

# LATE MESOLITHIC HUMAN OCCUPATION AT THE WETLAND-DRYLAND INTERFACE: INVESTIGATIONS AT LLANDEVENNY

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## INTRODUCTION

The first report on research at Llandevenny detailed the discovery of a new Mesolithic occupation site at the interface between the wetland and the dryland (ST 41258665), located 5 km east of Newport and 7 km northeast of the excavated late Mesolithic sites at Goldcliff. Worked lithic artefacts, including a microlith of late Mesolithic date, and tuff flakes similar to those found in late Mesolithic contexts at Goldcliff, were retrieved in association with charcoal from two main occupation layers sealed by peat (Brown 2002). Pollen, plant macrofossil and micro-charcoal analysis of samples retrieved from the excavation during 2002 is now complete, and was augmented in May 2003 by further sampling of the Holocene sequence *c.* 200 m further out onto the wetland. Here, coring located a deep sequence of peat, estuarine clays and basal minerogenics to a depth of *c.* 7 m. A total peat thickness in excess of 5.5 metres represents the deepest peat sequence to be found on the Gwent Levels (Brown 2002; fig 2). Pollen and micro-charcoal analysis on this long sequence (core LL2) is largely complete.

This study forms part of postgraduate research undertaken by the author in the Archaeology Department, University of Reading, supervised by Prof. Martin Bell and Dr. Petra Dark. The project involves a programme of archaeological, palaeoenvironmental and sedimentological research on Mesolithic to Bronze Age sites within the Severn Estuary region. It aims to achieve an understanding of how human communities were utilising wetland and adjoining dryland environments by examining the evidence for human activity and impact within, and at the

interface between, these environments (such as evidence for fire events, forest clearance, arable/pastoral activity), and to identify the role human modification played in the wider landscape evolution of the Severn Estuary.

The purpose of this short paper is to detail the preliminary results of excavation at Llandevenny during 2003, in particular, analysis of a further assemblage of worked lithic artefacts.

## STRATIGRAPHIC CONTEXT

The stratigraphic sequence at Llandevenny has been outlined in detail (Brown 2002, fig 2), consisting of a deep sequence of peat and estuarine silt deposits extending across the now reclaimed and drained former wetland. These thin approaching the wetland edge, with 0.9 m of peat exposed within the excavation. The site lies at the interface between the wetland and the dryland towards the edge of a bedrock peninsula of the 'Old Red Sandstone' formation (Squirrell and Downing 1969), and consists of two main occupation horizons sealed by peat; a lower sandy-loam and upper organic silty-sand layer.

The sedimentary sequence exposed by further excavation to the south differed slightly from that previously recorded. A thin basal wood peat was observed to intersect the basal sandy-loam occupation layer and the upper organic silty-sand occupation layer along the west facing section (Figure 1). The boundary between the basal peat and upper occupation horizon is undulating, and at times indistinct, visible largely as a subtle change in colour and organic/mineral content.

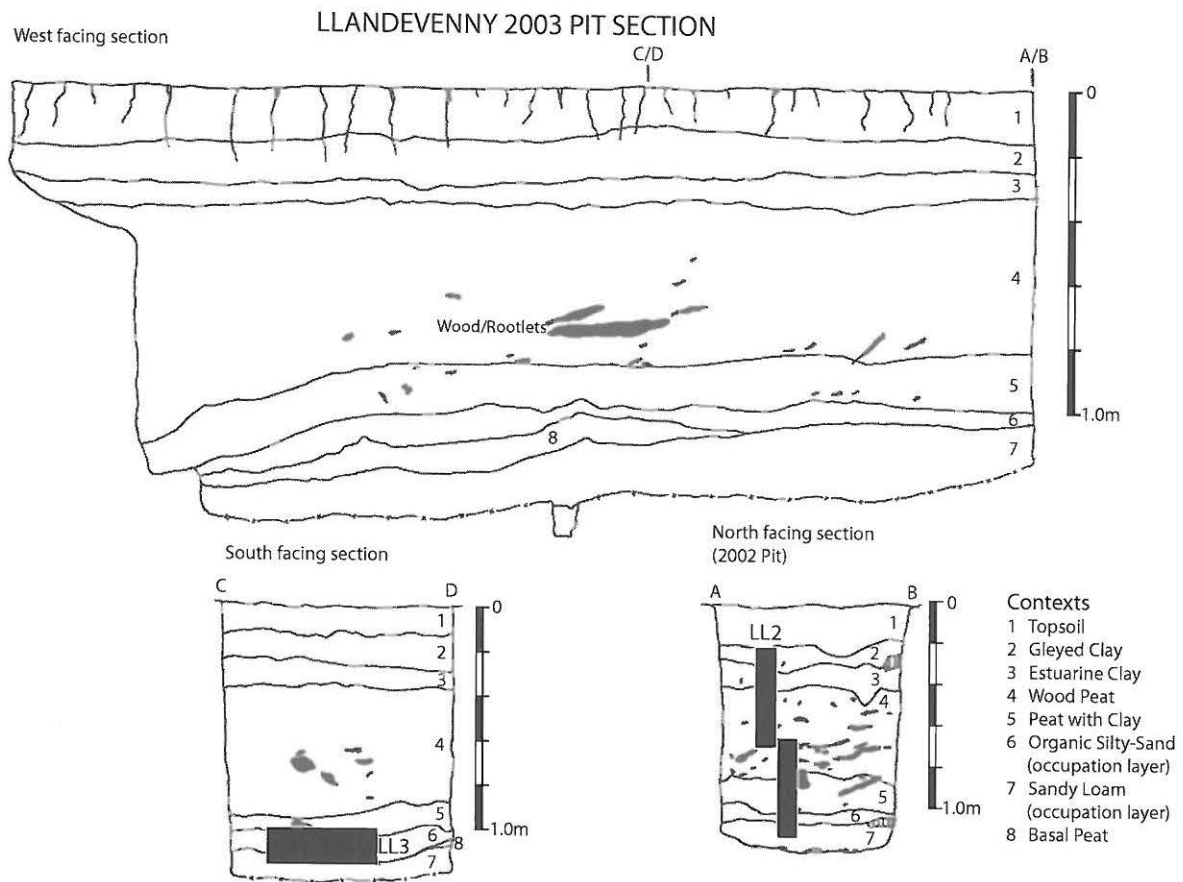


Figure 1: Llandevenny 2003 Pit section with location and context of samples.

## EXCAVATION AND SAMPLING

The aim of fieldwork during the summer of 2003 was to retrieve a larger stratified lithic assemblage, and to explore the plant macrofossil potential of the site. The 2002 pit was re-excavated and extended by 2 m to the south. Excavation yielded a further assemblage of worked lithic artefacts from the occupation horizons. On re-excavation of the 2002 pit, a monolith tin (LL3) was inserted horizontally into the south facing section. Analysis of bulk samples from this section taken during 2002 indicated a higher density of plant macrofossils than that retrieved from the north section. In addition, an entire metre of the occupation layers was sampled and flotation sieved. This accounted for 10 kg of sieved sediment (40 litres unprocessed sediment). Analysis of plant macrofossils from both the monolith tin and bulk samples is largely complete. The former includes 16 consecutive 150 ml samples at 1 cm increments, whilst the latter

involved analysis of  $\frac{1}{4}$  of the total sieved sediment. This has produced an assemblage of 8234 seeds, some charred (1.5%). Sites with evidence for plant utilisation in the Mesolithic are rare (eg Zvelebil 1994). As such, this represents a key assemblage for examining issues of subsistence, seasonality and mobility in the late Mesolithic.

## LITHIC ASSEMBLAGE

Excavation of a 1 m<sup>2</sup> test pit during 2002 produced an assemblage of 96 worked lithic artefacts (Brown 2002). Re-excavation and extension of this test pit during the summer of 2003 has resulted in the retrieval of a further 244 worked lithic artefacts. The 2003 assemblage is composed largely of flakes and flake shatter, with a smaller quantity of cores, blade-flakes, a thumbnail scraper and an edge retouched flake. Included also are a number of stones with definite signs of having been heat fractured, and a

Deposit	Peat with clay (Context 5)	Peat/Organic silty-sand transition (Context 5/6)	Organic silty-sand (Context 6)	Organic silty-sand/sandy-loam transition (Context 6)	Sandy-loam (Context 7)	Total
Cores	-	-	1	-	3	4
Core trimming elements	-	-	1	-	-	1
Flakes	13	2	18	-	29	62
Blade-Flakes	-	-	-	1	2	3
Shatter	5	2	104	-	54	165
Scrapers	-	-	1	-	-	1
Edge re-touched flakes	-	-	-	1	1	2
Hammerstones	-	-	1	-	-	1
Heat fractured pebbles	-	-	3	-	2	5
<b>Total</b>	<b>18</b>	<b>4</b>	<b>128</b>	<b>2</b>	<b>91</b>	<b>244</b>

Table 1: Preliminary outline of Llandevenny 2003 lithic assemblage.

probable hammerstone (Table 1). Approximately half of the assemblage was recovered during the course of hand-excavation, the remainder being retrieved from floatation sieved bulk samples of the occupation layers. This no doubt accounts for the retrieval of large quantities of flake shatter, and highlights the benefits of employing sieving techniques to retrieve micro-debitage, itself an important indicator of the nature of on-site activity.

Lithic artefacts were concentrated within two occupation layers; the organic silty-sand (52.5%) and the top 10 cms of the lower sandy-loam (37.3%). No lithic artefacts were retrieved from the basal peat intersecting the occupation layers, although lithic artefacts were retrieved from the peat (7.4%) sealing the upper organic silty-sand occupation horizon.

Artefacts of particular interest include an edge retouched flake (no 65) which has the appearance of a projectile point. Both the distal and proximal ends exhibit burination and damage that would not be inconsistent with an artefact being both hafted and utilised as a projectile point. Also present is a flake with a central notch (no 8), which although unlikely to have been intentionally

knapped, exhibits fine hackles towards the edge of the notch. Closer examination under a hand-lens reveals a slightly abraded surface on the edge of the notch which might be use-wear, perhaps from scraping sinew? The assemblage also includes a core trimming element from a bladelet core (no 85), and a scraper (no 95).

Lithologically, flint comprises the majority of the assemblage (95.08%). A large proportion exhibit a heavy white patina (39%), the remainder varying in colour from predominantly dark grey with occasional lighter grey mottles, to smaller quantities of light grey and very occasionally, yellow-brown. These appear to be derived largely from pebbles and cobbles of restricted size, exhibiting signs, where cortical surfaces remain, of having been water worn. Non-flint lithologies are also present, but in very small quantities. These include a number of chert artefacts (1.64%) of both Greensand and Carboniferous chert types, and tuff artefacts (3.28%) of a coarser mid-grey variety (Allen, JRL pers comm). The tuff portion of the assemblage, comprising six flakes, an edge retouched flake, and one blade-flake, are all larger in size than the flint flakes, and appear to have derived, as John Allen (2000) noted in the context of tuffs from

Goldcliff West, from 'larger cobbles than was typical of the flint and chert' (Allen 2000; 38).

Similarities exist between the Llandeenny and Goldcliff lithic assemblages. Both contain a restricted range of lithologies, principally flint of a comparable colour range, and lesser quantities of chert and tuff (Bell *et al* 2000). Whilst chert is present within a number of lithic assemblages from southeast Wales, most notable from Waun-Fignen-Felen in the eastern Black Mountains (Barton *et al* 1995) and sites in the Rhondda Valley (Stanton 1984; Locock 2000), Llandeenny is the only late Mesolithic context other than Goldcliff to have produced tuff. Allen (2000) argues that all lithologies could potentially have been acquired from the marine and fluvial gravels of the inner Bristol Channel and Severn Estuary, but given the modest degree of percussion marks indicative of fluvial transport, are more likely to have been procured from the Pleistocene terrace deposits within the lower Severn Estuary (Allen 2000; 38-9).

Given the lithological parallels between the Goldcliff and Llandeenny assemblages, and the geographical proximity of the sites to each other, it is not unlikely that both include an element procured from similar geographically located outcrops, involving movement of both people and resources between both coastal, riverine and inland areas. Tuff, although comparatively rare in both assemblages, may have been particularly sought after.

In addition to the main lithic assemblage, five unstratified liths were retrieved 100 m to the west at Green Meadow Farm, from a spoil heap derived from machine clearance during building work. They are undiagnostic as to date, but may indicate some extension of the Llandeenny site in this direction.

## CONCLUSION

Llandeenny represents a significant new stratified late Mesolithic occupation site. Worked lithic artefacts are present in high densities, in the order of 150 per sq. metre. Finds of tools are rare, but the high percentage of flakes (25.4%) and flake shatter (67.6%) indicates *in-situ* knapping activity. Lithological parallels are evident

between the Llandeenny and Goldcliff assemblages, which it is argued here, may potentially represent exploitation of similar geographically located raw material sources, either within the intertidal zone, and/or from the Pleistocene terrace deposits along the river valleys. Associated with the lithic evidence is an assemblage of plant macrofossils, including charred seeds and other plant material. Charcoal is abundant within the occupation layers, and pollen analysis by the author further out onto the wetland has identified a reed burning phase of possible contemporaneous late Mesolithic date.

Taken together, the archaeological and palaeoenvironmental data from Llandeenny will allow consideration of a number of critically important research questions relevant to both wider regional and national studies of the Mesolithic in Britain. These include issues of subsistence, particularly the use and role of plants in the late Mesolithic economy. It provides the opportunity to test the theory that communities were increasingly engaged in resource exploitation strategies geared towards increasing the productivity of wild plants (eg Zvelebil 1994). Important also is whether this took place within a landscape increasingly impacted upon and manipulated by late Mesolithic communities, and, in particular, the role that fire played in hunter-gatherer communities. Charred seeds from the occupation layers offer the potential to identify the season of occupation. It is also hoped to establish whether there is evidence that late Mesolithic communities were increasingly settling down or maintaining a largely mobile lifestyle, and whether we can recognise movement between, and exploitation of, different landscape zones (eg coasts, inland-dryland and upland).

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