



South Wales RIGS Group Site Record RIGS Description

SECTION A

General	South Wales
Site Name: Llantilio Crossenny	File Number: AH_57
RIGS Number: 742	Surveyed by: AJ Humpage
Grid Reference: SO 39970 14890	Date of Visit: 18 June 2011
RIGS Category: Scientific	Date Registered: Unknown
Earth Science Category: Geomorphological, Sedimentological	
Site Nature: Mainly farmland	Documentation prepared by: AJH
Unitary Authority: Monmouthshire CC	Documentation last revised: 19 August 2011
OS 1:50,000 Sheet: 161	Photographic Record: See images attached to this report
OS 1:25,000 Explorer Sheet: OL 13 and OL 14	
BGS 1:50,000 Sheet: 233 (Monmouth)	
<p>RIGS Statement of Interest: This site forms part of a network of important scientific sites within the South Wales RIGS area associated with the maximum limit of the last (Devensian) Ice Age.</p> <p>The glacial chronology of the area north of Raglan is not well understood. and has not been subjected to detailed geomorphological mapping. Outline mapping by Williams (1968) identified possible morainic ridges, kettle holes and further channels in the undulating terrain between Llantilio Crossenny and Raglan and from this he inferred the area lay within the Devensian limit. Lewis and Thomas (2005) proposed a Devensian glacial limit just to the east of Llantilio Crossenny based largely on Williams work.</p> <p>The importance of lowland depositional basins in the lower Usk/Wye catchments as recorders of rapid environmental change is becoming increasingly apparent (e.g. Shakesby <i>et al</i> 2007) and are increasingly being the subject of scrutiny (e.g. Coleman and Parker 2007). As a consequence this site as one component of a network of ice marginal sites with the potential to hold important environmental change signals in South Wales could be of scientific significance.</p>	

Geological setting/context:

The site is within Upper Silurian (Pridoli) interbedded mudstones and siltstones with rare thin sandstones of the Raglan Mudstone Formation. The ability of this formation to weather and erode has assisted in the development of the well-defined glacial outwash features visible at this location.

The village of Llantilio Crossenny is surrounded by a suite of sediments and geomorphological features associated with the maximum ice extent of the Usk Valley Glacier during the Late Devensian (Dimlington Stadial) Ice age (26,000 – 13,000 BP). In the area north of Raglan, this limit has not been well defined, and is largely reliant upon the mapping of glacial lake clays in the 1930's (BGS 1960) and a reconnaissance geomorphological survey undertaken by Williams (1968). Lewis and Thomas (2005) as a consequence placed the Devensian maximum ice limit to the east of Llantilio Crossenny village.

The main feature of this RIGS is a north-south oriented dry channel just east of Llantilio Crossenny church and about 0.5km south of the B4233 MAbergavenny to Monmouth road, and which has been interpreted (Williams 1968) as a glacial overflow channel feature incised into the underlying Raglan Mudstone Formation bedrock. The most defined part of the channel extends for about 150m and is 60m wide with a flat or gently sloping floor and 10-12m high channels side sloping at 15-20°. East of this main channel, are a further series of channel landforms, less well developed, but which may indicate short-lived periods of outflow from the lake basin which is defined by the glacio-lacustrine sediments to the north of the village. This suite of channel forms are possibly associated with drainage variations along an oscillating ice margin, prior to final drainage of the lake through the main channel.

Unless the glacio-lacustrine deposits and outflow channels were formed during a stillstand of the Usk valley glacier retreating from the maximum ice limit, it is presumed by this author that the main body of ice (and thus the Devensian ice limit) lay in the valley of the River Trothy to the south of the village and the lake was impounded between the ice and the higher ground (probably ice free) to the north, the outflow channels allowing drainage towards the east. This is in variance with the limit proposed by Lewis and Thomas (2005). However, significant further research is required.

References:

Coleman, C.G. and Parker, A.G. (2007). Waun Ddu Bog. In: S.J. Carr, C.G. Coleman, A.J. Humpage and R.A. Shakesby (Eds). *Quaternary of the Brecon Beacons: Field Guide*. Quaternary Research Association, London.







Lewis, C.A. and Thomas, G.S.P. (2005). The Upper Wye and Usk Regions. In: CA Lewis and A.E. Richards (Eds). *The Glaciations of Wales and Adjacent Regions*. Logaston Press, Logaston, Herefordshire.

Shakesby, R.A., Coleman, C.G. and Carr, S.J. (2007). Quaternary Landscape

Evolution. In: S.J. Carr, C.G. Coleman, A.J. Humpage and R.A. Shakesby (Eds). *Quaternary of the Brecon Beacons: Field Guide*. Quaternary Research Association, London.

Williams, G.J. (1968). *Contributions to the Pleistocene Geomorphology of the Middle and Lower Usk*. Unpublished PhD thesis. University of Wales.

SECTION B

PRACTICAL CONSIDERATIONS: Please score Accessibility and Safety Red Amber or Green			
Accessibility:			X 
Comment: Accessible where crossed by public rights of way allowing features to be viewed. Otherwise, permission will be required.			
Safety:			X 
Comment: Open farmland.			
Conservation status: There are no known conservation designations on this RIGS.			

OWNERSHIP/PLANNING CONTROL: Owner/tenant: Unknown / various Planning Authority: Monmouthshire County Council Planning status/constraints/opportunities: There are no known planning constraints or opportunities

CONDITION, USE & MANAGEMENT: Present use: Farmland Site condition: Mainly open pastureland Potential threats: None known at present Site Management:

SITE DEVELOPMENT: Potential use (general): detailed scientific research and geomorphological mapping, coupled with lake sediment analysis would benefit this site Potential use (educational): Good site to view and explain glacial overflow channels. A panel adjacent to the church would aid interpretation.

Other comments:

Photographic Record



The main outflow channel at Llantilio Crossenny immediately east of the village church. View looking north towards drained glacio-lacustrine basin.



View north-east from churchyard across main channel. On left are the remains of the cellars of Llantilio Court demolished in 1930.



View east from churchyard across main channel



View south from [339865 215133] down the main outflow channel



View north



View south-east – note well-defined channel slopes



View east across 60m wide channel







Channel floor looking north – note curve to channel



View looking south towards River Trothy



View north-west across main channel towards church (out of view immediately to left)



As above - church beyond tall trees on left



View south-east over floodplain of River Trothy.



View north-east showing further evidence of channel development.



Area of further channelling east of main well-defined channel





View south-east over floodplain of River Trothy



Southern edge of main well-defined channel



View north from River Trothy showing outlet from main well-defined channel onto floodplain with possible outwash fan in foreground [340030 214645]



Shallow channel north-west of village looking NW from [339380 214535]. Till mantled bedrock rising to left.



Further view across shallow channel at [339380 214535]. Bedrock ridge on skyline



Further view across shallow channel at [339380 214535]