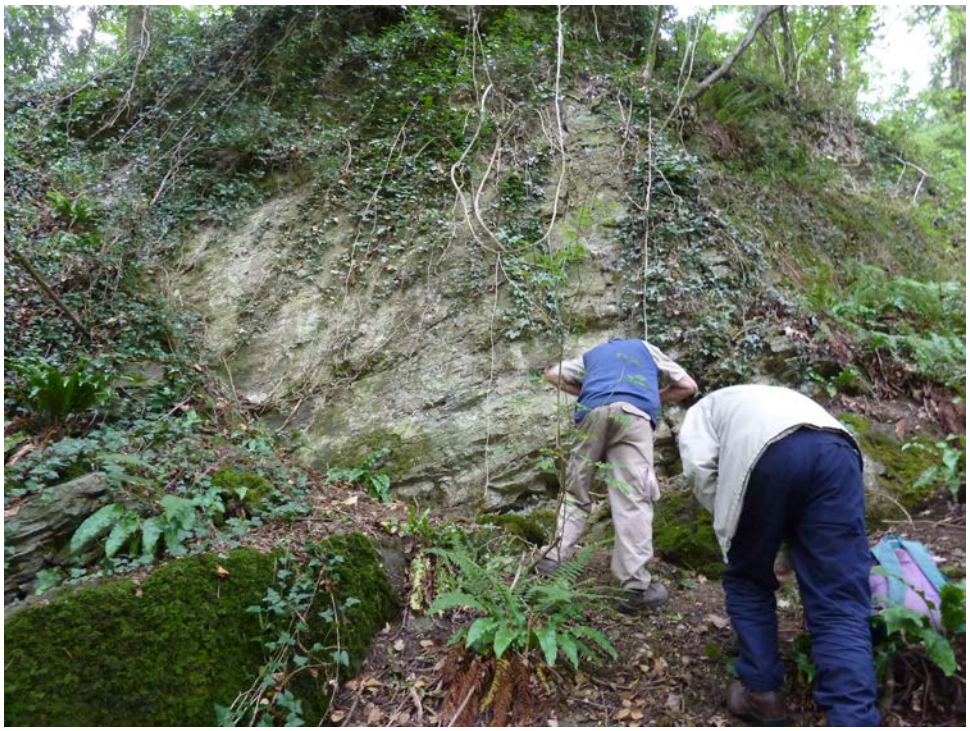
SITE DEVELOPMENT:

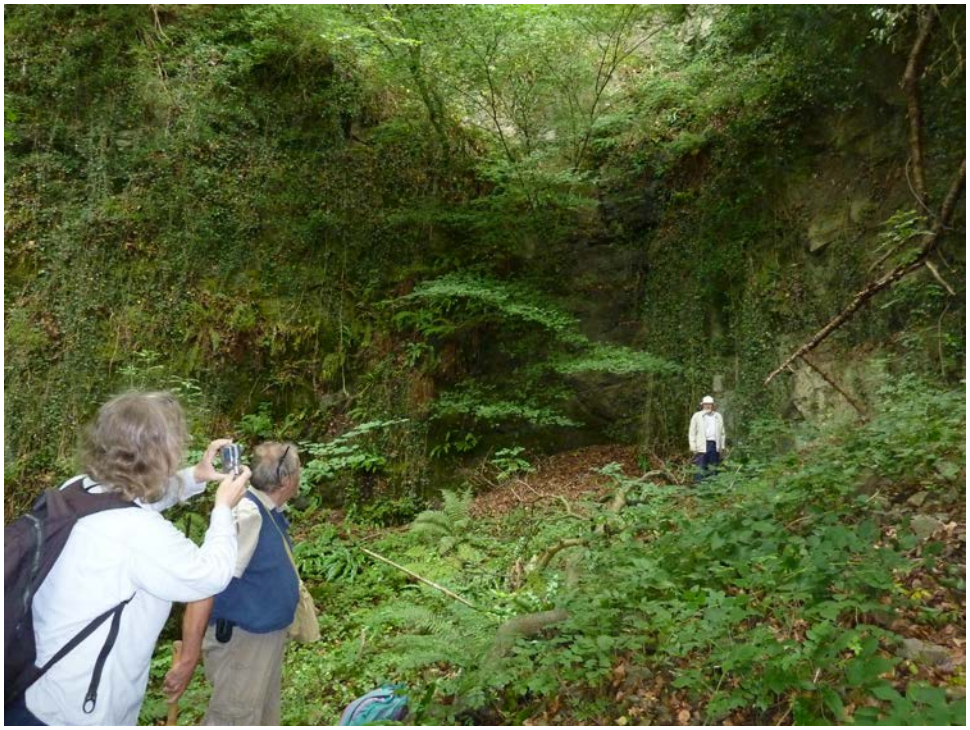
Potential use (general):

Potential use (educational): This site is interesting because it provides a rare opportunity to examine the Lower Llanbadoc Beds. It is also potentially educationally useful is fossils are very common here. Sites in which fossils are commonly found tend to be good for inspiring people to learn more about geology.

Other comments:

Photographic Record





Views of the north end (above) and west face (below) of the quarry

The birth place of Alfred Russel Wallace

Plaque dedicated to the memory of Alfred Russel Wallace at St Madoc Church, Llanbadoc.