



WELSHBURY HILL FORT, FOREST OF DEAN, GLOUCESTERSHIRE

WORK CARRIED OUT BETWEEN 28 FEBRUARY 2015 AND 27 FEBRUARY 2016

Undertaken on behalf of an informal working partnership between University of Gloucestershire, Forestry Commission, Historic England and the Gloucestershire County Council Archaeology Service.

DEAN ARCHAEOLOGICAL GROUP

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1.0 SUMMARY

1.1 A small scale exploratory excavation within Welshbury Hill Fort was undertaken as part of a PhD research project at the University of Gloucestershire. The site is located on a wooded hill top on the eastern margin of the Forest of Dean, Gloucestershire and the hill fort is scheduled under the Ancient Monuments and Archaeological Areas Act 1979.

1.2 The PhD research project aims to re-assess the status of Sweet Chestnut (*Castanea sativa*) in Britain – to determine whether it is an archaeophyte of Roman origin, as conventionally prescribed, or of earlier or later origins.

1.3 The project was set up as an informal working partnership between University of Gloucestershire, Forestry Commission, Historic England and the Gloucestershire County Council Archaeology Service. Monmouth Archaeology provided the technical archaeological supervision and Dean Archaeological Group carried out the excavation.

1.4 Two trenches were excavated. Trench 1 was found to be an integral part of the outer hillfort defences and not an historical breach as had been previously thought. Two flint flakes were found and soil samples for Optically Stimulated Luminescence (OSL) dating analysis were taken.

1.5 Trench 2 revealed a shallow u-shaped ditch but with no Iron Age artefacts or evidence of ditch infill from that period. Both Roman (mid-3rd to late-4th century AD) and medieval (mid-13th to mid-14th century AD) pottery fragments were recovered from the lower layers of the ditch soil infill; and soil samples were taken from stratified deposits in the ditch infill for pollen and OSL analysis. A single piece of large charcoal (of ash *Fraxinus excelsior*) was recovered and radiocarbon dated to the 2nd – 3rd Century AD.

1.6 The results of the soil and pollen analysis will be published in a separate report.

2.0 INTRODUCTION

Site location

2.1 The hill fort is located 1 km to the west of the village of Flaxley centred on OS Nat. Grid reference SO 6780 1560 and encloses an area of approximately 2.5 ha. (Figs. 1& 2).

2.2 The excavation of two trenches required Scheduled Monument Consent from Historic England and an access agreement from Forestry Commission (FC) as site owners and managers. The Scheduled Monument Consent and the FC Agreement were obtained in November 2014 and February 2015 respectively; survey work commenced on 14 January 2015 with a site visit to determine the exact positions and working methods for the two trenches.

Site history

2.3 The Historic England List entry (Number: 1018158) states that:

'The final form of Welshbury hillfort is consistent with a 'developed' hillfort dating to the Middle Iron Age period from c.300 BC, although some elements of the entrance construction have been paralleled with later Iron Age examples, c.100 BC - 50 AD. Welshbury hillfort and associated earthworks have been subject to a detailed survey by the Royal Commission on the Historical Monuments of England (RCHME) [1995] which has identified a sequence of landscape features dating from at least the Bronze Age to the beginning of the Roman period. The earthworks represent a well preserved later prehistoric landscape and will contain archaeological and environmental information valuable to the understanding of the interrelation of Bronze Age field systems and settlement with Iron Age hillforts and the development and function of hillforts. The site of the hillfort is covered with a naturally regenerated lime woodland which is clearly of some antiquity and is a well preserved survivor of a woodland type common in pre-Neolithic England.'

2.4 Post 1995, a gradiometer survey was carried out on the site by Substrata Limited in 2005 as part of a pilot study for the Forest of Dean Archaeological Survey and a number of potential archaeological structures were identified (Archaeology Service, Gloucestershire County Council 2005). In 2004 a LIDAR survey of Welshbury (and also the Flaxley Woods and Chestnut Hill area) was undertaken by the University of Cambridge Unit for Landscape Modelling on behalf of the Forestry Commission (Devereux et al 2005).

2.5 The Gloucestershire County Council Historic Environment Record (HER) contains a number of HER entries that record the recovery of artefacts from the vicinity of Welshbury Wood and the adjacent Chestnuts Wood. (See References). These include Iron Age pottery, Prehistoric flint finds, Roman pottery and iron slag. An iron, Roman-type spear/javelin head was found in the ditch of the outer rampart of the hillfort and a post-medieval iron sword and 17th century coin were recovered around 1990. In 1992 a rare Celtic coin was discovered 450m south east of Welshbury hillfort. A small number of Romano-British occupation sites have also been identified on Chestnuts Hill, Littledean.

3.0 OBJECTIVES

3.1 An archaeological excavation of two small exploratory trenches within Welshbury Hill Fort, was undertaken to:

- 3.1a Locate soil deposits suitable for palaeoenvironmental analysis.
- 3.1b Obtain pollen/charcoal samples from stratified deposits that can be securely dated.
- 3.1c Provide information on the history of the site and its environs.
- 3.1d Contribute data to the broader research project on sweet chestnut in Britain.

4.0 METHODOLOGY

4.1 Both trenches were hand dug and all finds recorded. Excavation was undertaken stratigraphically and planned to be taken down to bedrock. Deposits were assessed for their palaeoenvironmental potential and samples taken accordingly. Written and drawn records were kept and a photographic record was maintained throughout.

4.2 The site archive (including artefacts) will be deposited with the Dean Heritage Centre.

5.0 RESULTS

Fieldwork

5.1 Trench 1 was commenced on 28 February 2015 and excavations completed end-March 2015; backfilled on 18 December 2015. Trench 2 was commenced in mid-March 2015 and excavations completed by end-July 2015; backfilled on 27 February 2016 (Figs. 1 & 2). Work on both trenches was not continuous and was carried out in phases as determined by the palaeoenvironmental sampling strategy.

5.2 A description of the geological structure exposed by both trenches is at Appendix 4.

Trench 1

5.3 The excavation was 310cms long x 150cms wide x 45cms max depth oriented east-west across the concave opening between the higher hill fort rampart to the north and the lower shallow bank to the south.

5.4 This opening had been thought, prior to the excavation, to be a more recent breach through an original prehistoric bank, extending from the presumed truncated end of the southern bank to abut the northern rampart, opened perhaps as a forestry track in the last 100 years or so. The new excavation planned to recut the cut end and create a vertical section through the southern bank, to expose a postulated buried soil profile preserved beneath that bank, presumed by the RCHME survey to be of late Bronze Age or early Iron Age construction (Figs 3, 4 & 5).

5.5 The excavation quickly revealed that the presumption of a recent breach was incorrect: a deep ditch had been cut at some time into the solid geology underlying the shallow bank; and this ditch subsequently appeared to be an original feature of the hill fort, of Iron Age construction (Fig. 6).

5.6 On the south side of this ditch, the trench exposed the form of the shallow bank overlying the original land surface (Fig. 7 & 8). There was no clear buried soil profile at this juncture; and the broken rubble nature of the bank material and the ground below it, heavily infiltrated by tree roots, was judged not to be appropriate for pollen preservation or stratification. No soil sample for pollen analysis was extracted. Two cores were taken on 4 March 2015 from this southern face of the trench for OSL

dating, to attempt a reference date for the bank construction (Core 01 = 60 cms down from surface level; Core 01B = 80 cms down).

5.7 On the north side of this ditch, the trench exposed the nature of the construction of the earthwork of the hill fort with large angular blocks laid on top of the bedrock and looser rubble overlying. The actual point of contact for the made ground with the bedrock was hard to discern (Figs. 9 & 10).

5.8 Trench 1 was not fully excavated to its natural base: a maximum depth of 1 metre of infill material was removed, at the NE corner, and the presumed bedrock base was not reached. The fill was non-stratified and composed of random size and orientation clasts, with large angular stone blocks in a matrix of sandy/silty soil, presumably derived from the collapse of facing and outer surface materials of the hill fort bank above it to the north.

5.9 The only finds recovered from approximately 2 cubic metres of spoil excavated were two flint flakes, both from at or near-surface levels (Figs. 11 & 12). Charcoal was absent.

5.10 A box trench was dug into the NE corner of the trench and a soil block sample removed for potential pollen analysis. Two soil cores were taken from the northern side of the trench face for OSL analysis situated in the infill of the broken rubble layer above the solid bedrock, to attempt a reference date for the footings of the earthwork (Core 02 160cms. down from break of slope, Core 03 170cms. down from break of slope,).

Trench 2

5.11 The excavation was 340cms long x 150cms wide x 90cms depth oriented east-west across the middle ditch of the three-ditch sequence, lying between the north-south aligned ramparts on the western west-facing slope of the hill fort. The location of the trench in the ditch was chosen to be clear of adjacent trees and evident roots and not showing signs of previous disturbance (cf. the ditch section just to the north which had been disturbed previously) (Fig. 13).

5.12 A trench across the width of the ditch (as measured at current surface) was excavated in a stepped manner, to reveal the nature of the infill and its potential depth and stratification. The first exposure of the surface of the ditch revealed that there was no A horizon with leaf mould – instead a relatively clean (c.35-40cm) brown silty soil (01), except at the west margin where angular stone rubble from the facing bank of the rampart had collapsed into the ditch edge. No finds were present.

5.13 This over-layed a red sandy clay with a large number of small stone inclusions (c.30-35 cm from the surface at centreline of the ditch) (02). On reaching an excavation depth of 65 cms, saturated soil was encountered; excavation below this level was flooded with seeping groundwater and required de-watering at each re-working of the trench, throughout the spring-summer period. Context (02) produced eleven sherds of Roman pottery from the north face of the section (see also para

5.17 and para 5.22) and five sherds of medieval pottery from the south face of the section.

5.14 Context (02) sealed a red re-deposited clay (c.10 cm) (04) and below that, a second layer of red sandy clay with small stone inclusions (c.10-15 cm) (05). A lens of red re-deposited clay containing flecks of charcoal (c.10-20cm) (06) was recorded in the south face of the section within context (02). No finds were recorded in (04), (05) or (06).

5.15 Soil cores for OSL analysis were taken on 15 March 2015; Core 04 from the east side of the ditch into the steep face of the earthwork at 55cms depth (02) relative to ditch surface level, and Cores 05 & 06 from the west side of the ditch into the bank and earthwork at 85cms (05) and 25cms (01) depth respectively.

5.16 A site meeting was held on 22 April 2015 to review the progress of the trench. At this point a section was cut out of the base of the trench at the centreline, on the north face of the trench, taking the base down to approximately 74cms below surface level.

5.17 Six pieces of Roman pottery were recovered from this block of fill material lying between 70cms and 74cms below the surface (02). Small flakes of charcoal were also recovered from this block. A 15 litre bagged sample of the soil associated directly with the pottery was also taken, for subsequent palaeoenvironmental analysis.

5.18 Also on that date, three samples of soil for pollen analysis were taken from the northern face of the trench. Tin 1 at 45-65cms below surface at centreline, 160cms from western margin (02), Tin 2 at 56.5-76.5cms below surface at centreline, at 160cms from west margin (02), Tin 3 at 100cms below surface at the western margin, 16cms east of the trench side (natural substrate). A core for OSL analysis was taken from behind each Tin location (Cores 07, 08 & 09) (Core 07, behind Tin 2, was taken from context (04)).

5.19 Subsequently, the base of the trench was lowered to find the exact original base of the ditch; and also the trench was extended to each side to west and to east to attempt to find the original cut sides or signs of any revetment that might have formed the steep faces of the banks/ramparts above.

5.20 The final depth of the trench stopped at bedrock at 90cms below surface at the centreline; the basal bedrock appears to have been originally cut to a shallow U-shaped ditch. The west side of the ditch was found to be solid bedrock, overlain by rubble foundations for the bank above. The cutting into the east side of the ditch had to stop short of finding any obvious structure or bedrock, for fear of over steepening/ undercutting the high rampart slope above (Figs. 14 – 22). The extension of the trench on its east side against the south face of the trench (i.e. in its SE corner) exposed five pieces of medieval pottery in the south face. A bulk soil sample for analysis was taken from this pottery context on the south face of the trench.

5.21 As noted above, during the excavation it became clear that the base of the ditch was influenced by ground water. The base of the trench flooded, to a relatively

constant water level at 75 cms below surface at centreline, +/- temporarily stored rainfall or drought. It is presumed that this indicates the normal groundwater level in this part of the hill fort ditch.

5.22 On 16 February 2016 a new section was cut back from the centreline of the north face (width 500cm by 500cm depth) to obtain further pollen and OSL samples – taken on 18 February 2016. As the section was cut back, a further five sherds of Roman pottery were recovered.

Palaeoenvironmental Sampling

5.23 OSL samples were taken from Trench 1 and Trench 2. Pollen samples were only taken from Trench 2. The results of this sampling strategy are the subject of a separate report. One piece of charcoal (*Fraxinus*) was recovered from Trench 2 and subsequently radiocarbon dated to the AD 2nd – 3rd Century (see Appendix 2 for BETA Analytic report). Details of the sample locations are at Appendix 5.

The Finds

5.24 Two flint flakes were excavated from Trench 1 (Figs. 11 & 12).

5.25 An analysis by Peter Webster (NUMW, Cardiff) of the six Roman pottery sherds recovered in February 2015 from the north face of Trench 2 identified the sherds as Oxford Ware dated from the mid-3rd to late-4th century (Appendix 6). The five Roman pottery sherds recovered on 16 February 2016 were found immediately behind and at the same stratified location as the earlier pieces and were also, separately, identified as Oxford Ware. All eleven sherds are part of the same vessel – a flagon (Figs.23 & 24).

5.26 Five sherds of medieval pottery from a single vessel – a jug - were excavated from the south face of Trench 2 and dated to the mid-13th to mid-14th century AD (Figs.25 & 26). These were recovered from a depth of 85 cm below the ditch surface and at a slightly higher level than the Roman pottery exposed in the opposite side of the trench. (Note: The apparent discrepancy between the depth of the Roman and medieval pottery is explained by the different height of the ditch surface relative to the find locations.) An analysis of these finds is also at Appendix 6.

6.0 DISCUSSION

6.1 The siting of Trench 1 was predicated on the assumption that an historical breach had been made through a Bronze Age or Iron Age bank at that point and, consequently, had already suffered damage. Excavation showed that this was not the case and that the ditch was an integral part of the outer hillfort defences.

6.2 Trench 2 revealed the profile of the hillfort ditch at that location to be a shallow U-shaped ditch. No Iron Age artefacts were found and there was no clear evidence

of ditch infilling or silting from that period. Both the Roman and medieval pottery came from the near the base of the ditch and in each case the sherds represented the part remains of one individual vessel. Again, in each instance the sherds were located together indicating that they had not moved far, if at all, from the point of deposition.

6.3 The significance of the saturated ditch infill at this point requires further elucidation. It is possible that a groundwater-fed spring is located at this point of Welshbury hill and the Iron Age cutting of the ditch into the saturated Brownstone geology caused the formation of a small pool ponded in the bottom of this part of the middle ditch. The waterlogged soil (and the soil pH of 4.5 to 5) certainly explains the good preservation of pollen found within the sandy-clay soil infill of Trench 2.

6.4 This evidence may indicate that the ditches had not started to infill during the late Iron Age or even during the Roman period. It appears from the infill material that the collapse of the stone-reveted sides of the ditch and banks above occurred periodically, accompanied by periods of soil sedimentation from wash down from the slopes above as from the matrix of the adjacent earthworks. Whether the ditch might have been cleaned out at any stage subsequently is unclear. The Royal Commission on the Historical Monuments of England Report on Welshbury Hillfort (1995), suggested that managed activity at the site may have continued into the Roman and medieval periods and the findings from Trench 2 might add weight to that view.

7.0

ACKNOWLEDGEMENTS

7.1 Dean Archaeological Group would like to thank Rob Jarman who commissioned us to undertake this excavation in support of his research project to re-assess the status of Sweet Chestnut in Britain, and also the specialists who contributed to this report: David Green (Geology), Peter Webster (Roman pottery) and Stephen Clarke (Medieval pottery). We would also like to acknowledge the advice and assistance of Jon Hoyle, Gloucestershire County Council Archaeology Service.

7.2. This report was written by John Izzard with considerable input from Rob Jarman. The excavators were: Phil Riches, Ken Eames, Stuart Cox, Terry James, Rob Jarman and John Izzard.

8.0 REFERENCES

Royal Commission on the Historical Monuments of England (RCHME) 1995:
Welshbury hillfort

Archaeology Service Gloucester County Council 2005: *Gradiometer Survey*
<http://www.goucestershire.gov.uk/extra/CHttpHandler.ashx?id=30024&p=0>

Devereux BJ, Amable GS, Crow P and Cliff AD 2005 The potential of airborne lidar
for detection of archaeological features under woodland canopies
Antiquity 79, 648-660

Gloucestershire Historic Environment Record:

HER reference entries: HER 5161, HER 5179, HER 5180 HER 5181, HER 6463,
HER 12183 and HER 25371

Appendix 1: Context Register

Trench 1:

Context list not recorded.

On the south side of the ditch, the trench exposed the form of the shallow bank overlying the original land surface: there was no clear buried soil profile at this juncture; and the broken rubble nature of the bank material and the ground below it, was heavily infiltrated by tree roots.

On the north side of the ditch, the trench exposed the nature of the construction of the earthwork of the hill fort with large angular blocks laid on top of the bedrock and looser rubble overlying. The actual point of contact for the made ground with the bedrock was hard to discern.

Trench 1 was not fully excavated to its natural base: a maximum depth of 1 metre of infill material was removed, at the NE corner, and the presumed bedrock base was not reached. The fill was non-stratified and composed of random size and orientation clasts, with large angular stone blocks in a matrix of sandy/silty soil, presumably derived from the collapse of facing and outer surface materials of the hill fort bank above it to the north.

Trench 2:

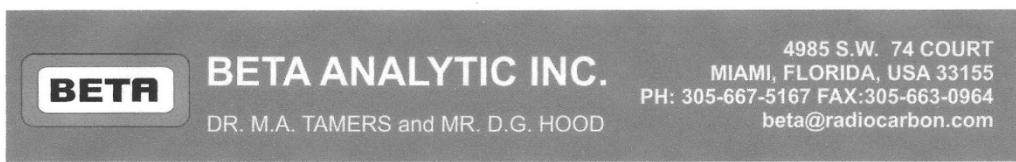
Context list:

Context	Description
01	Brown silt 35-40cm
02	Red sandy clay with large number of small stone inclusions 30-35 cm
03	Cut between ditch edge and natural
04	Red re-deposited clay approx. 10cm
05	Red sandy clay with large number of small stone inclusions 10-15 cm
06	Red re-deposited clay containing flecks of charcoal 10-20cm

Note: Roman and medieval pottery together with charcoal used for sampling was found in context 02.

Appendix 2: Finds list

Trench	Context	Description
01	surface	Two flint flakes
02	02	11 Roman pottery sherds, Oxford Ware dated from AD mid-3rd to late-4th century AD. All from a single vessel – flagon.
02	02	Five sherds of medieval pottery dated to AD mid-13th to mid-14th century. All from a single vessel - jug
02	02	Lump of charcoal <i>Fraxinus</i> (see report below)



REPORT OF RADIOCARBON DATING ANALYSES

Mr. Rob Jarman

Report Date: 4/11/2016

University of Gloucestershire

Material Received: 3/30/2016

Sample Data	Measured Radiocarbon Age	d13C	Conventional Radiocarbon Age(*)
Beta - 434516 SAMPLE : WHF2-CHARC-001 ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 90 to 100 (Cal BP 1860 to 1850) and Cal AD 125 to 250 (Cal BP 1825 to 1700)	1820 +/- 30 BP	-24.4 o/oo	1830 +/- 30 BP

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard.

The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by **. The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12 = -24.4 ‰ : lab. mult = 1)

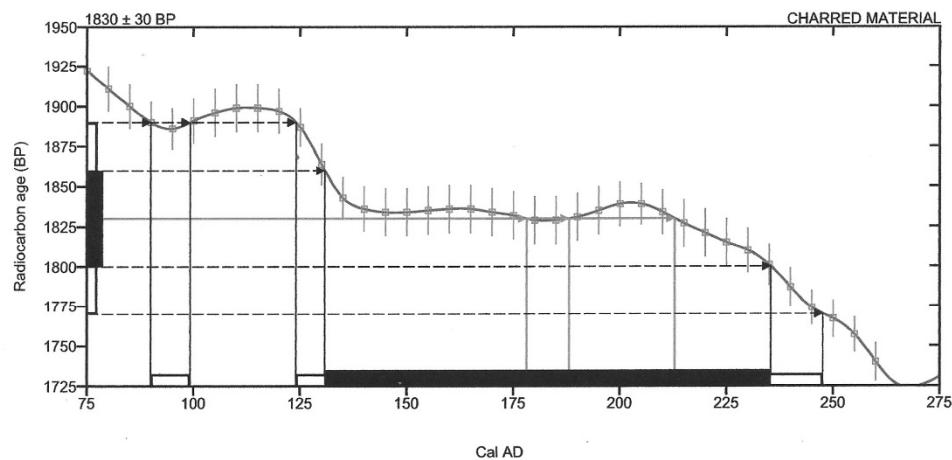
Laboratory number Beta-434516 : WHF2-CHARC-001

Conventional radiocarbon age 1830 ± 30 BP

Calibrated Result (95% Probability) Cal AD 90 to 100 (Cal BP 1860 to 1850)
Cal AD 125 to 250 (Cal BP 1825 to 1700)

Intercept of radiocarbon age with calibration curve Cal AD 180 (Cal BP 1770)
Cal AD 190 (Cal BP 1760)
Cal AD 215 (Cal BP 1735)

Calibrated Result (68% Probability) Cal AD 130 to 235 (Cal BP 1820 to 1715)



Database used
INTCAL13

References

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

References to INTCAL13 database

Reimer P.J et al. IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. Radiocarbon 55(4):1869–1887., 2013.

Beta Analytic Radiocarbon Dating Laboratory

4985 S.W. 74th Court, Miami, Florida 33155 • Tel: (305)667-5167 • Fax: (305)663-0964 • Email: beta@radiocarbon.com

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Appendix 3: Trench list

Trench 1:

OS Nat. Grid reference SO 67844 15409

Elevation: 189m above OD

Trench 2:

OS Nat. Grid reference SO 67987 15764

Elevation: 134m above OD

Trench	Description
01	Oriented north-south, 3100mm long x 1500mm wide x 450mm max depth.
02	Oriented west-east, 3400mm long x 1500mm wide x 900mm max depth.

Appendix 4: Geology Report

Brief notes from a field walk on 23 April 2015 with Dave Green, geologist.

1. Welshbury lies within the Devonian brownstone series, with a band of hard cemented sandstone forming a ridge that runs North-South all along the eastern side of the Dean, from Lydney through Breakheart Hill at Mitcheldean as far as Orcop, thence westwards. The uppermost crest of Welshbury is formed by this hard cemented sandstone, with beds of softer brownstone and mudstones forming benches oriented N-S along both sides of the ridge.

2. Trench 1: in the upper part of the hill, this excavation has exposed the hard cemented sandstone ridge, with an historic man-made cut through the ridge.

The south side of the excavation reveals the hard sandstone solid geology, overlain by horizontally-layered sandstones in a rubble matrix, formed by periglacial and solifluction processes at the end of the last Ice Age. The uppermost layer of this section forms the base of the stone rubble structure that is made of larger stones than the natural horizontally layered stones, and purported to be the Bronze Age or early Iron Age bank along this hill top. Most of the vertical profile of the excavated section above the obvious solid bedrock thus appears to be natural.

The north side of Trench 1 exposes a taller vertical exposure of the same hard cemented sandstone bedrock, with vertically angled planes formed by the natural dip of the sandstone, oriented as an extension of the southern section. The boundary between the bedrock and the overlying rubble matrix is higher in altitude than as exposed in the southern section; and the matrix is made of larger, more randomly angled blocks of sandstone, possibly laid or created by a tumbledown of the original Iron Age fort embankment.

The bedrock would be expected to continue as a platform to the east of the excavation beneath the ditch and indeed a natural break of slope is evident there. To the west of the excavation, the steep drop down from the ridge would appear to be partly natural and partly caused by the management of the field system (perhaps by ploughing soil away from the top of the field) and the creation of the bank along the ridge.

3. Trench 2: in the lower part of the hill fort, in the middle ditch – there has been exposed a hard base to the west side of the ditch, formed of the brownstone which is a softer sandstone than the cemented sandstone. The water table is sitting on this saturated brownstone bedrock. Incorporated with the brownstone are mudstones and lenses of sandy and gritty clay; and also lenses of pure clay, which are of Devonian origin: the clay is not likely to have been redeposited before, during or after the period of the hill fort. It is possible that chunks of these clays could have been worked out of the bedrock when the ditch and bank was first constructed and remained intact in the subsequent ditch infill. The clay of these homogenous lenses is Devonian in origin and therefore approx. 300 million years old.

The brownstone layer would be expected to extend to the west under the made up bank as the natural slope surface - the boundary between the bedrock and rubble of

the bank was evident. This layer would also extend to the east under the steep slope and would then be exposed by further excavation of the ditch section.

The bank and ditch sequences on this western side of the hill appear to follow natural lines of weakness in the sandstone:mudstone complex, which would have made excavation easier. This also raises the possibility of there being groundwater available through shallow wells along this slope.

Dave Green & Rob Jarman

14-05-2015.

Appendix 5: Environmental sampling list

Trench	Date	Facing	OSL Core	Pollen
01	4/03/2015	South	01	
01	4/03/2015	South	01B	
01	4/03/2015	North	02	
01	4/03/2015	North	03	
02	15/03/2015	East	WHIL04	
02	15/03/2015	West	WHIL05	
02	15/03/2015	West	WHIL06	
02	22/04/2015	North	WHIL07	WHF2/1 Tin 2
02	22/04/2015	North	WHIL08	WHF2/1 Tin 3
02	22/04/2015	North	WHIL09	WHF2/1 Tin 1
02	18/02/2016	North	WHF2/2 10 cm	
02	18/02/2016	North	WHF2/2 20 cm	
02	18/02/2016	North	WHF2/2 30 cm	
02	18/02/2016	North	WHF2/2 40 cm	
02	18/02/2016	North	WHF2/2 50 cm	
02	18/02/2016	North	WHF2/2 60 cm	
02	18/02/2016	North	WHF2/2 70 cm	
02	18/02/2016	North	WHF2/2 80 cm	

02	18/02/2016	North		WHF2/2 - 1
				WHF2/2 -5
				WHF2/2 -9
				WHF2/2 -13
				WHF2/2 -17
				WHF2/2 -21
				WHF2/2 -25
				WHF2/2 -29
				WHF2/2 -33
				WHF2/2 -37
				WHF2/2 -41
				WHF2/2 -45
				WHF2/2 -49
				WHF2/2 -53
				WHF2/2 -57
				WHF2/2 -61
				WHF2/2 -65
				WHF2/2 -69

				WHF2/2 -73
				WHF2/2 -77
				WHF2/2 -81
				WHF2/2 -85
				WHF2/2 -Tin 1 - 02 (52)
				WHF2/2 -Tin 1 - 05 (55)
				WHF2/2 -Tin 1 - 08 (58)
				WHF2/2 -Tin 2 - 02 (62)
				WHF2/2 -Tin 2 - 05 (65)
				WHF2/2 -Tin 2 - 08 (68)
				WHF2/2 -Core 3 (74)
				WHF2/2 -Core 4 (78)
				WHF2/2 -Pot 01 (65-70) scrape
				WHF2/2 -Pot 02 (65-70) scrape
				WHF2/2 -Pot 03 (65-70) scrape
				WHF2/2 -Pot 03 (65-70) context

				WHF2/2 -Pot 04 (65-70) scrape outer
				WHF2/2 -Pot 04 (65-70) scrape inner
				WHF2/2 -Pot 04 (65-70) context
				WHF2/2-Pot 05 (65-70) scrape

Appendix 6: Specialist Pottery Reports

Roman Pottery - Peter Webster

Welshbury pottery

Two sherds survive, one a small wall fragment, the other broken where the wall and footing meet. The fabric is light grey internally, shading to orange externally. The internal surface shows signs of wheel turning. The exterior has been smoothed and there are a number of patches of dark brown slip. Two crescentic marks near the remains of the footing may have been made by the potter's finger nails as he/she held the pot to dip it in slip – although, if so, the potter's hand was a small one, or the grip was changed to give marks close to each other.

The vessel was globular and the contrast between exterior and interior (both in terms of finish and in oxidisation) suggests a 'closed' vessel, probably a flagon. The most likely source for the vessel is the Oxfordshire kilns, which often fired the common red colour coated fabric to a brown finish. The most likely shape is that of the flagon with tubular neck and flange part way up the rim (Young 1977, type C8).

Oxford colour coated fabrics are notoriously difficult to date accurately, and it is likely that very similar forms were made over a long period. The general *floruit* of the industry is, however, not in doubt. Oxfordshire wares were being made and sold over a wide area of Britain between the mid 3rd and the late 4th century. There is nothing on our piece which would allow a closer dating than this.

PVW
25.iv.2015

Medieval Pottery - Stephen Clarke

The Welshbury Jug.

The jug style would normally be attributed to c1250 to c1350 but where we have good dated contexts in Monmouth, I think late 13th to middle of the 14th century. However, by that time many local jugs are being decorated with different coloured applied clay in strips or blobs which this vessel is not. The form, with its thumbed base, is widespread across the country, with little difference between England and the border or coastland of southern Wales although plain bases are not uncommon amongst the early 14th century kiln waste in and around Monmouth.

The jug has lost most of its glaze, exposing the underlying surfaces: externally and internally – Munsell Red 2.5YR 6/8 with patches of very pale brown 10YR 7/4. There is a very dark grey core of 5Y 3/1.

The fabric is distinctive and must be fairly local although I cannot exactly match it in our [Monmouth and border] fabric series but that is not surprising as a close study has shown that there are recognisable differences between fabrics (including kiln waste) from Monmouth, Trellech and other nearby medieval settlements, including some in Dean. This is evident even without thin sectioning. We believe that many of

the 13th/14th century pottery assemblages were the work of the same potters travelling around the area using the very slightly different clays, perhaps flooding the market and moving on, possibly to return later.

The inclusions are dominated by distinctive red-brown clay pellets (up to 1.5mm) which are rarely micaceous – unlike the main matrix which (under a strong light) displays a very fine dusting of golden mica. The many voids (up to 1.5mm) may have been left by the decay of calcareous fragments although the main body remains inert when tested with dilute hydrochloric acid. Some of the voids contain a brown residue.

There are rare grains of well-rounded 0.5mm quartz and equally rare sub-angular quartz sand over 1.0mm. There are also rare fragments of rounded iron ore up to 2.0mm.

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