Archaeological excavation at land south of Westham Lane, Barford, Warwickshire

Worcestershire Archaeology

for Wardell Armstrong

March 2020

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ARCHAEOLOGICAL EXCAVATION AT LAND SOUTH OF WESTHAM LANE, BARFORD, WARWICKSHIRE

Archaeological excavation report

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SITE INFORMATION

Site name:	Land south of Westham Lane, Barford
Site code:	WLB-B
Local planning authority:	Warwick District Council
Planning reference:	W/17/0440
Central NGR:	426845 260341
Commissioning client:	Wardell Armstrong on behalf of Taylor Wimpey Midlands
Client project reference:	WM11197
WA project number:	P5192
WA report number:	2546
HER reference:	TBC
Oasis reference:	fieldsec1-372218
Museum accession number:	TBC

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Archaeological excavation at land south of Westham Lane, Barford, Warwickshire.

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Summary

An archaeological excavation was undertaken at land south of Westham Lane, Barford, Warwickshire (NGR 426845 260341). It was commissioned by Wardell Armstrong on behalf of Taylor Wimpey Midlands, in advance of the construction of residential properties. A planning application has been submitted.

The proposed development site is roughly L-shaped although this excavation report only focuses on the western, larger half of the site. This was evaluated by Wardell Armstrong, who identified numerous prehistoric features suggesting settlement remains were spread across the entire site area. The following excavation consisted of two trenches, targeted on those remains, including a sub-rectangular main excavation area of approximately 8000m^2 and a smaller trench covering 172m^2.

The excavation established that the archaeological remains were not as widespread as the evaluation had suggested, although considerable prehistoric activity was still identified across the southern half of the site. The earliest structural evidence included a Late Neolithic pit, containing Grooved Ware pottery some of which has more affinity with Orcadian (viz from the Orkneys) assemblages than regional ones. The main period of activity at the site spanned the Late Bronze Age to Middle Iron Age and, although no settlement structures were found, the site was dominated by grain storage pits and two large landscape boundaries. It could not be ruled out that domestic roundhouses had been present (the pit groups left possible spaces for this), but, if so, they had been constructed in a way where this could not be proven archaeologically. The site then appears to have been abandoned from the Late Iron Age until the Late Roman period, when a rare type of mortuary enclosure was constructed for the interment of two bodies.

Report

1 Introduction

1.1 Background to the project

An archaeological excavation was undertaken by Worcestershire Archaeology from 23 October 2017 to 16 January 2018 on land south of Westham Lane, Barford, Warwickshire (NGR 426845 260341) (Fig 1). The project was commissioned by Wardell Armstrong on behalf of Taylor Wimpey Midlands, in advance of the construction of residential properties. A planning application has been submitted to Warwick District Council and was granted, subject to a programme of archaeological works (planning reference W/17/0440).

The archaeological advisor to the local planning authority considered that the proposed development had the potential to impact upon specific heritage assets, namely the prehistoric settlement remains identified in an archaeological evaluation of the site (WA 2017a).

Although no brief was provided the project conforms to a Written Scheme of Investigation (WSI) prepared by Wardell Armstrong (WA 2017b) developed in consultation with John Robinson, Planning Archaeologist for Warwickshire County Council (meeting held on 14 March 2017).

The excavation also conforms to the industry guidelines and standards set out by the Chartered Institute for Archaeologists in *Standard and guidance: for archaeological excavation* (CIfA 2014a).

1.2 Site location, topography and geology

Two excavation areas were stripped across the development area (Fig 1). The main trench was sub-rectangular in shape and covered an area of approximately 0.8ha. The smaller trench was roughly square and covered an area of 172m^2. The site is bounded to the south by the A429, to the north by Westham Lane, to the west by more pasture fields and to the east by the gardens of existing residential properties fronting onto Wellesbourne road. The site lies between 45.85-46.00m AOD on superficial river terrace sand and gravel deposits associated with the River Avon (BGS 2017), which overlie sandstone of the carboniferous, Westphalian D Sandstone of the Warwickshire Group, at the western edge of the Warwickshire Coalfield (BGS 2017). The site lies *c* 140m off the eastern bank of the River Avon at the eastern entrance (*c* 800m wide) to a loop of the river which encloses approximately 100 hectares.

2 Archaeological and historical background

2.1 Introduction

An archaeological desk-based assessment (DBA) of the site had been undertaken by Wardell Armstrong (WA 2016). The findings presented in the DBA are presented below.

2.1.1 Early prehistoric

Worked flints dating to the Mesolithic and Neolithic/Bronze Age were recorded *c* 230m and *c* 245m west of the site accordingly and are suggestive of transient hunter-gatherer activity within the landscape (HER References: MWA 1288 & MWA 12887). Further flints spanning the Mesolithic to Bronze Age periods have also been found *c* 320m northwest (HER Reference: MWA 7308), *c* 795m to the west (HER Reference: MWA 5314) and *c* 270m northwest (HER Reference: MWA 7288).

2.1.2 Later prehistoric/Iron Age

While further evidence for Bronze Age settlement is sparse and limited to a single potsherd *c* 380m to the north, the Iron Age period appears to be one of heightened activity within the Avon valley. Two extensive cropmark complexes are recorded, one at *c* 40m to the north (HER Reference: MWA 701) and another at *c* 340m to the northwest (HER Reference: MWA 4261), the former having been subjected to full excavation ahead of development revealing extensive occupational and industrial activities (CA forthcoming).

2.1.3 Roman

The above excavations (*ibid*) demonstrated a complex of features continuing into the Romano-British period and preliminary results suggest that this was a continuum of activity rather discrete episodes. Further afield agricultural land management of this date has been recorded within 1km of the site reported here (HER References: MWA 12893, MWA 12889 and MWA 13165).

2.1.4 Early medieval

Works ahead of the construction of the A429 bypass highlighted a number of discrete features of early medieval date. In addition to this, a sunken-feature building with pottery dating to the 5th/6th century is known *c* 540m to the northwest (HER Reference: MWA 10256).

The settlement of Barford is first mentioned in the Domesday survey and it is currently believed that it was established in the 11th century with the medieval core situated to the immediate northeast of the current proposed development (HER Reference: MWA 9134).

2.1.5 Post-medieval

The first known detailed map of the site area is the 1760 Barford Enclosure Map which shows the area enclosed within a large field that extended from the River Avon to Westham Lane. By 1806 it is known that the land was owned by the Earl of Warwick although the site boundaries had not yet been altered. However, at some point in the next four years a southeast field was separated from the rest of the site by hedgerow and named 'Ingely Bank'.

The settlement of Barford grew through the 19th century and by 1887 the site was encroached from the east by properties associated with the Warwick to Stratford road. By this date the Granville Arms Public House (HER Reference: 1364915) and Barford House (HER Reference: 1035249) had both been established. By 1905 a new boundary, noted during the previous evaluation (WA 2017b) had been established within the site along with a structure, most likely a barn. With the exception of the west to east boundary shifting north in the mid-20th century, no further changes occurred.

2.2 Previous archaeological work on the site

Two archaeological evaluations have been undertaken at the development site. The south-eastern field of the development site (Fig 1) was evaluated in 2001 by Archaeology Warwickshire (AW 2001), but only identified a single abraded sherd of Roman pottery from the topsoil and occasional post-medieval archaeological features. A second evaluation was undertaken across the western two fields (Fig 1) in 2017 by Wardell Armstrong (WA 2017a). This identified numerous prehistoric features, suggesting the site lay at the fringes of a larger settlement area, possibly located to the north.

3 Project aims

The aims of the project were outlined in the WSI (WA 2017b) and are as follows:

- The purpose of the requested archaeological strip, map and sample investigation is to investigate the known archaeological resource and gain a full understanding of its character, date, form and function. The aims have been drawn together primarily in reflection of the local regional research frameworks (Watt 2011). These aims will be re-assessed periodically and adapted both during the archaeological fieldwork and before undertaking full analysis in the post-excavation stage to maximise the potential of research questions that can be addressed by the archaeological resource.

The broad archaeological aims of the programme of archaeological works are to:

- Further identify, investigate and record archaeological remains present within the two defined and agreed areas of archaeological interest to further assess the archaeological potential of deposits present;
- This will then inform further stripping and mapping as may be required and help to define the areas of archaeological interest within their wider landscape setting.

In addition to this, given the current state of knowledge of the archaeological resource, the following research themes have been set linking with the local regional research framework:

3.1 Research Aim 1 (RA1): Establish the dates, chronology and character of the identified activity

- Was it continuous or episodic?
- How extensive was the activity and how did that vary over time?
- When did it start and end?
- What can be discovered about the function of the activities present?

3.2 Research Aim 2 (RA2): Determine the nature of patterning of activity within the excavated area

- Is there intra-site variation in deposit, feature type and function?
- Does artefact and ecofact distribution match this patterning?
- Is there significance in the deposition, or lack of deposition, of artefactual/ecofactual material?
- Are there any clear spatial delineations between different activities?
- How does the distribution of activity fit into the wider contemporary landscape?

3.3 Research Aims 3 (RA3): Support analysis of the economic base and resource exploitation of the site

- What, if any, technological and craft processes were carried out?
- What categories of palaeoenvironmental material are present/absent and why?
- What was the source of the raw materials?
- Is there any evidence for trade relationships in the artefactual material or raw materials?
- How local or extensive were any such links?

3.4 Research Aims 4 (RA4): Test the model of continuing prehistoric and Romano British activity in the region

- Does the site have a specialist function within that model?
- How does this site fit in with the known chronology of other sites in the region?

3.5 Research Aims 5 (RA5): Test the current hypothesis regarding regional identities and variation through time

- Are there any characteristics of the site layout and/or artefactual assemblage which are thought ‘characteristic’ of a population?
- How do these relate to other sites within the region?

3.6 Research Aims 6 (RA6): General aims

In addition to the above, the following specific aims were considered most relevant:

- Research Aim 6.1 (RA6.1): Determine the character, date, extent and distribution of all archaeological deposits and their potential significance;
- Research Aim 6.2 (RA6.2): Determine the site evolution, stratigraphic relationship and phasing of all activities within the investigation area;
- Research Aim 6.3 (RA6.3): Gain a full understanding of all activities and their place within the wider landscape context;
- Research Aim 6.4 (RA6.4): Determine the levels of disturbance of any archaeological deposits through plough damage or any other agricultural/industrial practices;
- Research Aim 6.5 (RA6.5): Characterise the spatial distribution of different activities and relationships between them;
- Research Aim 6.6 (RA6.6): Ensure the adequate recording of any archaeological remains revealed to allow for the detailed study and reassessment of all contexts;
- Research Aim 6.7 (RA6.7): Disseminate the results of the fieldwork through an appropriate level of reporting.

4 Project methodology

A Written Scheme of Investigation (WSI) was prepared by Wardell Armstrong (WA 2017b). Fieldwork was undertaken between 23 October 2017 and 16 January 2018.

The original proposed excavation area included two trenches, a smaller, 132m^2 trench, located in the north-east corner of the site to further investigate features located in evaluation Trench 1 (WA 2017a) and a main excavation area covering 0.66ha, located to investigate features found in evaluation Trenches 3-8. However, the excavation strategy required an archaeologically blank,10m wide, buffer to be present around the edge of the main trench and as a result the excavation area was significantly enlarged to achieve this. The final excavated areas were 177m^2 and 0.80ha in area (an increase of *c* 25%), and covered approximately 56% of the western fields and 40% of the entire development area.

Deposits considered not to be significant were removed under archaeological supervision using a 360º tracked excavator, employing a toothless bucket. Subsequent excavation was undertaken by hand. Clean surfaces were inspected, and selected deposits were excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Worcestershire Archaeology practice (WA 2012), and trench and feature locations were surveyed using a differential GPS with an accuracy limit set at <0.04m.

All fieldwork records were checked and cross-referenced. Analysis was undertaken through a combination of structural, artefactual and environmental evidence, allied to the information derived from other sources.

The project archive is currently held at the offices of Worcestershire Archaeology. Subject to the agreement of the landowner it is anticipated that it will be deposited at Warwickshire Museum, Market Hall Museum, Market Place, CV34 4SA.

5 Archaeological results

5.1 Introduction

The features recorded in the excavation areas are shown in Figures 2-12. In the following text square brackets signify archaeological cuts, rounded brackets signify fills and context group numbers are preceded by ‘CG’.

5.2 Phasing

5.2.1 Geology

Natural geology was exposed across both excavation areas and consisted of red and yellow banded sands and gravels, with pockets of pinkish red clay. These were overlain by a mid-reddish brown, silty sand, subsoil between 0.30-0.60m thick and a dark greyish brown, silty sand, topsoil between 0.30-0.40m thick. The latter contained occasional post-medieval pottery sherds, while the subsoil contained occasional sherds of prehistoric pottery and flint.

5.2.2 Natural Features

Ninety-nine natural features including areas of rooting, tree-throws or tree-bowls were identified across the site of which 70 (69%) were excavated (Figs 2-5). These were of classic form, either being very irregular in plan with undulating bases or being crescent-shaped with an internal vertical and a shallow external edge. They were mostly filled with a sterile mid-yellowish brown silty sand, although a small number contained occasional charcoal fragments, prehistoric pottery and flint. The latter will be discussed in their relevant phases below.

5.2.3 Phase 1: Mesolithic to Neolithic

The earliest evidence for activity at the site comes from a small assemblage of flints spanning the Mesolithic to Neolithic. Most of this material was found as a residual component of the later finds assemblages of prehistoric date but do illustrate a human presence at the site from the early Holocene.

Three tree-throws [1600], [1611] and [1454] contained a small flint assemblage dated to the Mesolithic/Neolithic, two of which [1600] and [1611] were near each other inside and partially truncated by a Late Roman mortuary enclosure and its graves (CG10; Fig 9). Other than containing the flint and occasional small charcoal fragments the fills of [1600] and [1454] were sterile and, therefore, are most likely of Mesolithic-Neolithic date. The flint in [1611] was certainly residual as the tree-throw also contained Early-Middle Iron Age pottery.

5.2.4 Phase 2: Late Neolithic to Early Bronze Age

Towards the eastern side of the excavation area and truncated by a later Roman mortuary enclosure (1584, CG10) there was a small circular pit [1551]. It had a bowl-shaped, was1.11m in diameter and 0.21m deep and was filled by a dark greyish brown silty sand (Figs 9 and 11). The single fill (1552) contained occasional charcoal flecks, sixteen worked flints and an assemblage of Grooved Ware pottery, the latter typically of Late Neolithic date and representing three incomplete vessels. The artefact group had clearly been selected and intentionally deposited in the pit, thereby representing a significant depositional act. This was associated with a radiocarbon date of 2840-2480 cal BC (Beta Analytic-522566) from a charred hazel-nut shell fragment from fill (1552).

Two tree-throws [1452] and [1118] also contained significant flint assemblages that are indicative of intentional deposition. Tree-throw [1452] on the eastern side of the main excavation area, and only 12m to the east of pit [1551], had a classic tree-throw shape being crescent-shaped with a steep inside edge and a shallow outside edge. It measured 2.13 x 1.19m and 0.46m deep and was filled with a soft, mid yellowish brown, silty sand (1451) containing twenty worked flints, including a flint knife (Fig 5, Plate 1). Tree-throw [1118], in the smaller excavation area, was oval in plan with a bowl-shaped profile and measured 1.05 x 0.84m and was 0.33m deep. It contained two fills, a lower friable, light greyish-brown silty sand (1117) 0.20m thick, and an upper soft, mid greyish-brown silty sand (1116), 0.17m thick (Fig 4, Plate 2), and the upper fill produced two worked flints, including another broken flint knife.

5.2.5 Phase 3: Late Bronze Age to Early Iron Age

Late Bronze Age-Early Iron Age pottery was found in pits [1127] [1392] and [1621] (Plates 3 and 4) and a two tree-throws [1192] and [1375] and residually in tree-throws [1611]. Pit [1127] was a classic storage pit, with vertical sides and a flat base, and the other two pits were small, circular, bowl shaped features. They measured between 1.04-1.24 in diameter and between 0.22-0.24m deep, each containing a mid-brown silty sand fill. There were approximately fifteen pits of this form across the site, the majority of which were sterile, however pit [1429] (close to pit [1392] and in a small cluster of similar features) contained nine sherds of Early to Middle Iron Age pottery. This suggests that, despite the pottery allowing for the possibility of a Late Bronze Age element to the activity at the site, this may not be the case (in which case Phases 3 and 4 could be combined). The Late Bronze Age-Early Iron Age pottery found in storage pit [1127], also a common feature type in Phase 4, also supports the suggestion that both phases may be broadly contemporary and that the main activity at the site started at the Bronze Age/Iron Age transition.

5.2.6 Phase 4: Early Iron Age to Middle Iron Age

Ditches, CGs 1, 2 and 3

Towards the south-west corner of the site were two parallel ditches, *c* 5.50m apart, aligned in a north-northwest to south-southeast direction. The easterly ditch had been re-cut at least three times, although the earliest cut [1111] (CG1) was only seen once, in the northerly ditch slot and had been completely truncated by later cuts to the south. Although little remained of this original cut it was thought to be at least 1.84m deep and probably V-shaped (Fig 6, Plate 5). The primary ditch contained two sterile fills, a lower primary fill (1110), consisting of a firm, mid-greyish brown silty sand and an upper fill (1109) of consisting of a soft, dark pinkish brown, silty sand. Neither contained any cultural material or habitation waste.

The secondary and tertiary re-cuts of this ditch were more apparent and were seen in all four of the excavated slots (Fig 6, Plates 6 and 7). The secondary cut (CG2; 2.34-2.45 wide and 0.95-1.06m deep) was V-shaped in profile with undulating sides angled at approximately 55^{o} and contained between up to four fills. As with the primary cut these were mostly sterile yellowish and greyish brown silty sands and gravels of moderate compaction, indicative of natural infilling and erosion of the ditch sides over time. Two of the upper fills (1104 and 1170) of this re-cut contained occasional pottery sherds of Early to Middle Iron Age date.

The upper ditch re-cut (CG3; 1.55-2.30m wide and was up to 0.47m deep) had a bowl-shaped profile and contained a single fill consisting of a dark blackish brown silty sand including frequent fire-cracked stones, charcoal flecks, occasional heavily fragmented animal bone, a quern-stone fragment and sherds of Early to Middle Iron Age pottery. Unlike the fills of the earlier ditch cuts, which are thought to have accumulated naturally over time, the final re-cut appears to have been purposefully backfilled with habitation waste, given the quantity of material it contained. A charred *Corylus avellana* (hazelnut) shell fragment from fill (1177) of re-cut [1178] was radiocarbon dated to 770-410 cal BC.

Only one slot was excavated through the western ditch and this also had a V-shaped profile, and had one re-cut (Fig 6, Plate 8). The primary ditch [1483] (2.1m wide and 0.87m deep) contained nine fills, while its re-cut [1490] (1.84m wide and 0.54m deep) contained four fills. The majority of all these fills were sterile yellowish and greyish brown silty sands and gravels, and so comparable to the lower fills of the eastern ditch. This ditch, however, did not contain the same quantity of habitation waste apparently dumped in the last eastern ditch, although occasional Early to Middle Iron Age pottery sherds were recovered from the primary fill (1489) of the re-cut [1490]. The numerous fills within the primary cut of the eastern ditch were very different to the earliest fills of the western ditch indicating that different formation processes were in action. There was no obvious evidence to indicate the presence of an associated bank on either side, or in between, the ditches.

Storage pits, CGs 4, 5, 6, 8 and 9

Across the south half of the main excavation area there were numerous circular pits, the majority of which had near vertical or vertical sides and flat bases of pit categories A and B as described by Palmer (2010a). These are typical of Iron Age grain storage pits although here there was no evidence to suggest that the pits had been lined with either wattle or clay (Figs 7-8, Plates 9-11). The pits were clustered into five separate groups (CGs 4, 5, 6, 8 and 9) containing between 10 and 16 pits each. There was no obvious pattern to the distribution of the pits within each group, other than a linear arrangement of seven pits within CG9. Most of the pits did not overlap, but there was some intercutting present in CGs 4, 6, 8 and 9 suggesting there was some reuse of the area over time. No large dumps of grain survived in the pits and very few charred cereal grains survived (see below). It appears that after the pits had been emptied of grain they had been left to infill naturally, albeit with occasional episodes of habitation waste deposition, including hearth waste (charcoal), cooking debris (fire-cracked stone) and pottery (Plate 11). Occasional animal bone fragments were identified within the fills, but these were so decomposed and fragile that they did not survive excavation. Potentially of most interest is pit [1243] (Plate 11) in CG5 which not only contained a higher number of fills than most (six) but also contained a more elaborate, albeit small, finds group. This included an iron brooch fragment and a fragment of clay loom-weight, both from fill (1239), which also contained frequent charcoal and fire-cracked stone.

The pottery recovered from the pits is consistently dated to the Early to Middle Iron Age, and four radiocarbon dates obtained from these features also confirm this date (see below). A fuller description of the individual pits in each context group is presented in Tables 1-5.

Pit cut	Length (m)	Width (m)	Diameter (m)	Depth (m)	Shape	Profile	Fills	Finds	Date
1127	1.86	1.18		0.75	Sub-circular	Vertical sides, slight undercut, flat base	8	Pot, flint	-
1132			1.5	0.85	Circular	Vertical sides, slight undercut, flat base	5	-	-
1147			0.83	0.23	Circular	Bowl	1	-	-
1148			0.88	0.08	Circular	Angled sides flat base	1	-	-
1151			1.36	0.36	Circular	Vertical sides, flat base	2	-	-
1153			0.74	0.23	Circular	Vertical sides, flat base	1	-	-
1158			1.2	0.26	Circular	Angled sides flat base	1	-	-
1184	1.42	1.08		0.44	Sub-circular	Vertical sides, flat base	1	Pot	-
1185			0.92	0.09	Circular	Angled sides flat base	1	-	-
1186			0.74	0.59	Circular	Vertical sides, flat base	3	-	-

Table 1: Context Group 4 descriptions

Pit cut	Length (m)	Width (m)	Diameter (m)	Depth (m)	Shape	Profile	Fills	Finds	Date
707 Evaluation			1.48	0.34	Circular	Vertical sides, flat base	1	-	-
708 Evaluation			1.48	0.62	Circular	Vertical sides, flat base	3	Pot	-
1243	1.36	0.98		0.49	Sub-circular	Vertical sides, flat base	6	Pot, flint, iron brooch fragment, loom-weight, fire-cracked stone	-
1245	0.84	0.68		0.11	Circular	Angled sides flat base	1	Pot	-
1291	1.08	1		0.14	Circular	Angled sides flat base	1	Slag	410-260 cal BC
1295			0.66	0.3	Circular	Vertical sides, flat base	3	Pot	-
1303	1.82	1.56		0.58	Sub-circular	Vertical sides, slight undercut, flat base	4	Pot	-
1338	1.86	0.66		0.88	Oval	Vertical sides, flat base	6	Pot, flint, fired clay, fire-cracked stone	380-180 cal BC
1353			0.84	0.22	Circular	Bowl	1	Pot	

Table 2: Context Group 5 descriptions

Pit cut	Length (m)	Width (m)	Diameter (m)	Depth (m)	Shape	Profile	Fills	Finds	Date
1167	1.38	1.3		0.53	Circular	Vertical sides, slight undercut, flat base	2	-	-
1205	2	1.18		1.1	Oval	Vertical sides, flat base	4	-	-
1206	1.34	1.14		0.51	Oval	Vertical sides, slight undercut, flat base	3	-	-
1207	0.99	0.87		0.7	Circular	Vertical sides, rounded base	7	-	-
1215			0.73	0.26	Circular	Bowl	1	-	-
1221	0.74	0.56		0.47	Sub-circular	Vertical sides, slight undercut, flat base	2	-	-
1223	0.56	0.5		0.68	Circular	Vertical sides, slight undercut, flat base	1	-	-
1231			1.28	0.62	Circular	Angled sides, flat base	5	Pot, flint	390-190 cal BC
1248			0.6	0.38	Sub-circular	Bowl	1	-	-
1250	0.7	0.58 min		0.46	Oval	Bowl	1	-	-
1252	1.26	0.66		0.22	Oval	Bowl	1	Pot	-
1262	0.85	0.46		0.11	Oval	Bowl	1	-	-
1264			1.02	0.18	Circular	Angled sides, flat base	1	-	-
1265	1.69	1.42		0.87	Sub-Circular	Vertical sides, slight undercut, flat base	6	Pot	-
1269			1.54	0.55	Circular	Vertical sides, flat base	2	Pot	-

Table 3: Context Group 6 descriptions

Pit cut	Length (m)	Width (m)	Diameter (m)	Depth (m)	Shape	Profile	Fills	Finds	Date
1384	1.78	1.3		0.41	Oval	Vertical sides, flat base	5	Nail	
1383	1.02	0.6		0.2	Oval	Bowl	1		
1382			1.58	0.74	Circular	Vertical sides, slight undercut, flat base	2	Pot, Flint, Fire-cracked stone	
1381			1.44	0.4	Circular	Vertical sides, flat base	3	Pot, Fired Clay	
1380			1.5	0.66	Sub-circular	Vertical sides, flat base	4	Pot	
1377	2.7	1.28		0.66	Oval	Vertical sides, flat base	3	Pot, Flint	770-410 cal BC

Table 4: Context Group 8 descriptions

Pit Context	Length (m)	Width (m)	Diameter (m)	Depth (m)	Shape	Profile	Fills	Finds	Date
603 Evaluation			1.04	0.37	Circular	Vertical sides, flat base	1		
605 Evaluation			1.15	0.33	Circular	Vertical sides, flat base	1		
1443	1.31	1.14		0.31	Sub-circular	Angled sides, flat base	2	Pot	
1444	1.1	1.04		0.42	Circular	Angled sides, flat base	2		
1453	1.46	1.36		0.76	Circular	Vertical sides, flat base	2	Pot, fire-cracked stone	
1524			1.76	0.54	Circular	Vertical sides, flat base	3		
1525	1.02	0.96		0.65	Circular	Vertical sides, slight undercut, flat base	3	Pot	
1526	1.16	0.74		0.51	Oval	Vertical sides, rounded base	1		
1527	0.84	0.8		0.63	Oval	Vertical sides, flat base	1	Flint, fire-cracked stone	
1528			0.56	0.57	Circular	Vertical sides, flat base	1	Pot	
1535	1.35	1.2		0.28	Circular	Vertical sides, flat base	1	Pot, fire-cracked stone	
1539	1.43	0.62		0.49	Sub-circular	Vertical sides, flat base	1	Fire-cracked stone	
1540	1.14			0.65	Circular	Vertical sides, slight undercut, flat base	3	Pot	
1541			1.3	0.61	Circular	Vertical sides, slight undercut, flat base	3		
1553	2.42	1.9		0.37	Oval	Angled sides, flat base	1	Pot	
1565			1.3	0.38	Circular	Angled sides, flat base	1		
CG9									

Table 5: Context Group 9 descriptions

5.2.7 Phase 5: Late Roman

Mortuary enclosure CG10

On the central eastern side of the main excavation area there was a small rectilinear enclosure 9.0m long and 6.50m wide (internal dimensions) covering an area of 58m^2 (internally) (Figs 9-11, Plates 12-15). The east north-east to west south-west aligned enclosure was contained two inhumation burials on a north-north-west to south-south-east alignment and had been constructed in two phases (Fig 12, Plates 16-17). The enclosure ditch of the primary phase (0.31-0.70m wide and 0.15-0.24m deep) truncated an earlier storage pit [1565] of Phase 4 (CG9). The ditch was larger along the eastern and southern sides of the mortuary enclosure, but it is unclear whether this is a result of differential preservation. Its ditch profile was mostly rounded, but in areas it had near-vertical inside edges and a flat base, reminiscent of a beam slot, although this has subsequently been discounted. On the northern side of the barrow the ditch circuit was punctuated by a 2.12m wide entrance between two termini [1587 and 1605]. The ditch fill was uniform throughout the enclosure, consisting of a sterile soft light yellowish brown silty sand. During this phase the enclosure was *c* 58m^2 in area and is thought to have enclosed a single inhumation burial (1709).

On the eastern side of the enclosure and directly in the middle of its north to south axis, there was an irregular cut thought to be a tree-throw [1600] (Fig 9), which was sub-oval in plan with irregular sides and base. The tree-throw (2.30 x 1.31 x 0.33m deep) contained a single uniform fill consisting of a soft, mid yellowish brown silty sand (1599) containing occasional flints of Mesolithic-Neolithic date. Along the base of the cut was a rectangular depression thought to be a grave cut [1707] (*c* 1.50 x 0.60m), which in places had near-vertical sides and a flat base. The fill (1708) of the grave [1707] appeared to be slightly greyer in colour and contained more charcoal flecks than elsewhere in the tree-throw. To the northern end of the grave there were a small number of teeth, which were likely to be human (see below) and these represent the limited remains of skeleton (1709). A single iron hobnail was also recovered from the environmental sample taken from the base of this grave cut [1707].

Unfortunately, the relationship between the tree-throw [1600] and grave cut [1707] was not established on site, as the grave cut was only visible where it cut the natural at the base. However, as the grave cut base was not damaged by rooting, and as the upper grave cut was likely filled with the excavated tree-throw material, which would have concealed it, it is believed that the grave cut through the backfill of the tree-throw.

5.2.8 Phase 5.1: Late Roman

Subsequently it is believed a second interment (1577) was buried in grave [1550] *c* 2.50m to the west of the primary burial (Fig 12, Plates 16-17). Although there was no structural relationship between the two burials the condition of the bone suggests that skeleton (1709) was older. The second burial (1577) was placed in a rectangular grave [1550] (2.42 x 0.75 x 0.39m deep), with vertical sides and a flat base, aligned north north-west to south south-east. This cut through an earlier, but smaller, tree-throw [1611] of Phase 4, on its south side.

The grave contained the heavily decomposed remains of a single supine skeleton (1577), aligned north to south with the skull at the north. Most of the skeleton had decomposed but parts of the skull, mandible, teeth and lower legs survived. Where the feet would have been, two areas of hobnails survived (SFs 16 and 17) (Plate 18), suggesting that the body was buried while wearing shoes.

In the northern base of the grave, around the head, the soil stain of a coffin survived and in each of corner were four large iron nails (SFs 10, 11, 12 and 13). These were directed into the coffin from the side and would have attached the side walls of the coffin to the end panels. Four other similarly sized nails (SFs 1, 2, 8 and 9) were also found in a similar position only *c* 0.32m higher and are thought to have also been used to attach the upper coffin side walls to the end panels. As no other large nails were found in similar positions it is thought that the side panels of the coffin were formed from a single *c* 0.30m wide plank of wood, attached to the edges of the end panels by four nails in each corner.

Two other nails (SFs 14 and 15) were located on the base of the grave, along the western wall of the coffin, towards the north western corner. These were pointed vertically and are thought to have connected the base of the coffin to the sides. As no other nails were found in this position it is thought they may have been added to a damaged or weak spot and the remaining base may have been connected with a joint or with smaller nails that have not survived. The position of the constructional nails and the areas of staining around the head suggest that the coffin was originally *c* 1.70m long, 0.50m wide and 0.30m high.

In places, specifically the lid and around the corners where the wood was thicker, parts of the coffin appear to have survived as a result of having been charred. However, the base of the coffin and the skeleton did not show any signs of being heat affected. Significant quantities of oak charcoal fragments were located throughout the grave backfill, most of which appeared to be comminuted, such as the concentration seen to the immediate north of the skull. Other charcoal concentrations, however, appeared to be the very fragile remains of planking. The better preserved of these (1570) was located around the upper north-western corner of the coffin, around nail SF8 and consisted of two small planks of charred wood 17cm long, 5cm wide and 5cm thick. The largest concentration of charcoal was found towards the top of the grave along the eastern side of the cut (1569). This layer of charcoal appeared to be formed from both comminuted fragments and areas of planking between 2-5cm thick. The layer was angled down at approximately 45^{o} from east to west and it though to represent the coffin lid which had slumped after the western side of the coffin had collapsed. Running along this side of the grave cut and partially across the charcoal spread (1569) were five smaller iron nails (SFs 3, 4, 5, 6 and 7) which are thought to have attached the coffin lid to the side walls.

The grave cut was not heat affected and it is thought the coffin wood, except the base had been charred prior to being put into the grave. This suggests two possibilities, firstly that charred planks had been used to construct the coffin, or, secondly, that the coffin was charred after construction prior to being placed into the grave. If the latter, as the base of the coffin was not charred, it suggests the coffin was not put on to a pyre, rather a fire had been built up around the coffin as it lay on the ground. As this coffin would have needed to be structurally sound to move it after burning, and as more charcoal planking was not found in the grave, it suggests the coffin was only lightly charred, perhaps meant as a symbolic gesture rather than this being evidence that a pyre had not proved effective.

After the second burial was interred the enclosure was also modified. Firstly, the internal space was partitioned by the addition of an internal north to south gully (1588, 1594, and 1596) which cut the original ditch circuit terminus [1587] to the north. It is likely that this would have also joined onto the original southern ditch circuit, but this relationship had been truncated. This partition created two internal spaces, a smaller western half (6.50 x 3.10m) containing the primary burial (1709) and an eastern half (6.40 x 5.50m) containing the secondary burial (1577). Although this central partition ditch cut through tree-throw [1600], it avoided the primary grave [1707]. This, together with the apparent need to partition the primary burial off in the eastern half of the enclosure, suggests that the original grave was marked, or at least that the two burials were interred within living memory.

Although not confirmed stratigraphically the entrance on the north side of the barrow was closed at this time by the addition of another small gully [1589] between the two termini (1587 and 1605). Although no relationship was visible between the two new gullies their smaller size, compared to the primary enclosure ditch, implies some contemporaneity with each other.

A single small posthole base [1607] to the north-west of the grave [1550] remains undated and it is unclear if this was contemporary with this phase.

5.2.9 Phase 6: Post-medieval

Other than the pottery from the topsoil the only confirmed post-medieval features identified on site was a short run of postholes forming a fence line (CG7), running east to west across the middle of the site. This consisted of six postholes [1315, 1327, 1330, 1332, 1334 and 1340], with near-vertical sides and flat bases. 0.40-0.70m in diameter and 0.18-0.44m deep. Vertical post-pipes survived in all the postholes and measured between 0.10-0.24m in diameter. The posts had been packed using the excavated natural sands and gravels, and the post-pipes had become filled with a loose dark, greyish brown silty sand. A single clay pipe fragment was recovered from the post-packing fill (1314) of posthole [1315].

5.2.10 Phase 7: Undated

Most of the tree throws did not contain artefacts and remain undated. However, where they did contain artefacts, these were mostly dated to the Neolithic or Bronze Age, and so it is quite likely that the majority of this type of feature are of earlier prehistoric date.

A number of isolated pits remain undated as they did not contain datable artefacts, and did not exhibit the classic Iron Age storage pit form (any examples of the latter have been included in Phase 4). A small number of isolated pits, mostly small bowl-shaped pits, remain undated, but, given the date of the majority of other feature on the site, these are also likely to be of Late Bronze Age to Middle Iron Age date.

Two intercutting gullies [1484] and [1485], aligned north to south, were located in between ditches (CGs 1-3). Ditch [1484] was 0.70m wide and 0.34m, had vertical sides and a flat base, while [1485] was 0.40m wide and 0.27m deep with a rounded U-shaped profile. Their size and alignment would suggest that they are not contemporary with the much larger boundary ditches and so they remain undated.

6 Radiocarbon Dating by Suzi Richer

6.1 Introduction

A total of ten samples were submitted for radiocarbon dating in two rounds of dating, of which eight were successful and two were unsuccessful (Table 6, Appendix 4). Sampled material included charred plant remains, charred roundwood, charred hazelnut shells and organic sediment, where possible short-lived plant material was chosen.

Three determinations (Beta-520857, Beta-522566 and UBA-40959) along with the two unsuccessful determinations (SUERC lab no: GU49779 and GU49781 from human remains, bone and teeth respectively) were from features associated with CG10, which has been interpreted as a mortuary enclosure. The remaining five determinations (SUERC-83744–48) were from pits, and a ditch, all thought to be Iron Age in date based on their morphology and the clustering of the pits, and the apparent contemporaneity of these features.

Seven samples were dated at the Scottish Universities Environmental Research Centre (SUERC) by AMS. These were processed and dated using the methods described in Dunbar *et al* (2016). One sample was dated at Queen’s University Belfast (UBA), and this was processed and dated by Accelerator Mass Spectrometry as described in Reimer *et al* (2015). Two radiocarbon determinations were provided by Beta Analytic. The results (Tables 6 and 7) are conventional radiocarbon ages (Stuiver and Polach 1977) and quoted in accordance with the international standard known as the Trondheim convention.

6.1.1 Radiocarbon calibration

The calibrations of these results, which relate the radiocarbon measurements directly to the calendrical time scale, are given in Table 6. They have been calculated using the datasets published by Reimer *et al* (2013) and the computer program OxCal v4.3 (Bronk Ramsey 1995; 1998; 2001;

2009). The calibrated date ranges cited are quoted in the form recommended by Mook (1986), with the end points rounded outward to 10 years. The ranges for calibrated dates in Table 6 have been calculated according to the maximum intercept method (Stuiver and Reimer 1986) and are cited at two sigma (95% confidence).

6.1.2 Bayesian modelling

The estimate for the span of the Iron Age pits/ditches is discussed here as a Bayesian chronological model (Buck *et al* 1996). Calibration of radiocarbon dates provides us with an accurate estimate of the age of the dated sample, and whilst this is useful, archaeological questions are often more searching than this, and it is the event that the sample represents that we are usually more interested in. These events include when a site came into use, the duration of its usage and the likelihood of contemporaneity. Using the radiocarbon measurements in conjunction with archaeological information we can provide realistic estimates, called posterior density estimates, for such archaeological events. All posterior density estimates derived from the Bayesian modelling in this report are reported in italics. It should be emphasised that the posterior density estimates produced by this modelling are not absolute. They are interpretative estimates, which can and will change as further data become available and as other researchers choose to model the existing data from different perspectives. The modelling technique has been applied using the program OxCal v4.3 (http://c14.arch.ox.ac.uk/). Details of the algorithms employed by this program are available in Bronk Ramsey (1995; 1998; 2001; 2009) or from the online manual.

6.2 Results and discussion

6.2.1 Iron Age pits and ditches

A total of five radiocarbon determinations have been obtained from the features interpreted as Iron Age pits (SUERC-83745–48) and a ditch (SUERC-83744), and all calibrated dates occur within the Iron Age.

Table 7 illustrates the range of other finds from the context where radiocarbon dates have been obtained. These provide an indication of the degree of mixing that might have occurred. Given that the site is relatively 'flat' in terms of stratigraphic depth and that the samples for radiocarbon dating are all from relatively unsecure contexts (ie pit and ditch fills where it is possible that older material may have become incorporated into the sediment).

Three of the dated contexts contained finds of comparable age: context (1177) from ditch [1178] (SUERC-83744), context (1406) from pit [1377] (SUERC-83748), and context (1235), from pit [1231] (SUERC-83746). Fill (1344), from pit [1338] (SUERC-83747), contained finds from a slightly earlier period, and context (1290) from pit [1291] (SUERC-83745) contain no dateable finds.

Unfortunately, the loose relationship between the context and the determination, in conjunction with the lack of agreement between some of the finds and the radiocarbon dates, means that this set of dates is largely unsuitable for Bayesian modelling.

However, some further information about the site can be gained from the set of the radiocarbon dates when they are treated altogether. Although the dates do not have a secure link to their respective contexts, when viewed as a whole the set of dates does inform us that activity was occurring on a site level at these specific times. We can estimate that the Iron Age activity was occurring for at least 120–525 years (distribution not shown) and, therefore, over multiple generations, either staying at the site for the full period, or by people returning to the site over longer cycles.

Lab No	Material and context	Radiocarbon Age (BP)	δ13C (‰)	Calibrated date (95% confidence)
Beta 520857	Organic sediment; Skeleton (1577), in grave [1550], CG10	1700±30	-24.0	cal AD 250–410
SUERC 83747	Charcoal: *Tilia* sp; Fill (1344), in pit [1338], CG5	2202±27	-26.8	380–180 cal BC
SUERC 83746	Charred plant remains: Maloideae sp charcoal; Fill (1235), in pit [1231], CG6	2218±27	-26.5	390–190 cal BC
SUERC 83745	Charcoal roundwood: *Quercus robur/petraea*; Fill (1290), in pit [1291], CG5	2297±27	-25.8	410–260 cal BC
SUERC 83744	Charred plant remains: *Corylus avellana*, Fill (1177), in ditch [1178], CG3	2457±27	-28.6	770–410 cal BC
SUERC 83748	Charred plant remains: *Corylus avellana* shell fragment; Fill (1406), in pit [1377], CG8	2463±27	-24.9	770–410 cal BC
UBA 40959	Charred plant remains: *Corylus avellana* shell fragment, Fill (1575), in mortuary enclosure [1576], CG10	3242±28	Not reported.	1620–1440 cal BC
Beta 522566	Charred material: *Corylus avellana* charcoal; Fill, (1552), in pit [1551]	4060±30	-25.7	2840–2480 cal BC
(GU49779)	Human remains (bone), Skeleton (1577), in grave [1550].	FAILED		-
(GU49781)	Human remains (tooth), Skeleton (1709), in grave [1707], CG 10	FAILED		-

Table 6: All radiocarbon dates

Context	Period of the finds from the context	Laboratory number	Calibrated date
Iron Age pits and ditch			
1177	Late Early Iron Age – early Mid Iron Age	SUERC-83744	770–410 cal BC
1290	No dateable finds.	SUERC-83745	410–260 cal BC
1235	(?)Early Mid Iron Age	SUERC-83746	390–190 cal BC
1344	Late Bronze Age – Early Iron Age	SUERC-83747	380–180 cal BC
1406	Late Prehistoric, Mid Iron Age to the early Late Iron Age	SUERC-83748	770–410 cal BC
Mortuary enclosure			
1577	No dateable finds.	Beta-520857	cal AD 250–410
1575	No dateable finds.	UBA40959	1620–1440 cal BC
1552	No dateable finds.	Beta-522566	2840–248 cal BC

Table 7: Comparison of the dates from the finds and the radiocarbon dates. early Iron Age = 600–400 cal BC, mid Iron Age = 400–100 cal BC, and late Iron Age = 100–50 cal BC.

A Ward and Wilson (1978) chi-square test was used to test whether the two measurements (SUERC-83744 and SUERC-83748) are consistent with each other; the results suggest that they are consistent at a 95% confidence level (df=1, T=0.031, cf. 3.841; distribution not shown). Determinations from SUERC-83745–7 were also tested to see if they were consistent with each other, and the results again suggested that they were at a 95% confidence level (df=1, T=0.143, cf. 3.841; distribution not shown). This allows us to estimate that the material dated from context (1177) (SUERC-83744) and context (1406) (SUERC-83748) are contemporary, and equally, that the determinations SUERC-83745–7, from contexts (1290, 1235 and 1344) respectively, are also contemporary. Whilst both groups fall on two different parts of the radiocarbon curve (see Figure 13), these two distinct groupings are unlikely to be purely a product of the radiocarbon curve. This is because, when they were tested as a group of five determinations, they are not statistically consistent at a 95% confidence level (df=4, T=87.7, cf. 9.5; distribution not shown) and, therefore, cannot be dating the same event, which suggests that Iron Age activity at the site took place over multiple generations, in line with the estimated span of the site discussed above.

6.2.2 Roman mortuary enclosure

A total of five samples were submitted for dating from features in and around the mortuary enclosure. Two samples were taken from human remains (skeletons 1577 and 1709) both of which failed, but three samples returned determinations. Two successful measurements were made on charcoal from hazelnut shells, which returned dates of 2840–2480 cal BC (Beta-522566) and 1620–1440 cal BC (UBA40959) dating to the Neolithic and Bronze Age, respectively. The final measurement was made from organic sediment from a central burial returned a date from the Roman period, AD 250–410 (Beta-520857).

Whilst the dating failed from the human bone from skeleton (1577) within grave [1550], the organic sediment adhering to the bone was able to be dated, and this returned an indirect date for the burial of cal AD 250–410 (Beta-520857). *In situ* coffin nails and hobnails that were also found in this grave indicating that this context was undisturbed. Given the intact nature of the Roman material from Grave [1550] the presence of a Bronze Age date (UBA40959) from the mortuary enclosure ditch [1576], fill (1575), suggests that the latter is residual.

The mortuary enclosure also cut across a pit [1551] which returned a Neolithic date, 2840–2480 cal BC (Beta-522566), from fill (1552), This was also the only pit on the site to contain fragments of Neolithic Grooved Ware pottery and this association would suggest that this material was *in situ* and not residual. However, it was not possible to obtain a radiocarbon date from encrusted material adhering to the pottery fabric; therefore, the radiocarbon date can only be considered to be an indirect date, but it is still consistent with other grooved ware dates from secure contexts across southern Britain (Garwood 1999).

Given the low number of dates it has not been possible to undertake any modelling on the dates from the mortuary enclosure.

7 Artefactual evidence

Recovery of artefacts was undertaken according to standard Worcestershire Archaeology practice (WA 2012). In the event no artefacts were identified which were considered to be suitable for analysis.

7.1 Project methodology by C Jane Evans

The finds work reported here conforms with the following guidance: for findswork by CIfA (2014b), for pottery analysis by PCRG/SGRP/MPRG (2016), for archive creation by AAF (2011), and for museum deposition by SMA (1993).

7.1.1 Recovery policy

The artefact recovery policy conformed to standard Worcestershire Archaeology practice (WA 2012; appendix 2).

7.1.2 Method of analysis

The finds were analysed with reference to the research aims for the project, as defined above. All hand-retrieved finds were examined together with finds recovered from environmental samples, and all are included in the tables below. Finds were identified, quantified and dated to period. Where possible a *terminus post quem* date was produced for each stratified context. These dates were used to determine the broad date of site phases. However, as discussed below, much of the pottery was only broadly datable to the Iron Age. The dating of this pottery, however, was refined with reference to the radiocarbon dates obtained for the site. All information was recorded on a Microsoft Access database.

The pottery was examined under x20 magnification and referenced where possible to the Warwickshire fabric type series, though for reasons discussed in more detail below, this was not straightforward.

A selection of pottery is illustrated. The associated catalogue includes stratigraphic information and cross references to the database record number for the find, the 'Rec' number.

7.2 Pottery analysis by C Jane Evans

7.2.1 Introduction

The finds are summarised in Tables 8-11 and in Appendix Table 1.1. A total of 573 sherds of pottery were recovered, predominantly late prehistoric (451 sherds, 78% by weight). The fabrics and forms represented, supported by radiocarbon dates, suggest a date within the Early-Middle Iron Age for this material, though a small quantity of diagnostic Late Bronze Age pottery was also noted. The early prehistoric pottery (99 sherds, 13% by weight) included a very significant group of Late Neolithic Grooved Ware, deposited in a single pit, as well as a handful of fragmentary sherds of Early Bronze Age pottery. The prehistoric pottery was abraded and very fragmentary, the overall average sherd weight being 5g and most individual contexts having an average sherd weight of less than 8g. In some instances, this clearly reflects the survival of the pottery, influenced by fabric, firing temperature and soil conditions, rather than the original pattern of deposition. This is certainly the case for the late Neolithic pottery from pit [1551], which was so fragile that some sherds could not be washed. Many of these sherds were from a single vessel with distinctive decoration and many joined, but the average sherd weight was only 3g. In contrast, the assemblages with higher than average sherd weights (>

10g) did seem to reflect deposition patterns. These mainly came from Iron Age pits, where the pottery was often associated with other hearth/domestic waste, such as charcoal and fire-cracked stone (eg pits 1231, fill 1235; 1243, fills 1237 and, 1239; 1316, fill 1323; 1381, fill 1388; 1380, fill 1390; and 1565, fill 1564). These assemblages therefore may include vessels broken in use around the hearth, scooped up and dumped when the hearth was cleared. One of these features (pit 1243, fill 1239) also produced fragments from a loom-weight and a broken iron brooch. Occasional fragments of fired clay and slag were also associated with Phase 4 features, the latter hinting at ironsmithing activity somewhere in the vicinity.

The lithic assemblage provided further evidence for Neolithic/Early Bronze Age activity across the site. The more diagnostic finds included a leaf-shaped knife and a more unusual knife type, as well as a number of flakes and blades.

One Roman burial, which produced hobnails and coffin nails, and the very fragmentary, disturbed remains of another burial, both provide evidence of some Roman activity on the site. However, no Roman pottery was recovered. This is a marked contrast to the evidence from the Cotswold Archaeology excavations to the north, where Roman pottery dominated the assemblage (McSloy, forthcoming).

A small quantity of post-medieval and modern pottery was recorded from the topsoil along with fragments of roof tile, clay pipe and vessel glass. These finds are summarised below but do not contribute to interpretation of the site.

Period	Material	Object type	Count	Weight (g)
Prehistoric	flint	debitage	40	57.4
Mesolithic/ Neolithic	flint	tool	5	33.9
		debitage	13	7.7
Neolithic/ Early Bronze Age	flint	tool	5	31.6
		debitage	30	42
Late Neolithic	ceramic	pot	90	345
Early Bronze Age	ceramic	pot	9	23.5
Later prehistoric	flint	tool	1	5.7
		debitage	3	24
Late Bronze Age	ceramic	pot	39	77
Late Bronze Age/ Early Iron Age	ceramic	pot	8	52
Iron Age	ceramic	pot	404	2022.5
	ceramic	loom-weight	21	143
Iron Age / Roman	stone	?quern	2	907
Roman	metal (fe)	hobnail	77	79.8
	metal (fe)	nail (coffin)	19	141.76
	metal (fe)	nail frags (coffin)	7	2.68
?Roman	metal (fe)	nail	2	7
	metal (fe)	nail frags	1	0.7
Post-medieval	ceramic	pot	9	202
	ceramic	roof tile	9	373
Post-medieval/ modern	ceramic	brick	3	277

	ceramic	clay pipe	2	6
	glass	bottle	2	31
	glass	vessel	3	22
Modern	ceramic	pot	14	47
Undated	stone	object	2	6
	?shale	object	4	0.2
	glass	fragment	4	0.4
	fired clay	fragment	11	51
	clinker	fragment	34	14
	slag (Fe)	?ironsmithing slag	28	27.3
	burnt stone	fragment	5	68
	burnt stone	pot-boiler	4	62

Table 8: Quantification of the assemblage by period and material

7.2.2 Pottery

A total of 550 sherds of prehistoric pottery were recovered. The assemblage included diagnostic sherds of Late Neolithic Grooved Ware, associated with a radiocarbon date of 2840-2480 cal BC, and a handful of Early Bronze Age beaker sherds. The bulk of the assemblage was, however, of Iron Age date. The dating of the Iron Age pottery from Warwickshire is, however, hampered by the non-publication of the major assemblage from Wasperton, recorded in the early 1990s by Ann Woodward and Catherine Patrick (formerly Mould). The report on pottery from Park Farm, Barford (Ford and Woodward 1994) was helpful in terms of suggesting broad periods for the fabrics and parallels for some of the forms, though no Early Iron Age pottery was identified there. Most of the fabrics reported on here are comparable to fabrics associated with Park Farm ceramic phase C/D, Middle Iron Age. The radiocarbon dates here at Westham Lane, however, suggest a period of activity spanning the Early to Middle Iron Age, with dates ranging from 770-410 cal BC to 380-180 cal BC, and so it seems likely that the pottery assemblage reflects this date range. None of the pottery fabrics or forms could be securely dated to the Late Iron Age, and no Late Iron Age radiocarbon dates were obtained from the site. Comparison with the ceramic phases defined at Park Farm suggests that some Late Bronze Age to, perhaps, Early Iron Age fabrics are included in the assemblage, and this is supported by some diagnostic forms.

84% of the pottery by count and 76% by weight came from phased deposits (Table 10). Roughly half the assemblage by both count and weight was derived from Phase 4, dated to the Early-Middle Iron Age. The bulk of the pottery from Late Neolithic-Early Bronze Age Phase 2 was from a single pit [1551]. Very small quantities of residual Early Bronze Age pottery were noted in later deposits. Only a small assemblage was recovered from Phase 3 (Late Bronze Age–Early Iron Age), though again, small quantities of material of this date were residual in later assemblages.

Apart from the assemblage of Neolithic Grooved Ware, no groups from individual features justify detailed discussion. The Iron Age pottery is therefore described and discussed below as a single group.

Phase 2. Neolithic

The fill of pit [1551] was dated to the Late Neolithic by Grooved Ware (105 sherds, 351g) and an associated radiocarbon date. The fragmentary sherds represented three incomplete vessels, two of which are illustrated (Figs 14 and 15). The latter of these was extremely abraded.

Phases 3 to 4. Late Bronze Age and Iron Age

Five tree-throws also produced pottery, mostly in very small quantities. The largest group of the latter (33 sherds, 48g) came from [1192]. The very fragmentary sherds found here were all from the same vessel, in a characteristically Late Bronze Age fabric (Fabric 6). The tree-throws, however are by nature very disturbed deposits. For example, a good assemblage of Neolithic to Early Bronze Age flint from tree-throw [1452] (fill 1451), was associated with six fragmentary sherds of Early-Middle Iron Age pottery considered to be intrusive.

The stratigraphic evidence was also not very helpful in dating the Iron Age pottery, as there were no good stratigraphic sequences or relationships, despite the number of features, and most individual features produced only small assemblages of pottery. The bulk of the pottery came from individual pits (Table 9), though only 28 of the 60 pits attributed to Phases 3 and 4 produced pottery. Of these, 24 produced less than 10 sherds, and seven between 13 and 47 sherds. Most pits produced just Early to Middle Iron Age pottery. An exception was pit [1127] (pit group CG4) which produced a notably larger, though fragmentary, assemblage (81 sherds, 279g), including fragments from two late Bronze Age vessels with finger-tipped decoration (Figure 16.3, 4), as well as the less diagnostic sherds in fabrics consistent with the Early-Middle Iron Age assemblage.

Assorted ditch cuts produced small assemblages (1 to 15 sherds), also dated broadly to the Early to Middle Iron Age.

Phase 5. Late Roman

The only two sherds from Roman Phase 5 and 5.1 were both in Iron Age fabrics, and so probably residual.

Feature type	Count	% Count	Weight (g)	% Weight
Ditch	45	8%	178	6%
Grave	1	0%	3	0%
Gully	1	0%	5	0%
Pit	452	79%	2219.5	80%
Posthole	4	1%	16	1%
Subsoil	1	0%	7	0%
Topsoil	22	4%	248	9%
Tree-bowl	44	8%	73	3%
Tree-throw	3	1%	19.5	1%
Total	573		2769	

Table 9: Quantification of the pottery assemblage by feature type

Phase	Site period	Count	% Count	Weight (g)	% Weight	Average weight (g)
1-4	prehistoric	4	1%	6	0%	2
2	LN-EBA	111	19%	357	13%	3
3	LBA-EIA	45	8%	142	5%	3
4	EIA-MIA	295	51%	1348.5	49%	5
5	Late Roman	1	0%	3	0%	3
5.1	Late Roman	1	0%	5	0%	5
7	modern	23	4%	255	9%	11
0	unphased	93	16%	652.5	24%	7
Total		573	100%	2769	100%	5

Table 10: Quantification of the pottery assemblage by phase/site

7.2.3 Pottery fabrics

Twelve fabrics were identified and summarised in Table 11 are described in detail below. A site-specific fabric series was adopted for recording due to the circumstances described above in the Methodology. Reference was made, where possible, to the Warwickshire Class 'P' fabrics, defined as 'Iron Age tradition fabrics, but it was not possible to make detailed comparison in the scope of this project. Also, various approaches have been used to define fabrics from sites around Barford. Ford and Woodward (1994) devised a site-specific series. They also made comparison with a site-specific type series at Wasperton, but this, even now, is still unpublished. Some reports (eg Hancocks 2010a) refer to the Warwickshire fabric-type series, a list of which is held by the Warwickshire HER, while others (Hancocks 2010b; Banks 2017; McSloy, forthcoming) have devised site-specific series based on the guidelines produced by David Knight (1998). Detailed comparison between the assemblages was, therefore, difficult, but the chronological groupings defined by Ford and Woodward (1994) have proven helpful here for looking at broader trends. Other difficulties include knowing how long fabrics were in use, and evidence from Rugby Gateway suggests that some fabrics start earlier than currently defined (Griffin, 2015), and how much variability is acceptable within a defined fabric. The fabrics discussed here are all presumed to be local and could have continued in use, with some variation, over long periods of time.

The Neolithic Grooved Ware was in a sand and grog-tempered ware (Fabric 12). This is consistent with the identification of grog-tempered wares as characterising Ceramic Phase A, Late Neolithic /Early Bronze Age, at Park Farm (Ford and Woodward, 1994). Fifteen extremely fragmentary sherds in another ware containing grog (Fabric 1, average sherd weight 0.4g) were associated with the Grooved Ware, so should be contemporary. However, as described below, most of this fabric was associated with Iron Age forms and deposits. Very abraded sherds in a vesicular ware (Fabric 2) were also recovered from the Neolithic pit, including one decorated sherd (Fig 15.2). A tiny sherd in a fine grog-tempered ware (Fabric 8) had decoration typical of Beaker pottery, and the other sherds are attributed this date. Fabric 10 is also dated to this period.

Two fabrics had distinctive coarse quartz inclusions (Fabrics 6 and 11). These are consistent with the late Bronze Age (Ceramic Phase B) fabrics described from Park Farm (*ibid*) and were associated here with Late Bronze Age-Early Iron Age deposits (Phase 3). More diagnostically Late Bronze Age-early Iron Age forms and decoration were noted in the following fabrics: Fabrics 2 (Fig 16.3), 3 (Fig 16.4) and 5 (Fig 16.6). This suggests that these fabrics have at least Early Iron Age origins, if not earlier; sherds in fabric 2 were found in the Late Neolithic pit [1552]. One sherd in Fabric 6 was from a similar shouldered jar. Fabric 4, tempered with sand and flint, is also likely to be Late Bronze Age–Early Iron Age fabric.

Most of the fabrics were broadly consistent with Park Farm Ceramic Phase C/D (Middle Iron Age) but the evidence here suggests that they are longer lived. Two fabrics, as discussed above, were associated with the Neolithic Grooved Ware (Fabrics 1 and 2) but also with Iron Age forms and deposits. Others are likely to have origins in the Early Iron Age. This group includes a range of fabrics tempered with sand, organics and mudstone, and the vesicular wares. The assemblage was dominated by fabrics tempered with sand and organic material (Fabrics 1 and 3).

No shell-tempered wares were identified (Warwickshire Class P50) and this fits a recognised pattern for sites in the Avon Valley (Hingley 1989, 130, fig 9.6).

Fabric code (site specific)	Fabric name	Other fabric concordance	Count	Weight (g)	Wverage weight (g)
1	grog sand & organic	Warwickshire Ford and Woodward 1994, ?Fabric 3 variant	126	596.5	5
2	vesicular	Ford and Woodward 1994, Fabric 5?	89	173.5	2
3	sand & organic	Ford and Woodward 1994, ?Fabric 3 variant	119	919.5	8
4	sand & flint		46	190	4
5	mudstone	Ford and Woodward 1994, Fabric 5	39	193	5
6	coarse quartz	Ford and Woodward 1994, ?Fabric 2A	37	53	1
7	mudstone & sand	Ford and Woodward 1994, Fabric 7	17	45	3
8	fine grog	Ford and Woodward 1994, Fabric 1?	9	23.5	3
9	sand ironstone & chert		4	17	4
10	grog & organic	Ford and Woodward 1994, ?Fabric 1 variant	3	17	6
11	angular quartz	Ford and Woodward 1994, Fabric 2A	2	24	12
12	sand & grog	Ford and Woodward 1994, ?Fabric 1 variant	59	268	5
Total			550	2520	5

Table 11: Quantification of the prehistoric pottery by fabric

Fabric descriptions

1: Grog, sand and black organic: handmade. The firing could be variable but many sherds had predominantly oxidised surfaces and a dark reduced core. Common, ill-sorted, sub-angular red/brown grog <3mm, elongated black organics or voids <10mm, common, ill-sorted, sub-angular, milky white quartz. The grog can be, but is not always, quite prominent on surfaces. The majority of sherds were attributed an early-middle Iron Age date, based on the forms represented and the fact that most sherds (100) came from Phase 4 deposits. However, fifteen very fragmentary sherds (6g) were associated with the Phase 2 Grooved Ware. These could be intrusive but might suggest that the fabric could be long-lived. Two sherds were also recovered from Phase 3. A number of vessels are illustrated (Fig 16.5, 7-10, 14).

2/2.1: Vesicular: handmade, with oxidised surfaces and margins, and a reduced core. A vesicular 'corky' fabric, with a soapy feel. Angular/sub-angular voids <7mm and elongated voids or black organics <2mm. Possibly mudstone-tempered ware (see Fabric 5). Fabric 2 was sub-divided on chronological grounds. Most sherds were associated with Phase 4 and were recorded as Fabric 2. Most were attributed an early-middle Iron Age date (including Fig 16.11) though a handful were associated with a diagnostically late Bronze Age form (Fig 16.3). A number of fragmentary and extremely abraded sherds were associated with the Late Neolithic pit, including a decorated sherd (Fig 16.2). These were reassigned to Fabric 2.1, to differentiate them, but could not be distinguished during analysis.

3: Sand and black organic: handmade. Firing variable; some sherds had oxidised surfaces and reduced cores, while others had more patchy firing or were reduced throughout. Abundant, rounded and sub-rounded quartz <0.5mm with occasional larger grains <1mm. More occasional inclusions of elongated black organics, red/brown grog and chert. With the exception of four extremely fragmentary sherds from a Phase 2 tree-throw, all were from Phase 4 features. One rim is likely to be late Bronze Age (Fig 16.4) but the other illustrated form is consistent with an early-middle Iron Age date (Fig 16.12)

4: Sand, chert/flint: handmade. Sherds were more often reduced but could have oxidised margins or a more patchy firing. Abundant rounded/sub-rounded quartz <0.5mm. Characterised by sparse larger inclusions which can protrude from external surfaces, including chert <9mm, flint <5mm. Occasional black organics and grog. Represented mainly by body sherds. Most sherds were associated with Phase 4, but six sherds were associated with Phase 3. The only illustrated form (Fig 16.13) is from an unphased pit.

5: Mudstone: handmade. Firing variable; some sherds reduced throughout while some had oxidised surfaces and margins and a reduced core. Surfaces can be pitted where inclusions have leached out. Common inclusions of ill-sorted, soft, pale brown argillaceous material identified as mudstone, and voids where inclusions have leached out. Most sherds were associated with Phase 4, though this includes a possible late Bronze Age form with finger-tipped decoration (Fig 16.6). Two fragmentary sherds were associated with a Phase 2 tree-throw. See also Fig 16.16.

6: Coarse quartz (Warwickshire P21): handmade, reduced throughout. The surfaces are wiped smooth, so the coarse inclusions visible in section do not protrude. Common, ill-sorted inclusions of angular and sub-angular white quartz <3mm. Comparable to fabric 2A at Park Farm, Barford (Ford and Woodward 1994, 13); where it is associated with ceramic phase B, dated to the late Bronze Age. The only diagnostic form was a carinated body sherd. A similar form from Park Farm (*ibid*, fig 8.6) was thought to be the angled shoulder from a jar. Comparable to fabrics A and K at Wasperton (*ibid*). This fabric was associated with Phases 1 and 3.

7: Mudstone and sand: handmade, usually with oxidised surfaces and reduced core. Surfaces can be pitted where inclusions have leached out. Common inclusions of ill-sorted, soft, pale brown argillaceous material identified as mudstone, and voids where inclusions have leached out; sparse to moderate rounded quartz <0.5mm. All sherds were associated with Phase 4.

8: Fine grog: handmade, with oxidised external surface and margin and reduced internal surface and margin. Sub-angular grog <1mm and occasional rounded quartz <0.5mm. Represented only by body sherds but including a diagnostic beaker sherd with tooled decoration, so identified as an early Bronze Age fabric. Comparable to fabric 1 at Park Farm, Barford (Ford and Woodward 1994, 13); associated there with Ceramic Phase A pottery, dated to the late Neolithic and early Bronze Age. Matched at Wasperton by Fabric G (*ibid*). All sherds were residual in Phase 4.

9: Sand, ironstone and chert: handmade, oxidised surfaces and reduced core. Abundant rounded and sub-rounded quartz <1mm, with occasional red/brown iron ore and chert. All sherds from Phase 4 or later but the dating of this fabric is uncertain.

10: Grog and organic: handmade, oxidised surfaces and reduced core. Common, sub-angular grog <4mm and black organics. Three undiagnostic body sherds from Phase 4 (residual?).

11: Angular quartz: handmade, oxidised external surface and margin and reduced internal surface and margin. Characterised by inclusions of angular white quartz <5mm, protruding through surfaces. Other inclusions of rounded/sub-rounded quartz <0.02mm. Comparable to fabric 2A at Park Farm, Barford (Ford and Woodward 1994, 13); where it is associated with Ceramic Phase B, dated to the late Bronze Age. No diagnostic forms. Comparable to fabrics A and K at Wasperton (*ibid*). Both sherds from Phase 3.

12: Sand and grog (Neolithic Grooved Ware): handmade, patchy firing but surfaces mainly reduced with a dark reduced core. Common, ill-sorted, sub-rounded quartz <1mm and moderate sub-angular grog <2mm. While Fabric 1 at Park Farm does not contain quartz, the use of grog-temper is consistent with the late Neolithic to early Bronze Age, ceramic phase A (Ford and Woodward 1994, 13). All sherds from Phase 2 pit 1551.

Catalogue of illustrated pottery

Figure 14: Clacton substyle Grooved Ware vessel

1: Crenellated rim and decorated body sherds from a tub-shaped, Grooved Ware vessel. The decoration consists of horizonal grooved bands with inset panels of impressions, probably pendant triangles with rows of oblique stab marks (see Barclay below). Fabric 12. Diam. uncertain. Phase 2, pit 1551, fill 1552. Rec 138-141.

Figure 15: Grooved Ware body sherd

2: Grooved Ware body sherd; very abraded but with faint decoration surviving. Fabric 2.1. Phase 2, pit 1551, fill 1552. Rec 135-6.

Figure 16: Iron Age pottery

3: Base and joining body sherds from a slack-shouldered jar, with finger-tipped decoration on the shoulder; rim missing. Similar forms are associated with the late Bronze Age plain ware assemblage from Potterne (Morris 2000, 157-161, fig 56.77, fig 58. 87) and in the late Bronze Age/earlier Iron Age forms illustrated by Knight (2002, fig 12.3, 16-18). Similar shoulder decoration is illustrated from two late Bronze Age/early Iron Age forms previously excavated at Barford (Hancocks 2010a, 50, fig 16.1-2). Fabric 2. Phase 4, CG4, pit 1127, fill 1123. Rec 5, 6.

4: Internally bevelled rim from a slack-shouldered jar, with finger-tipped decoration just below the rim. This is likely to be contemporary with the illustrated vessel above, though a similar form from the Barford bypass excavations was dated to the middle-late Iron Age (Hancocks 2010a, 51, fig 16.5). Fabric 3. Diam. uncertain. Phase 4, CG4, pit 1127, fill 1123. Rec 10.

5: Slightly splayed base. Fabric 1. Phase 4, CG 4, pit 1127, fill 1123. Rec 2.

6: Fragmentary rim with finger-tipped decoration on top. The form and decoration are similar to a late Bronze Age/early Iron Age form illustrated from Hampton Lucy, Warwickshire (Hancocks 2010b, fig 14.8). Fabric 5. Phase 4, CG5 pit 1338, fill 1344. Rec 104.

7: Slack-shouldered jar with a short upright rim. Similar forms from Rugby, with associated radiocarbon dating, are dated to the late early–early middle Iron Age (Griffin 2015, fig 63.6-8). There is a pattern of fuming inside the rim which, if related to use rather than other factors, might suggest the jar was used in association with a lid. Fabric 1. Phase 4, CG6, pit 1231, fill 1235. Rec 39.

8: Splayed base, possibly from the same jar as above but not joining. Fabric 1. Phase 4, CG6, pit 1231, fill 1235. Rec 40.

9: Slack-shouldered jar with an upright rim. Some faint lines below the rim could be intentional, but, with numerous organic impressions on both internal and external surfaces, this is not certain. No similar forms are described from the Barford, Park Farm (Ford and Woodward 1994) or bypass assemblages (Hancocks 2010a). Similar forms from Rugby, with associated radiocarbon dating, are dated to the late early–early middle Iron Age (Griffin 2015, fig 63.6-8). Fabric 1. Phase 4, CG8, pit 1377, fill 1406. Rec 37.

10: Slack-shouldered jar with an upright, flattened rim. Fabric 1. Diam. 14cm (30%). Phase 4, CG8, pit 1381, fill 1388. Rec 24, 25.

11: Barrel-shaped jar, with no neck and an internally bevelled rim. Fabric 3. Phase 4, CG8, pit 1381, fill 1388. Rec 22.

12: Upright, flat-topped rim from a slack-shouldered jar. Fabric 3. Diam. uncertain. Phase 4, pit 1321, fill 1322. Rec 15, 16.

13: Fragmentary, upright rim from a jar. Fabric 4. Diam. uncertain. Phase 4, pit 1321 fill 1322. Rec 19.

14: Rim from a jar with heavy wiping. Fabric 1. Diam. uncertain. Phase 4, pit 1429, fill 1432. Rec 45.

15: Splayed base. Fabric 3. unphased, pit 1316, fill 1323. Rec 13.

16: Slightly out-curving rim. Fabric 5. Phase 4, CG 3, ditch 1178, fill 1177. Rec 44.

7.3 The Grooved Ware: significance and chronology by Alistair Barclay

Within a southern England context, the Grooved Ware from pit [1551] (in Phase 2) can be placed within the Clacton substyle that is denoted by tub-shaped vessels with decoration arranged in horizonal grooved bands and with inset panels of impressions, and in the case of Barford probable pendant triangles with rows of oblique stab marks (see Piggott 1954, 340 and fig 57). As the type-site name suggests, the Clacton substyle is more common in Eastern parts of England and only occasionally found in the West and South-west of England. More common in the South and West are the Durrington Walls and Woodlands substyles that were originally defined based on sites in the Stonehenge landscape. These type-site labels have their limitations and mask a picture of more subtle regional styles and long-distance connections across the UK and, in particular, with Orkney where Grooved Ware is believed to have originated from. The Barford Grooved Ware is typical of the Clacton substyle but has one other feature, its crenellated or scalloped rim, which is certainly unusual in a southern British context but is an attribute that can be paralleled in assemblages found in Orkney, in particular at Pool (MacSween *et al* 2015, fig 8; MacSween 1992, 262, table 19.2 and fig 19.2). Other similar, but probably equally rare, rims are no doubt to be found in Britain, but the link between Barford and an albeit distant origin is undeniable.

Grooved Ware chronology across the UK and Ireland is currently under review and at present work is concentrating on Orkney (MacSween *et al* 2015; Richards *et al* 2016). The existing chronological framework and typo-chronology requires updating. The new discovery from Barford with its associated radiocarbon date is likely to add to an increasing dataset. Grooved Ware chronology from southern England has been modified as further new and precise dates are added. Until recently the earliest Grooved Ware was not thought to occur before 2900 cal BC. However, a small number of new dates are beginning to push this back to 3000 BC. Currently the Clacton and Woodlands substyles appear equally early in southern England, whilst, in Scotland, Grooved Ware may have its origins some two centuries before (*c* 3200 BC).

7.4 Other artefacts by C Jane Evans and Derek Hurst

7.4.1 Ferrous finds

Iron Age by Derek Hurst

Part of a brooch, comprising the bow and a remnant of the spring came from pit [1243] (1239, sample 07; pit group CG5, P4) (Plate 18.7). This was about 50mm long (2g; Fig 18 on right-hand side) and was from a La Tène type brooch (cf Hattat 2000, fig 147).

Roman by C Jane Evans

A total of 106 nails and nail fragments were recovered, the great majority from the Roman grave [1550] (Plate 18, Table 12) which has an associated radiocarbon date of cal AD 250-410. Most were conical headed hobnails, of the type used in footware throughout the Roman period. These were associated with the badly decomposed skeleton and were found in two discrete areas, indicating the position of the two shoes worn at burial. The left shoe or boot produced 33 nails (SF 16) and the right 43 nails (SF 17).

The remaining 25 nails/nail fragments were associated with a wooden coffin, attested by soil staining and fragments of burnt planking (Plate 18). The position of most of these nails within the grave is illustrated in Figure 12. All the nails were of Manning type 1b (Manning 1985, 134-5, fig 32), with a square sectioned tapering stem, a rounded or rectangular flat head, and less than 150mm long. Within this grouping there were at least two, possibly three, sizes. Four larger nails (SF 10-13) were each recovered from a base corner of the coffin, lying horizontally and directed into the coffin so thought to have attached the side walls to the end panels. The only complete example (SF12) was 77mm long; another, from which just the tip was missing, was 75mm long. Three had oval heads, with diameters ranging from 18-22mm, and one a diamond-shaped head, varying from 18-24mm across. Four other nails found *c* 0.32m higher are thought to have been used in a similar way. Two (SF 1a and 2) were of the larger type; the complete example (SF 2) was 85mm long with an oval head, diameter 24mm. Two of these nails were also found with the burnt planking (SF 9 and 8). One (SF 8) was of the larger type; 82mm long and with a rounded head, diameter 19mm. The other was smaller; 45mm long, though the tip was missing, with a head diameter of 14mm. Two further nails (SF 14 and 15) were found at the base of the grave, pointing upwards. These are thought to have connected the base of the coffin to the walls. One (SF 14) had a diamond-shaped head, from 18-24mm across. The other was too badly corroded for identification. Finally, six smaller nails (SFs 3-7 and 1b) are thought to have been attached to the coffin lid. These had oval heads with diameters varying between 8-11mm. There appeared to be two lengths, longer nail shafts measuring between 22-24mm and the shorter examples 14mm. The other (SF1b) was smaller, though the shaft was broken, with a diameter of *c* 11mm. Further, undiagnostic nail fragments were recovered from soil samples taken from the grave fill (1568, samples 34 and 42) and associated with the collapse of the coffin after decomposition (fill 1569, sample 35).

The rest of the excavations produced only four nail fragments, all from soil samples, including a conical head from another hobnail, which was found associated with a few small, human tooth fragments (skeleton 1709), indicating, given the context, the presence of a Roman burial (grave 1707, fill 1708).

Post-Roman/unphased by C Jane Evans

The other three nails were all undiagnostic stem fragments; one from an unphased pit (1505, sample 44), and one from a Phase 6 posthole (1315, sample 15).

Feature type	Material subtype	Object type	Count	Weight (g)
Grave	iron	hobnail	77	79.8
	iron	nail (coffin)	19	141.76
	iron	nail frags (coffin)	7	2.68
Pit	iron	nail frags	1	0.7
Posthole	iron	nail	1	5

Table 12: Quantification of nails by feature type

7.4.2 Stone objects by Derek Hurst

Two fragments of a rubber for a saddle quern in a hard densely sandy sandstone (?Old Red Sandstone) came from a middle fill of ditch [1108] (1105, CG2, P4). A recent survey has pointed to generally only fragmentary querns being recovered from Iron Age ditches, and that these are usually from saddle querns/rubbers and potentially represent structured deposition (Watts 2012).

7.4.3 Fired clay and industrial residues by C Jane Evans

Small fragments of undiagnostic fired clay were found in very small quantities across the site (Table 13). Three fragments from Phase 4 ditch [1143] (fill 1103) were associated with a very small quantity of iron slag (Table 14), so might be derived from ironworking in the vicinity. The other fragments came from deposits exhibiting evidence of burning. The two fragments from the Phase 5 grave may be accidental by-products from the burning of the coffin. Other fragments came from Phase 4 or unphased pit fills that produced heat-cracked stones, interpreted as fire pits or dumps of hearth material. The only diagnostic fragments came from a lens of burnt material in Phase 4 pit [1243] (fill 1239), and included angled surfaces, suggesting that they came from a triangular or pyramidal loom-weight.

Feature type	Context group	Fill of	Context	Count	Weight(g)	Average weight
Ditch	3	1143	1103	3	23	8
Grave	0	1550	1568	2	2	1
Pit	0	1321	1322	3	3	1
	0	1337	1335	1	6	6
	5	1243	1239	21	143	7
		1338	1344	1	15	15
	8	1381	1388	1	2	2

Table 13: Quantification of fired clay by feature type

A small quantity of slag was recovered from five contexts (Table 14). The fragments were light and vesicular and probably associated with smithing rather than smelting, especially given the presence elsewhere on site of hammerscale, and occurred earliest in Phase 4 features. Hammerscale was associated with the slag in pit [1143] and posthole [1315] and noted in the following Phase 4 features: ditch [1178] (fill 1177), and pits [1377] (fill 1406) and [1539] (fill 1537). Later occurrences of this material (see Table 14) are likely to be residual. Better evidence for metalworking was found at the site to the north of Westham Lane, where blacksmithing was thought to have taken place (Starley forthcoming).

Phase	Context group	Feature type	Fill of	Context	Count	Weight(g)
0	0	Pit	1505	1512	1	1
4	3	Ditch	1143	1103	2	6
4	5	Pit	1291	1290	1	1
4	8	Pit	1377	1406	2	0.3
6	7	Posthole	1315	1313	22	19
Total					28	27.3

Table 14: Quantification of ironworking slag by phase and context group

7.4.4 Post-medieval and modern finds

A handful of post-medieval and modern finds were recovered, mostly from the topsoil (Table 15). The exceptions were: a fragment of clay pipe stem and spur, dating to the 18th-19th centuries, found at the top of a posthole fill (1315); a small fragment of post-medieval roof tile from the upper fill of pit [1303]. Both are likely to be derived from the topsoil. The pottery recorded from the topsoil included creamware, modern blue and white china and post-medieval red ware, indicating a date range from the mid-18th century to 19th or early 20th century. Other associated finds included vessel and bottle glass, a clay pipe stem and fragments of brick and tile, all of which are probably contemporary with this.

Feature type	Context group	Fill of	Context	Material	Object type	Period	Count	Weight(g)
Pit	5	1303	1307	ceramic	roof tile	post-medieval	1	7
Posthole	7	1315	1314	ceramic	clay pipe	post-medieval/ modern	1	2
Topsoil	0		1100	ceramic	brick	post-medieval/modern	3	277
					clay pipe		1	4
					roof tile	post-medieval	8	366
				glass	bottle	post-medieval/modern	2	31
					vessel		3	22
				ceramic	pot	modern	13	46
						post-medieval	9	202

Table 15: Quantification of post-medieval and modern finds by feature type

7.5 Recommendations and suggestions for further study

Studies of Iron Age pottery in Warwickshire would benefit from publication of the Wasperton report and the Warwickshire fabric type series, the latter with a synthetic overview on current thoughts regarding dating. The finds from this site highlight the importance of obtaining scientific dating for deposits. The radiocarbon dating here allowed the Iron Age pottery to be dated with more confidence and will also make a contribution to the national study of Grooved Ware.

7.6 Flint by Rob Hedge

7.6.1 Methodology

Classification of worked flint follows conventions outlined in Ballin (2000), Inizan *et al* (1999), and Butler (2005); the material was catalogued according to type and dated where possible. Visible retouch, edge-damage, cortex, raw material characteristics and quality, burning, and breakage were noted. The assemblage was split into debitage/tools, and further classified by type. Inevitably, the distinctions are somewhat arbitrary and there is every possibility that casual use of debitage for certain tasks has gone undetected but for the purposes of this analysis debitage comprised waste products (chips <10mm, chunks >10mm, cores) and unmodified flakes with no traces of use-wear or edge-damage visible under a hand lens (x10 magnification). Retouched pieces, blades, and utilised flakes were classed as tools.

7.6.2 Results

Background

Several sites in this part of the Avon Valley have yielded useful comparable flint assemblages, though most are relatively small. The Barford Bypass works (Bevan 2010) recovered 34 pieces of worked local pebble flint, with Late Mesolithic and later Neolithic/Early Bronze Age elements. At Park Farm, Barford (Picken 1994, 22), 23 worked flints reflect Late Neolithic and Early Bronze Age activity, and possibly also Iron Age flintworking. To the south, Neolithic and Bronze age flint is associated with a possible cursus at Wellesbourne (Fennell 1978). And to the northeast, a sparse scatter of worked local pebble flint around the Barford monument complex (Loveday 1989) pertains to low-intensity Mesolithic activity pre-dating the cursus, along with a small quantity of Neolithic and Early Bronze Age material.

Sites in the vicinity have, therefore, tended to yield a low-intensity background scatter of Mesolithic and earlier Neolithic artefacts. The volume of flint from nearby excavations increases with later Neolithic and Early Bronze Age activity. It is, however, worth noting that even significant hotspots of activity in the 3rd millennium BC such as the Barford Cursus (Loveday 1989) have not been found to contain large concentrations of flint artefacts. Some of this may be attributable to sampling strategies, but, on the other hand, just eight worked flints were recovered from the neighbouring site excavated by Cotswold Archaeology (Newman and Boyer 2018), and all, bar two of these, were residual.

In this context, the presence of almost 100 artefacts from this site, significantly aided by the careful processing of environmental samples, represents a notably high density for this area.

Quantification

The assemblage comprised 97 pieces of worked flint, weighing 202.3g (Table 16, Figs 17-18). There were 11 tools, and the remaining 86 artefacts were unmodified debitage. Artefacts came from 29 stratified contexts. Attribution to specific phases was problematic. There was evidently a phase of Mesolithic or Neolithic activity (Phase 1), represented by a sparse scatter of residual blade-based artefacts and debitage, and a separate phase of Late Neolithic to Early Bronze Age activity (Phase 2). Some of the Phase 2 artefacts were well-stratified and comprised primary deposition in contemporary features, but there was also flint of this date incorporated into later prehistoric and Roman features. A small quantity of artefacts bearing characteristics of later prehistoric flintworking were also present, and these are probably contemporary with Phases 3 and/or 4.

Much of the smaller debitage, particularly that recovered from environmental samples, could not be confidently ascribed to specific periods or phases. Such material is recorded as ‘prehistoric’ in the quantification table below.

Artefact class	Artefact type	Flake Portion	Qty	Weight (g)	Date	Start date	End date
Tool	truncated piece	Proximal	1	0.6	Mesolithic / Neolithic	-10000	-2400
	knife	Whole	1	2.9			
	end-scraper	Whole	1	25.1			
	blade	Whole	2	5.3			
	blade	Whole	2	5.8	Late Neolithic / EBA	-3000	-2000
	knife	Distal	1	6.4			
	broken knife	Proximal	2	19.4			
	end-scraper	Whole	1	5.7	later prehistoric	-3000	43
Subtotal: tools			**11**	**71.2**			
Debitage	burin spall	Whole	2	0.8	Mesolithic / Neolithic	-10000	-2400
	chip	Medial	1	0.7			
		Whole	5	0.5			
	flake	Whole	5	5.7			
	chip	Whole	7	0.6	Neolithic / EBA	-4000	-2000

	flake	Whole	1	0.4			
	chunk	Whole	5	9.4	Late Neolithic / EBA	-3000	-2000
	flake	Distal	4	5.9			
		Medial	1	0.2			
		Whole	12	25.5			
	flake	Whole	1	4.9	later prehistoric	-3000	43
	flake core	Whole	2	19.1			
	chip	Medial	1	0.3	prehistoric	-10000	43
		Whole	24	4.2			
	chunk	Whole	2	0.9			
	flake	Distal	1	2.4			
		Medial	1	0.1			
		Whole	9	18.1			
	tested nodule	Whole	2	31.4			
Subtotal: debitage			**86**	**131.1**			
Overall Total:			**97**	**202.3**			

Table 16: Quantification of worked flint

Raw material

There was considerable variety in the raw materials represented, though most were of good quality flint. The majority was light to mid grey and translucent. Dark grey translucent flint, light grey opaque flint, and a distinctive yellow-grey opaque flint, were also present in smaller quantities. Thin and contused cortex indicated that most was pebble flint, probably derived from local river gravels. One exception was a group of debitage from tree-throw [1451], where a thick chalky cortex, over a dark grey flint of high quality, suggests that the material was imported from a chalk area.

Relatively little post-depositional abrasion was noted. Little re-cortication was evident, and only 4 pieces (4.1%) were heat-affected.

Reduction sequence

Table 17, below, breaks down the artefacts by their stages in the reduction sequence, according to the following definitions:

- Primary ('Prim.'): 100% dorsal cortex (1st stage in reduction sequence)
- Secondary ('Sec.'): 1-99% dorsal cortex
- Tertiary ('Tert.'): 0% dorsal cortex

		Flake		**Blade**		**Core / nodule**		**Chip**		**Chunk**		**Knife / point**		**Burin spall**		**Scraper**		**Totals**	
		N	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	**n**	**%**
Prim.	n	0	0%	0	0%	2	50%	0	0%	0	0%	0	0%	0	0%	0	0%	**2**	**2%**
	w (g)	0	0%	0	0%	31	62%	0	0%	0	0%	0	0%	0	0%	0	0%	**31**	**15%**
Sec.	n	11	31%	3	75%	2	50%	3	8%	2	29%	2	11%	0	0%	2	100%	**25**	**23%**
	w (g)	28	45%	7	67%	19	38%	0.4	6%	6	59%	12	40%	0	0%	31	100%	**104**	**51%**
Tert.	n	24	69%	1	25%	0	0%	35	92%	5	71%	17	89%	2	100%	0	0%	**84**	**76%**
	w (g)	35	55%	4	33%	0	0%	6	94%	4	41%	18	60%	1	100%	0	0%	**67**	**33%**

Table 17: reduction sequence

In general, high proportions of artefacts from primary or secondary stages in the reduction sequence indicate a less controlled use of raw materials, with fewer removals per core. Assemblages with these characteristics are associated with later prehistoric flintworking (Fasham and Ross 1978), from the Bronze Age onwards. Higher proportions of artefacts with no cortex, on the other hand, indicate careful core preparation, with initial stages of reduction undertaken elsewhere, and more removals per core. These features are more consistent with flintwork around, or before, the mid-3rd millennium BC. In this case, taking unmodified flake debitage, relatively little (just 31%) is from primary or secondary stages, with the remaining 71% having no cortex. This suggests that most of the flint from this site is associated with Phases 1 and 2, rather than with Phases 3 and 4.

Metrics

Length and breadth measurements were taken from the 33 complete flakes. The results are plotted in Figure 17. Pitts and Jacobi (1979) highlight the difficulties in distinguishing later Mesolithic and later assemblages based on scatterplots alone, but the presence of broad, squat flakes and a mean breadth/length ratio of 0.81 is consistent with the values expected from an assemblage spanning the later Mesolithic to Early Bronze Age.

7.6.3 Analysis

Because the assemblage covers a broad temporal span and is distributed widely across the site with many residual elements in later features, it makes little sense to split up discussion into individual features or context groups. Instead, broad trends and attributes will be discussed here, with an overview by period and with reference to key features. For full details of flint from individual context, see the tables in Appendix 2, selected flints are illustrated in Figure 18.

Much of the smaller debitage could not be reliably attributed to phases and is simply recorded as ‘prehistoric’. There are some quirks in the data, attributable to sampling strategies. For example, flint from late Roman (Phase 5) grave accounts for 12.3% of the assemblage by count: this material was mostly very small chips recovered through intensive sampling of the mortuary enclosure. The feature is spatially close to late Neolithic Grooved Ware pit [1551] and so the flint probably represents knapping waste from activity during site Phase 2.

Mesolithic/Neolithic (Phase 1)

The earliest phase of flintworking is represented by elements of a blade-based industry, probably Mesolithic or earlier Neolithic in date. Small quantities were residual within later features, including a blade residual within Phase 4 pit [1338] (Fig 18). Other material attributed to this phase was found within tree-throws [1454], [1600] and [1611] (fig 18).

Late Neolithic/Early Bronze Age (Phase 2)

The boundary between artefacts of Phase 1 date and those originating in Phase 2 was diffuse, especially since some of the latter were found within tree-throw features [1452] and [1118]. Nonetheless, Phase 2 seems to be characterised by intentional deposition of artefacts within these features: a snapped knife within tree-throw [1118] (Fig 18), and an unusual trapezoidal knife amongst twenty pieces of worked flint in tree-throw [1452] (Fig 18). Much of the debitage from this feature was probably from the same nodule: a high-quality dark grey flint with a thick, creamy cortex, likely to have been imported from a chalk source.

There were sixteen pieces of worked flint from the Grooved Ware pit [1551] that yielded a late Neolithic radiocarbon date (2840-2480 cal BC). Of these, several showed elements more commonly associated with Mesolithic or earlier Neolithic flintworking, including a truncated piece and a burin spall. Their fresh condition suggests that they are unlikely to be residual or curated items, and it is more likely that they represent slightly anachronistic forms contemporary with the rest of the material from the pit.

Late Bronze Age to Middle Iron Age (Phases 3 and 4)

As suggested in the discussion on the reduction sequence above, much of the flint from features of Phase 4 onwards is likely to be residual, probably originating in Phase 2. However, there are a few artefacts which bear the hallmarks of casual later prehistoric flintworking, including a crude end-scraper from topsoil (500), and two flake cores from Phase 4 features.

7.6.4 Synthesis

The quantity of worked flint is large in comparison to nearby sites. A small quantity of Mesolithic or Early Neolithic material is further evidence of a human presence in the Avon Valley at this time (Phase 1). Most of the assemblage probably relates to later Neolithic/Early Bronze Age activity (Phase 2). It appears to include items deliberately deposited in pit alongside Grooved Ware pottery and tree-throw features; other artefacts of this date have been disturbed by later prehistoric (Phases 3 and 4) and Late Roman (Phase 5) activity and so incorporated into later features. A small quantity of later prehistoric flint, possibly contemporary with Phases 3 and 4, was also present.

7.7 Significance of the artefact assemblage by C Jane Evans

The Late Neolithic, Clacton substyle Grooved Ware is of national significance, particularly having an associated radiocarbon date. This will add to the national dataset available for research and will contribute to any future revision of the existing chronological framework for these wares. The ceramic evidence for Neolithic activity is also well supported by the flint assemblage. The pottery assemblage suggests some level of activity continued through the area during the early Bronze Age and perhaps late Bronze Age, but this could be intermittent given the present evidence.

The bulk of the finds, primarily pottery, reflect activity on the site from the early to middle Iron Age. None of this pottery could be closely dated as the forms and fabrics were long-lived types, but a programme of radiocarbon dating enhanced the pottery dating. This was critical given there were no stratigraphic sequences and the Iron Age pottery came from a number of discrete features, predominantly pits, that produced only small assemblages. Hearth debris suggesting that they derived from domestic activity, and there were hints of ironsmithing activity in the vicinity at this time, though no significant deposits of industrial waste. An Iron Age brooch fragment and quern fragments might signify structured depositions where an object had (often) been deliberately broken and placed in the ground (Hill 1995; D Hurst, pers comm).

The only Roman finds were the hobnails and coffin nails associated with the later Roman burial and the total absence of Roman pottery is most significant and unusual, given its ample presence on neighbouring sites.

8 Environmental evidence by Kath Hunter Dowse

Environmental sampling was undertaken according to standard Worcestershire Archaeology practice (WA 2012).

8.1 Plant macrofossils

During the excavation 51 samples from a range of feature types and dates were assessed and the identifiable plant remains quantified and recorded (Appendix 3, Table 3.1 and 3.2). The samples were processed using a flotation technique recovering the flot to 250µm and the residue to 500µm. The residue was sorted in-house by Worcestershire Archaeology, with charcoal and other plant remains extracted from the greater than 2mm fraction. The flot and material extracted from the residue were analysed by the author using an MTL stereo microscope. The results from this analysis are recorded in the Appendix Tables 3.-3.4. Where applicable radiocarbon dating evidence has also been recorded.

Due to restriction of time and the availability of only a low-power microscopy, the assessment of charcoal is very basic. It attempted to identify the presence of ring-porous or diffuse vessel patterns.

Where possible the author attempted to identify whether the charcoal represents roundwood, heartwood, twig or root. However, the act of trying to identify the above characteristics in abraded charcoal is by necessity destructive, so this was not carried out on all the fragments from this evaluation. The frequency of all environmental remains has been recorded using the following criteria:

* 1-5 items, ** 6-10 items, *** 11-50 items, ****50-100+ items

The frequency for charcoal recorded in Appendix Table 3.1 in brackets eg (***) represents the proportion that appeared to be larger than 2mm in all dimensions and may be identifiable to species. However, following assessment, this level of preservation was not considered by Worcestershire Archaeology to be sufficient for analysis. Charcoal is also only discussed in the report for early prehistoric contexts.

Where identification of other plant macrofossils has taken place, the nomenclature for cereals follows Zohary *et al* 2012 and other plants Stace 2010. The term 'seed' may include achene, fruit, nutlet etc.

8.1.1 Results

Late Neolithic to Early Bronze Age

Samples 38 and 46, context (1552) from pit [1551] produced less than 10 fragments of charcoal greater than 2mm in all dimensions and hazelnut shell (*Corylus avellana*) which was dated to 2840-2480 cal BC. Fill (1451) of pit/tree-throw [1452] contained abundant charcoal fragments.

Late Bronze Age to early Iron Age

Context (1196), the fill of tree-throw [1192] contained a few examples of amorphous charred fragments which appear to be of an organic origin but which could not be further identified. Fill (1376) of tree-throw [1375] contained similar amorphous charred fragments with occasional fragments of charcoal.

Early Iron Age to Middle Iron Age

Of the other 27 samples examined only nine contained identifiable cereal remains. Wheat grains (*Triticum* sp) were present in small numbers in fills (1235, 1237, 1239 and 1410) of pits [1231, 1243, and 1384 respectively]. Two poorly preserved wheat glume base fragments (*T spelta/dicoccum*) were also noted in (1239). A single grain of hulled barley (*Hordeum* sp) was present in (1406). Small and poorly preserved seeds which appeared to be of oat or brome type (*Avena/Bromus* sp) were present in fills (1344 and 1501) of pits [1388 and 1501] respectively.

Very few weed seeds were present with the most commonly occurring being individual black bindweed seeds (*Fallopia convolvulus*). These may well represent weed that had been growing amongst standing crops which were subsequently harvested with them. The relatively large seeds could have been retained with cereal grains during crop processing. Fill (1405) from pit [1381] produced 18 fragments of hazelnut shell. Hazelnut shell is a common find from archaeological sites from the Neolithic to post-medieval periods in Britain, where it appears to have been exploited as a wild or managed food resource.

Prehistoric

Context (1599), fill of tree-throw [1600] contained only a very few fragments of charcoal.

Late Roman

Context (1573), the fill of gully [1574], contained a small number of unidentifiable cereal grain fragments along with brome/oat seeds.

Post-medieval

Context (1313), the post pipe of posthole [1315], contained a single cornflower seed (*Centaurea cyanus*): a crop weed common from the Saxon period until the mid-20th Century in Britain. The sample also contained frequent amorphous charred fragments along with fuel ash flag, spherical hammerscale, small iron fragments, and coal.

Undated

Fill (1276) of posthole [1277] contained two wheat grains and four possible oat/brome seeds.

Fill (1278) of posthole [1279] contained a single identifiable wheat grain, with five indeterminate cereal grain fragments and a single seed of cleavers (*Galium aparine*) – this is another weed which may have been growing up through the standing crop. Though it is also commonly found growing in hedgerows and wood margins, so may have been gathered accidentally with wood for fuel.

Fill (1306) of pit [1305] contained a few amorphous charred fragments which appear to be of organic origin.

Fill (1322) of pit [1321] contained poorly preserved cereal grain fragments including a possible wheat grain along with occasional charcoal greater than 2mm in all dimensions.

Fill (1367) of posthole [1366] contained a single wheat grain along with a few indeterminate cereal grain fragments, a black bindweed seed and amorphous charred fragments.

Fill (1505) of a pit contained a few fragments of charcoal along with coal, clinker and stone.

Material provided from (1319) contained only a small fragment of animal bone.

8.1.2 Discussion

None of the samples examined produced a rich plant macrofossil assemblage, though a small number contained between 10 and 100 plus fragments of charcoal greater than 2mm in all dimensions.

None of the cereal grains or weed seeds appear to have been recovered from primary burning deposits and are probably the result of the re-deposition of charred cereal processing waste. It is probable that cereal processing occurred close to the site from the Middle Iron Age through to the Roman period but the paucity of identifiable remains mean that it is not possible to identify the extent of the practice from this assemblage. There is a relatively high risk that these remains could be either residual or intrusive within the contexts where they are found, even with the hazelnut shell dated to the Late Neolithic/Early Bronze Age. Therefore, it is only possible to say that charred plant remains have been deposited at the site from the prehistoric through to the post-medieval period, but it is not possible to identify the type or the exact location of the processing. However, wheat, barley and possibly oat appear to have been processed close to the area from the Early Iron Age.

The radiocarbon dating of hazelnut shell fragments from several samples from the site suggest that it was a potential food resource from the Late Neolithic through to the Late Roman period. Though it is also possible that the nutshell could have been gathered and burnt with hazel wood as fuel. Several sites also excavated close to the River Avon, but approximately 20 miles to the north-east of Barford have also produced similar evidence of archaeological activity. These assemblages were also characterised by small quantities of hazelnut shell in the Neolithic and later poorly preserved cereal grains up to the Romano-British period (de Rouffignac 2003; Carruthers 2007; Monkton 2009).

8.2 Animal Bone

Small quantities of animal bone were hand-collected on site, but as this was very poorly preserved, in addition to the sparse quantity, and so no further analysis was carried out. Animal bone data from sample residues are presented in Appendix Table 3.1.

8.3 Summary of Environmental remains by Elizabeth Pearson

8.3.1 Distribution of charred plant remains

The sparse level of charred plant remains may reflect its predominantly originating from storage pits, which are likely to have been cleaned of grain after use. The charred remains that survive may result from cleansing grain storage pits of moulds and fungi using fire, or from a subsequent phase when the pit was used for rubbish disposal.

As there is no direct evidence of Iron Age buildings and other structures, the area sampled appears to have been used more for storage than domestic use or cereal crop processing. More dense concentrations of charred cereal crop waste may, therefore, exist outside of the development site area where any hearths, and agricultural processing was taking place.

Animal and human bone was very poorly preserved, due to poor survival in the slightly acid sandy, loamy soil, which is common in sites of this soil type. Waste from animal processing is likely, therefore, to be considerably under-represented.

8.3.2 Agricultural economy

Despite the number of storage pits of this date, presumed to have been used for grain storage, the soils on which the site is situated are only suited to limited level of arable farming. The soils are slightly acid sandy, loamy soils of low fertility. Nevertheless, the presence of storage pits suggests arable activity and cereal processing in some bulk, although, as it is uncertain how many pits were in use at any one time, the importance of this activity is uncertain. Low levels of charred cereal crop remains were also found during evaluation of land west of Wellesbourne Road, just to the north of this site (Wessex Archaeology 2012) and at land off Westham Lane, Barford (Wyles 2018).

Though it is also possible that some of the cereal crop material in storage derives from crops grown on moderate to high fertility soils immediately to the east. There is a similar pattern at Grove Fields Farm, Hampton Lucy (Robinson 2010a) and the Barford Bypass (Robinson 2010b), where the settlements also lie on sandy, loamy soils of low fertility, but close to more fertile soils.

These results allowed little interpretation of the pastoral economy, as a result of poor survival of animal bone, and the lack of organic palaeoenvironmental sequences which may provide information on the nature of the surrounding landscape.

9 Human Remains by Gaynor Western

Osteoarchaeological analysis was undertaken to assess the condition and completeness of skeleton (1577), and to assess whether fragments of dental enamel (1709) were of human origin. The analysis also intended to determine the age, sex and stature of Skeleton (1577). Any non-metric traits, skeletal and dental pathologies were also recorded. An overview of the observations is presented in addition to a summary catalogue of the human remains.

9.1 Osteological analysis

9.1.1 Methods and process

The skeletal material was analysed according to the standards laid out in the guidelines recommended by the British Association of Biological Anthropologists and Osteologists in conjunction with the IFA (Brickley and McKinley 2004) and (Mitchell and Brickley 2018), as well as by English Heritage (2002).

Recording of the material was carried out using the recognised descriptions contained in Standards for Data Collection from Human Skeletal Remains by Buikstra and Ubelaker (1994). Full recording forms have been supplied separately to be archived with the primary record. All skeletal data has been recorded using an MS-Access database.

The material was analysed macroscopically and where necessary with the aid of a magnifying glass for identification purposes. The material was analysed without prior knowledge of associated artefacts so that the assessment remained as objective as possible. Comparison of the results was made with published osteological data from contemporary skeletal populations where relevant.

9.1.2 Reasons for the analysis

Osteological analysis was carried out to ascertain:

- Inventory of the skeletal material
- Condition of bone present
- Completeness of the skeleton
- Age Assessment
- Sex Determination
- Non-metric Traits
- Stature and Morphometric Data
- Skeletal Pathology
- Dental Pathology

9.2 Results for skeleton (1577)

9.2.1 Skeletal inventory

An inventory of the skeletal elements present is undertaken to assess the completeness of the skeletal remains and identify the number of individuals present. An inventory also provides information on the specific elements within the skeleton that are present and can be assessed for pathological changes. Each element is recorded as present or absent. The long bones are recorded according to the presence or absence of the proximal (upper), middle and distal (lower) sections as well as the proximal and distal joint surfaces. The completeness of the bones of the axial skeleton (with the exception of the spine) is recorded according to the categories of <25%, 25-50%, 50-75% and 75%>.

A summary inventory of the skeletal elements present for Skeleton (1577) is provided in the skeletal catalogue below. A full inventory can be found on the associated MS Access database.

Overall, little of the torso was present. The bones from the feet and hands were present but poorly preserved and not identifiable. The joints were badly preserved and the long bones were heavily fragmented.

9.2.2 Condition of the bone

The condition of the bone was assessed macroscopically according to the categories and descriptions provided by Brickley and McKinley (2004). Since most skeletons exhibit more than one grade of state of preservation, these categories are simplified into 4 main groups of preservation: Good (grades 0-2), Fair (grades 2-4), Poor (grades 4-5+) and Varied (more than 4 grades of condition). The condition of human bone can be influenced by both extrinsic (ie taphonomic conditions) and intrinsic (ie robustness) factors (Henderson 1987).

Skeleton (1577) was recorded as being in ‘poor’ condition, being scored as grade 5. Very little skeletal material was present, with only a few identifiable fragments surviving. However, the majority of the dentition had survived; though the roots were friable, the crowns were in good condition.

9.2.3 Completeness of skeletons

This is a guide to the overall completeness of the individual's skeletal remains and is calculated according to the percentage of the bones present in relation the total number of bones in a complete human skeleton. Completeness of remains is gauged through an assessment of the amount of material representing different areas of the body. A complete skeleton comprises of: skull = 20%, torso = 40%, arms = 20% and legs = 20%.

Each area of the skeleton was assessed and then placed into the following four categories of completeness: <25%, 25-50%, 50-75% and 75%> (Buikstra and Ubelaker 1994).

Recording the completeness of the individual can allow an insight to be gained into how much post-depositional activity has occurred as well as to assess how much information can potentially be gained from the remains.

Skeleton (1577) was less than 25% complete due to the poor preservation of the skeletal remains.

9.2.4 Age assessment

Establishing the age and sex of individuals from an archaeological assemblage not only provides an insight into the demographic profile of the population but can also be used to inform us of patterns in pathological distributions in a skeletal assemblage.

The age of sub-adults is assessed using both dental development (Smith 1991) and eruption (Ubelaker 1989) as well as long bone lengths (Schaefer *et al* 2009) and epiphyseal fusion (Scheuer and Black 2004). These methods can usually provide a reasonably accurate age estimation due to a relatively narrow range of variation in normal sub-adult development. Thus, sub-adults can be placed into the following age categories: foetal (<36 weeks), neonate (0-1 month), young infant (1-6 months), older infant (6-12 months), child (1-5 years), juvenile (6-12 years) and adolescent (13-17 years).

Assessment of adult age at death, unfortunately, results in much less specific age estimates due to a much greater individual variation in the features exhibited by the examined elements at particular ages (Cox 2000). Age estimation of adults was assessed from analysis of the auricular surface (Lovejoy *et al* 1985) and the pubic symphysis (Brooks and Suchey, 1990). Each of these methods examines the deterioration of these surfaces and categorises them accordingly. This deterioration is due in part to due to the health status of the individual but can also be influenced by life-style and so the variation produced by these factors results in much wider age categories: very young adult (18-24), young adult (25-34), middle adult (35-49) and old adult (50+) (Buikstra and Ubelaker, 1994). Dental attrition was also used according to the method of Miles (1962).

Assessment of age based on the analysis of bone surfaces could not be undertaken due to the poor preservation state of the skeleton. However, molar dentition was present and allowed dental eruption and attrition to be assessed. Using these methods, skeleton (1577) was confirmed to be an adult individual. The occlusal wear was not extensive and indicated that age at death was between 20 and 30 years.

9.2.5 Sex Determination

Sex is assessed using the criteria laid out by Buikstra and Ubelaker (1994) in the analysis of morphological features of the skull and pelvis. In addition, metric data is also used where possible, taking measurements of sexually dimorphic elements such as the femoral and humeral head (Bass 1995). Categories ascribed to individuals on the basis of this data were 'male', possible male', 'indeterminate', 'possible female', 'female' and 'unobservable'. Sex may be ascribed on the basis of metrics alone where no sexually dimorphic traits are observable. Where sex was not observable by either metric or morphological observations, it was recorded as 'unobservable'. No sexing of sub-adult material is attempted due to the lack of reliable criteria available.

No skeletal elements were present to be assessed for sex either macroscopically or by using metric methods. However, metric analysis undertaken on the 1st and 2nd molars using the methodology and datasets of Kazzazi and Kranioti (2017) suggests the individual is more likely to have been male (Table 18).

Skeleton 1577	**Mesiodistal cervical width (MM)**	**Buccolingual cervica width (MM)**
R Mandibular M1	9.09	9.56
L Mandibular M1	9.26	10.17
R Mandibular M2	9.57	9.17
L Mandibular M2	9.83	9.81

*Table 18**:** Metric Analysis of the Dentition*

9.2.6 Non-Metric Traits

Non-metric traits are morphological features that occur both in bone and dentition. These features have no specific functional purpose and occur in some individuals and not in others. The origins of non-metric traits have now been shown to be highly complex, each having its own aetiology and each being influenced to differing extents by genetics, the environment and by physical activity. A review of the current literature suggests that the undetermined specific origins of these traits, and the fact that there is more genetic variation within populations than between them, can prevent useful conclusions regarding their presence or absence in skeletal remains from being drawn (Tyrell 2000).

The presence of any non-metric traits is noted in the skeletal catalogue below (see below).

9.2.7 Stature and Morphometric Analysis

Stature of adult individuals can be reconstructed from measurements of long bones of the skeleton. Since the long bones of sub-adults have not yet fully developed it is not possible to provide an estimate of stature for immature remains. Stature is the result of many factors including genetics and environmental influences (Floud *et al* 1990), such as malnutrition and poor health. Height can be used as an indicator of health status and there is a wide range of literature on the relationships between height, health and social status. Estimated stature was calculated by taking the measurements of the individual long bones and using the formula provided by Trotter (1970). Variation in estimated stature can be up to 3cm.

Metric analysis of the long bones, cranium and mandible may also be undertaken on adult remains to provide comparative information on morphological variability.

No metric analysis could be undertaken on Skeleton (1577) due to the poor preservation, and therefore stature could not be estimated.

9.2.8 Skeletal Pathology

Palaeopathology is the study of diseases of past peoples and can be used to infer the health status of groups of individuals within a population as well as indicate the overall success of the adaptation of a population to its surrounding environment. Pathologies are categorised according to their aetiologies; e.g. congenital, metabolic, infectious, traumatic, neoplastic etc. (Roberts and Manchester 1997). Any pathological modifications to the bone are described. The size and location of any lesion is also noted. Distribution of lesions about the skeleton should be noted to allow diagnosis. A differential diagnosis for any pathological lesions should also be provided.

No skeletal pathology was observed.

9.2.9 Dental Pathology

Dental diseases include conditions that not only directly affect the teeth but also the soft tissue surrounding them, sometimes observable in changes to the underlying alveolar bone (Hillson 1986). Each condition can give an indication of different aspects of lifestyle and health of the individual. For example, caries is associated with diets high in sucrose content. The presence of calculus can inform us about dental hygiene whilst enamel hypoplastic defects testify to developmental stresses that an individual has undergone in childhood (Goodman and Armelagos 1985; Hutchinson and Larsen 1988; Dobney and Goodman 1991). The analysis of dental disease, therefore, not only informs us of specific oral conditions but provides complementary data regarding overall health status and cultural practices. A summary of dental pathology is provided below.

In total, 23 teeth were present in Skeleton (1577). The anterior dentition and bone were absent in both the mandible and maxilla. No dental disease as noted in the dentition with the exception of minor calculus present on 17 teeth. It was not possible to assess periodontal disease or dental abscesses given the lack of alveolar bone present.

9.3 Results Skeleton (1709)

9.3.1 Identification of the Dentition

During excavation, a small number of fragments of dental enamel were recovered from context (1708), contained within a possible grave cut [1707], thought to represent a separate primary burial. The dental enamel present was thin, exhibited some occlusal wear and a linear hypoplastic defect. Due to the small size of the fragments, it was not possible to categorically identify the tooth or teeth represented. However, it was thought that the tooth enamel was likely to be human and one fragment may have represented a premolar. The fragments only represented a very small proportion of a complete dentition set.

9.4 Conclusion

Osteological analysis of the skeletal remains from Westham Lane, Warwickshire suggest that Skeleton (1577) represented the remains of a young adult aged between 20 and 30 years at death. The individual was possibly a male, although this is only a tentative observation based on dental metric analysis. Analysis of the dental enamel fragments found in context (1708) confirmed that these were also possibly human (skeleton 1709).

The presence of a coffin and hobnails found in the better preserved burial appear to indicate a Roman date, which was confirmed by a radiocarbon date on skeleton (1577) of cal AD 251-410 (Beta Analytic 520857). A single hobnail in grave fill (1708) may suggest skeleton (1709) may be of a similar date.

Evidence for coffins appears throughout the Roman period, from the 1st to 4th century AD, though there is a peak of their usage during the 3rd century AD (Smith 2014). The most frequent form of grave goods were hobnails/shoes, with pottery vessels, and glass vessels, animal remains also being fairly common. Although most evidence for Roman burials originates further south of the Midlands, other evidence for ritual activity is evenly distributed about the region, suggesting that either poor bone preservation, lack of archaeological investigations or a lack recording of past discoveries has influenced the distribution pattern of burials observed.

Fortunately, evidence for Roman burials across Warwickshire is plentiful and varied. Isolated or small groups of Iron age and Roman inhumated burials include one burial found between Stoneton and Wormleighton (MWA1307; where an individual was interred with Constantinian coins in a coffin made from a tree trunk), a group of eight inhumations in an area of numerous features at Stretton on Fosse (MWA1838), a crouched burial at Pillerton Priors (MWA2037), a single extended inhumation at Alcester (MWA3788), a group of 10 burials near Chesterton Camp (MWA4519), a single female skeleton found with two bronze armlets at Millesley (MWA4749), a number of burials at the site of a Roman settlement at Coton Farm, Churchover (MWA5330), an adult male inhumation in a lead coffin with three glass vessels at a villa site near Welford on Avon (MWA6015) and four sites with either one or two burials near Alcester (MWA7195, MWA7198, MWA7848, MWA8783), one of which was associated with a coffin. The variation of burial form suggests that the individual contexts of Roman burials were of paramount importance in the nature of the funerary activity and rituals undertaken. This latest discovery of a Roman burial located in an enclosure at Westham Lane, Barford, is important further evidence for the diversity of Roman funerary practices in the West Midlands.

9.5 Catalogue of human remains - skeleton (1577)

A summary of the osteoarchaeological observations are presented below. A full inventory and recording of the human skeletal remains can be found on the MS Access database.

Skeleton (1577)

Inventory: No identifiable skeletal elements present. 23 permanent teeth present.

Completeness: <25%

Condition: Poor (grade 5)

Age Assessment: Age: 20-30.

Sex Determination: Possible male

Stature: Unobservable

Non-Metric Traits: None

Skeletal Pathology: None

3363	Observable dentition	Observable tooth sockets	Ante-mortem loss	Caries	Calculus	Periodontal disease	Enamel hypoplasia	Abscess
n	23	0	-	0	17	-	0	-

Table 19: Dental inventory and pathology

10 Stable Isotope Analysis by Elizabeth Pearson

Samples of tooth from burials (1577) and (1709) were submitted to Scottish Universities Environmental Research Centre (SUERC) laboratories for analysis of oxygen and strontium stable isotopes, in order to provide some indication of the geographic location for where the individuals buried in the Roman enclosure had lived during childhood.

10.1 Results

Results of strontium and oxygen analysis (Table 20) show a high likelihood that both individuals (1577) and (1599) lived in the locality of Barford during childhood. Figures 19 and 20 show the biosphere isotope domains reports on areas which cannot be excluded as an origin for the samples.

Sample Type	Species Dated	Context ID	Sample ID	δ^{18} O SMOW	O error	δ^{18} OPO4	$^{87}Sr/^{86}Sr$	% Std Error	Sr Conc (ppm)	2σ (%)
Human remains (tooth)	Human	1465	P5192/1577	25.97	0.1	17.12	0.7109	0.0013	73.6	0.4
Human remains (tooth)	Human	1599	P5192/1599	25.55	0.1	16.69	0.7107	0.0013	75.8	0.7

Table 20: Oxygen and strontium stable isotope results (SUERC laboratory)

Biosphere isotope domains plots for (1577) and (1709) are similar, with the exception of small areas highlighted on the plot for burial (1709), located, for example, in the Cheviots (on English/Scottish border), and an area just south of Perth in Scotland. However, soils in these areas fall within the broad groups present around Barford (for instance glacial sands and gravels). Hence, these differences may not be significant.

These results provide only a guideline for the geographic origins of both individuals and are presented here as data which may be useful for comparison with data from other sites. More precise interpretation would be possible if oxygen and strontium results were available from animal bone from this same locality but poor bone preservation due to ground conditions meant that this was not feasible .

11 Discussion

11.1 Mesolithic to Early Bronze Age

Part of the flint assemblages spans the Mesolithic through to the Early Bronze Age and provides the earliest evidence for activity at the site. Flints of this date were found either as small discrete flint assemblages in tree-throws or as a residual component of the later finds assemblage. Other flints, of broad prehistoric date, found in natural tree-throws or in later features may also be of a similar date based upon the reduction sequence used during knapping. The absence of contemporary features, other than the Grooved Ware pit and the tree-throws, and the relatively small size of the assemblage probably reflects the transitory nature of this activity, in the area, during early prehistory.

The occurrence of flint assemblages in tree-throws during earlier prehistory is a relatively common phenomenon (Evans *et al* 1999) and similar assemblages have been located *c* 3.5km to the south at Hampton Lucy (Palmer 2010b). Such remains are likely to have collected naturally, with the tree-throws acting as pitfall traps for cultural material associated with local activities or temporary settlement. Although the possibility that these assemblages were created through purposeful deposition also cannot be ignored. Palmer (2010b) has suggested that at Hampton Lucy this activity may have been associated with a period of forest clearance of unknown size or duration. The numerous tree-throws seen at Barford may indicate that similar earlier prehistoric clearance was occurring here at that time too, although without a local pollen sequence it is difficult to be sure, nor can its size and extent be assessed without this.

By the Late Neolithic the practice of purposefully depositing cultural material into both tree-throws and pits within wooded landscapes was well established, and this may be a continuation and advancement a phenomenon which had its origins in the Late Mesolithic/Early Neolithic (Evans *et al* 1999). Pit [1552] is the earliest structural evidence of activity at the site, although Late Neolithic Grooved Ware pits are becoming more common regionally (Stuart Palmer, pers comm). Pit [1552] is also typical of many Late Neolithic pits, which, although they vary to some degree in size and shape (Thomas 1999; Jackson and Ray 2012), are grouped by their familiar characteristics, such as having charcoal-rich fills containing various categories of cultural remains and their apparent short use (Thomas 1999).

Such assemblages, and elaborate combinations of cultural remains in these pits, often illustrate the complexity of the more multi-sensual deposits encountered during the Late Neolithic (Evans *et al* 1999). The selection of the cultural remains to deposit into the features is often complex and the presence of both well preserved pottery sherds and more abraded examples suggests that some thought had gone into their selection. Although the different firing methods may have contributed to the variation in preservation of the Grooved ware sherds at Barford, at Clifton Quarry (Mann and Jackson 2018) pottery and flint had clearly been selected for deposition into Grooved Ware pits from both fresh and middened sources. It is possible that the same may be happening at Barford and, if so, it suggests that there was at least some semi-permanent settlement in the area. It is possible that around sixteen Neolithic pits clustered together beyond this site and immediately to its north may reflect the focus of this occupation (McSloy forthcoming)

At present the social reasoning behind the digging of and deposition within pits nationally remains widely debated (Anderson-Whymark and Thomas 2012), however, it is widely viewed that they represent more than casual disposal features created as part of the clearance for a settlement site. The process of creating these features and transforming the contents of them, often through fire may have formed part of an event that carried symbolic connotations. Such activities may have been part of the process of giving thanks for a successful harvest (of both wild and cultivated resources), marking a significant social event such as a birth or marriage, or negotiating with other communities for access to land. A final possibility is that pit digging and the selective deposition of altered cultural remains left over from a period of occupation or a feast provided a sense of meaning to these locations and created a connection between people and place (Thomas 1999).

The occurrence of earlier prehistoric flint is not surprising in this area, and, although compared to other sites in the area the assemblage is of a reasonable size, it does not seem to hold any particular significance. However, the isolated Grooved Ware pit is of more interest. Overall, therefore, this limited earlier prehistoric evidence suggests that it was the Barford ceremonial complex *c*1.5-2.0km to the north that was the principal focal point for the earlier prehistoric activity here.

11.2 Late Bronze Age to Early Iron Age

Late Bronze Age to Early Iron Age activity was limited to a small number of pits in the south east corner of the site. The pits were generally small, circular, bowl-shaped features with singular, greyish-brown silty sand fills that were very different in form from the more common storage pits. These represent the earliest phase of activity at the site, but there was probably little if any time separating them from the storage pits which are more common across the site. No other contemporary structures were identified, and little can be said about these pits, other than that the lack of cultural remains may suggest they do not reflect long term, permanent settlement in the near vicinity.

11.3 Early Iron Age to Middle Iron Age

Most of the archaeological remains across the site date to this period and these are dominated by storage pits. Although no clay or wattle linings and or significant amounts of grain were identified, they are believed to be storage pits or grain silos as suggested by Reynolds (1974). A Late Bronze Age to Early Iron Age pottery assemblage from pit [1127], suggests that this storage activity may have started during the Late Bronze Age and continued into the Iron Age and although Late Bronze Age examples have been found in the region at Wasperton (Crawford 1983) and Grove Fields (Palmer 2010), it is likely that there was little time, if any, between those phases of activity. As with the majority of the regional examples the majority of the storage pits at Barford date to the Iron Age.

The large-scale adoption of such below-ground storage pits, is an Iron Age phenomenon, and they are thought to have been used for the long-term storage for seed grain (Reynolds 1974; Cunliffe 1995). Similar storage pit groups have been excavated across the Avon Valley and locally have been found at three other sites in Barford, including land just to the north of Wasperton Lane (Copper and Cobain 2017), to the north of the Bypass (Palmer 2010a) and at Westham Lane (McSloy, forthcoming). Mostly these are clustered into small groups, with little intercutting, suggesting that space was not restricted and that the pits were marked in some way. Where limited intercutting did occur as at Barford and Grove fields (Palmer 2010), it suggests that perhaps pressure to confine this activity was increasing, that it was a convenient location, or even perhaps, as Palmer (*ibid*) suggests because the location had proven to be successful for storage in previous years.

As is the case for many of these features regionally and nationally, once the pits had been emptied they were used for the deposition of domestic rubbish, although the selection processes behind such deposits may have been more complex. Distinctive, specially selected deposits, within Iron Age storage features has been widely recognised phenomenon at Iron Age sites (Hill 1995). However, at Barford other than the one pit which contained a broken iron brooch and loom-weight, there was nothing, in the surviving remains to suggest that anything but the mundane site clearance was occurring.

The commonality of these features across this site and through the area indicates the large-scale adoption of below-ground grain storage and would imply that the area had become permanently settled and farmed by the Early Iron Age. However, as with this site, there are a growing number of examples where these pits have been identified with no associated structures (roundhouses) such as Grove Fields (Stuart Palmer, pers comm). There may be a number of explanations for this, perhaps the associated structures are not of earth-fast construction and have left little or no archaeological evidence. Or perhaps they are located in larger partitioned settlements at some distance away, with specific grain storage ‘depots’ being located away from building structures (as proposed at Clifton Quarry, Worcestershire (Mann and Jackson 2018). Or perhaps they are serving multiple functions at this time, as proposed by Stuart Palmer (2010a), who has noted a strong correlation between pit digging and linear boundaries in the region. Pit groups have been found aligned alongside boundary ditches at Wasperton, Barford Bypass, Ryton-on-Dunsmore, Walton and Southam, and alongside enclosure ditches at Marsh Farm, Barford Bypass and Long Itchington (Palmer 2010a). Many of these pit groups, including examples along the Barford bypass, have a linear arrangement similar to CG9 and often appear to be dug alongside boundary ditches perhaps reinforcing the significance of the boundary (Palmer 2010a). Although pit group CG9 is some distance away from the boundary ditches, it could have acted in this way, and so it is possible some similar association existed here between the pits and the boundary ditches in the south-west corner of the site, rather than these just being storage pits of a settlement.

The two boundary ditches seen in the south-west corner of the site contained only limited dating evidence to suggest that they were infilling during the Early to Middle Iron Age (a radiocarbon date from the final infilling, of the last re-cut, being 770-410 cal BC). However, they had been re-cut a number of times, and as no dating evidence came from the earlier phases of the ditch, it is very probable they originated in the Late Bronze Age or earlier. The differential infilling of the ditches can be explained in two ways. Either they were not contemporary, and so reflect the re-establishment of a boundary after one had been infilled, which might explain why there appears to be a storage pit in the space between them; or they were contemporary, in which cases different activities on the west and east of the boundary then gave rise to the very different infilling episodes observed in each ditch. Although no true tip lines were observed, the numerous lenses of fill seen in ditch [1483], may tentatively suggest a bank was situated on the western side of the ditches.

As these ditches did not turn back into the site or into the bypass excavation (Palmer 2010a) they are thought to represent a linear boundary. Around 80m to the south they align on two undated gullies (226 and 228) seen along the route of the bypass (Palmer 2010a). Although these are smaller, they may be the continuation of the boundary ditches, perhaps having been truncated or perhaps with only the later recut being excavated/recorded (as happened on the evaluation of this site; WA 2017a). If correct, the ditches are likely to run for at least 220m and as they are only *c* 80m off the banks of the

River Avon to the south and it is then tempting to see them as conjoining the river loop at its narrowest point. Similar land divisions of the later Bronze Age and Iron Age are common throughout Warwickshire (Palmer 2010b) and locally a major boundary also conjoins the Wasperton river loop. Though current thinking is that settlement is less intensive and of shorter duration in the vicinity of the Barford river loop than at Wasperton or Grove fields (Palmer 2010a).

Although commonly associated in Warwickshire the stratigraphic relationships between the storage pits and boundary features is often not established. Sufficient evidence, however, does exist that the digging of pits or the storage of grain along boundary features was an important act, perhaps one influencing the location of another, in more than just a physical way. Palmer (2010b) has suggested that the two may be supporting and reaffirming ideas of land tenure or ownership, specifically in areas favoured location for storage, although the need to define and maintain access to the production areas rather than storage would seem more important.

11.4 Late Iron Age to Middle Roman

There is no evidence for continued occupation of the site during the Late Iron Age through the Early-Middle Roman period. It appears that settlement activity has shifted north, across Westham Lane (McSloy forthcoming), where only occasional Middle Iron Age features were identified, but from the Late Iron Age through to the late Roman period there was a settlement bounded by a series of ditched enclosures. It was expected that southern side of Westham Lane would have been intensively farmed during the Roman period (Julian Newman, pers comm), but this proven not to be the case, indeed quite the contrary. The absence of Roman pottery and field boundaries of this period suggest that this part of the site was not even under pasture during this period, which seems to indicate that that had been placed outside the normal realm. This opens up the possibility that it had been set aside in some sense, perhaps as a venerated space.

11.5 Late Roman

No Roman pottery was recovered from the site and the only confirmed Roman feature was the mortuary enclosure. This type of feature, albeit very rare, is not dissimilar to some other examples in Warwickshire, the closest of which is at Linghall Quarry (Plamer 2002). There the primary phase of the rectangular structure had internal dimensions of just 3.3 x 2.6m, which was later extended in its final phase to 6.3 x 4.6m, and was comparable in plan to that at Barford with an outer enclosure and two internal spaces.

The phasing of this enclosure seems the reverse of that at Barford, which starts off large and is then partitioned and the entrance closed. This, and the lack of burials in the one at Linghall Quarry, may, therefore, suggest that they performed different functions under the winder umbrella of being mortuary enclosures. A number of postholes in the earlier phase of the enclosure at Linghall quarry are thought to be contemporary if not fully understood (Palmer 2002), and it is possible that the solitary posthole at Barford was contemporary and had a similar, if unknown, function.

Further afield similar features dating to the late 1st and early 2nd centuries AD have been identified at St Stephan’s cemetery, St Albans (Niblett (1999) and have been interpreted as mortuary structures associated with intermediary rites associated with cremations (Palmer 2002). While at Boscombe Down (Wiltshire) during the Later Roman period, very similar enclosure structures were the focus of small inhumation cemeteries (Wessex Archaeology 2003), and a similar structure enclosing a small inhumation cemetery was located at Beckford (Worcestershire; Cooke 1998). At Boscombe Down it has been suggested such enclosures may have been cemetery gardens for small family groups (Wessex Archaeology 2003), and this is also a possibility at Barford.

11.6 Post-medieval and modern

The only Post-medieval feature identified on the site was a post fence, running east to west across the middle of the site and is shown on the First Edition Ordnance Survey map of 1887.

12 Conclusions

The excavation has identified dispersed Neolithic activity, possibly associated with tree clearance, succeeded by a grain storage area of very Late Bronze Age to Middle Iron Age date. It is unclear whether the latter was located in/close to a settlement area or was sitting in relative isolation in the Iron Age landscape. The pits are located close to two boundary ditches of probable Bronze Age origin, an association which is relatively common, if not fully understood regionally. After the pits had been emptied many were used as rubbish pits for the disposal of habitation waste, from a yet unidentified settlement area. The area then appears to have been totally abandoned or placed outside the realms of normal activity, until the Late Roman period when a mortuary enclosure containing two inhumation burials makes its appearance. Such features are very rare regionally and the charred coffin associated with the later burial is at present unparalleled. This combination of unusual discoveries starting in the Neolithic with the exceptional pottery, and ending with a remarkable late Roman funerary monument, certainly implies that this spot had some special and long established meaning for the local populace. Such sites might be easily missed but for extensive area excavation, and the recovery of key features, revealing almost the opposite of the classic Roman site (ie profuse presence of cultural material), and, thereby, possibly indicating the perpetuation of a prehistoric ritual focus in a very localised context.

13 Archiving

The excavation archive, including all the finds, but the post-medieval and modern finds, should be retained and deposited with the local museum, subject to consultation with and final decision by Museums Warwickshire.

14 Project personnel

The fieldwork was led by Andrew Mann, assisted by Pete Lovett, Morgan Murphy, Elspeth Iliff, Jamie Wilkins, Jem Brewer and Emma Chubb from Worcestershire Archaeology and Callum Allsop, Ginette Murray and Mairi Maclean from Wardell Armstrong.

The project was managed by Tom Rogers (fieldwork) and Derek Hurst (post-excavation). The report was produced and collated by Andrew Mann. Specialist contributions and individual sections of the report are attributed to the relevant authors throughout the text.

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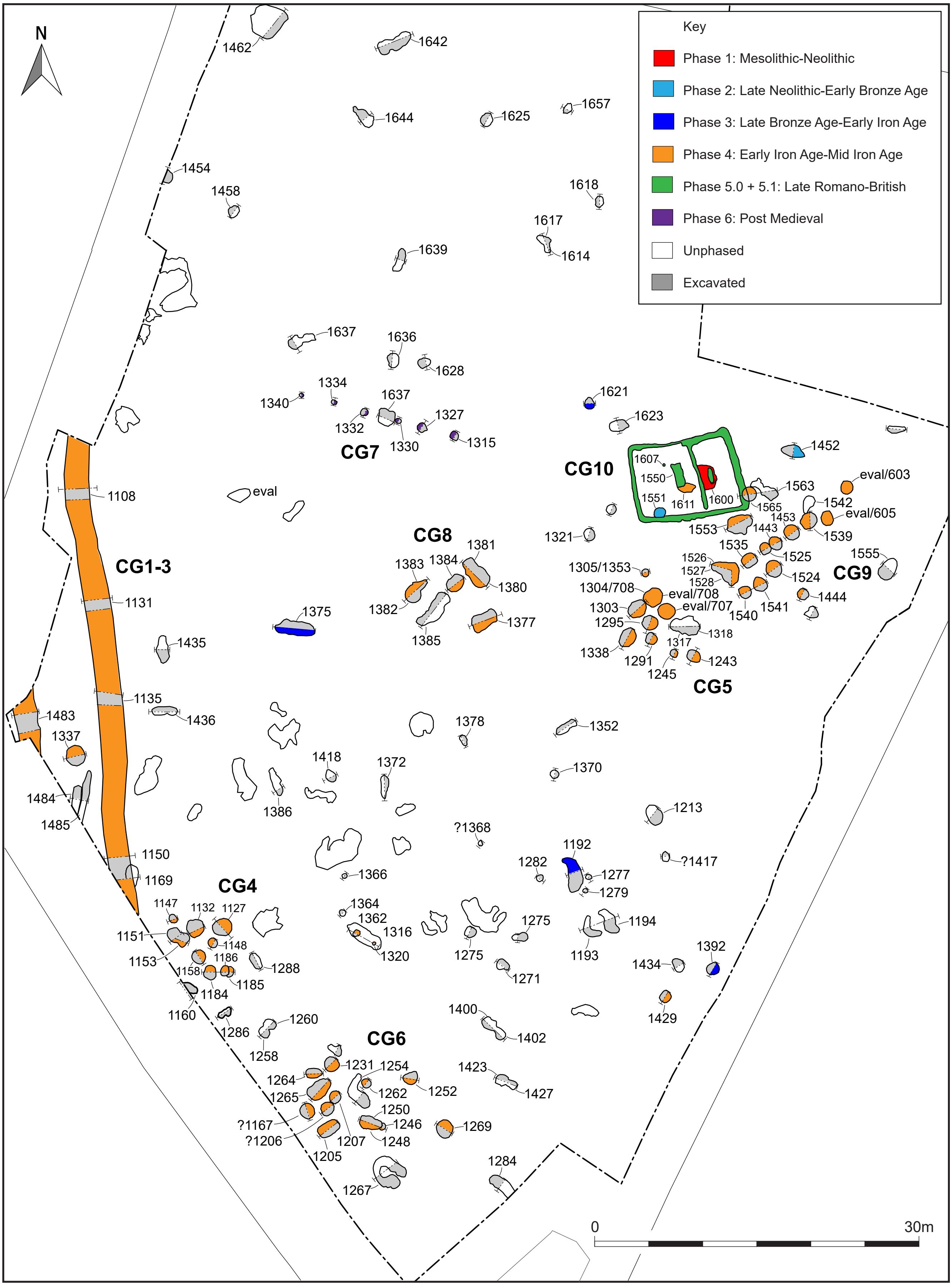
Figures

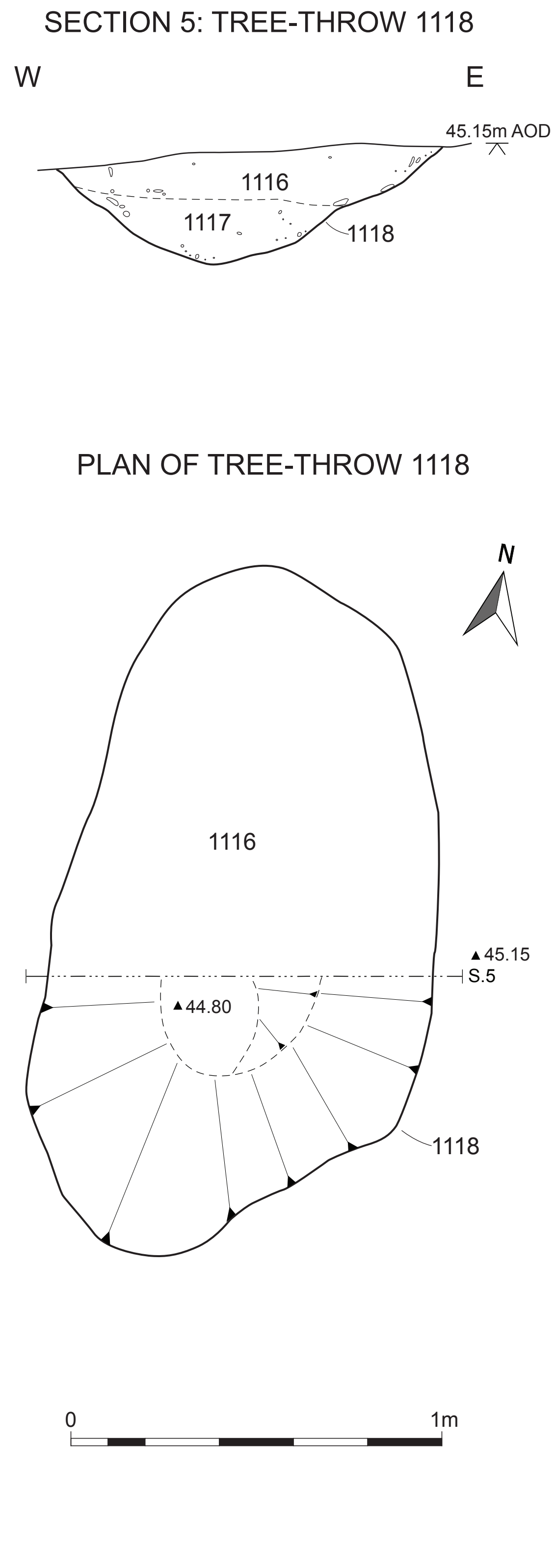
Overall site plan

Figure 2



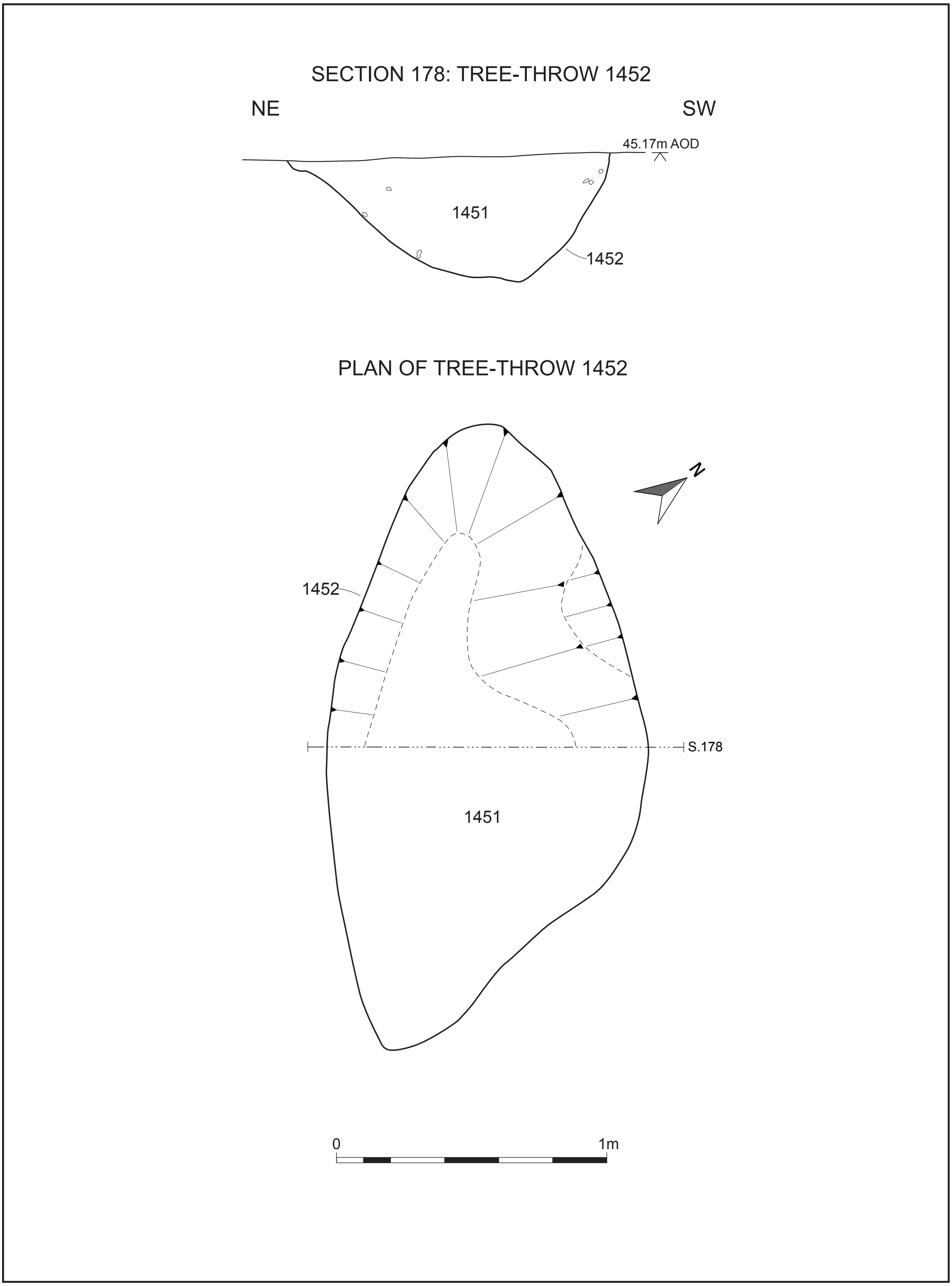
Plan of site: Southern area

Figure 3



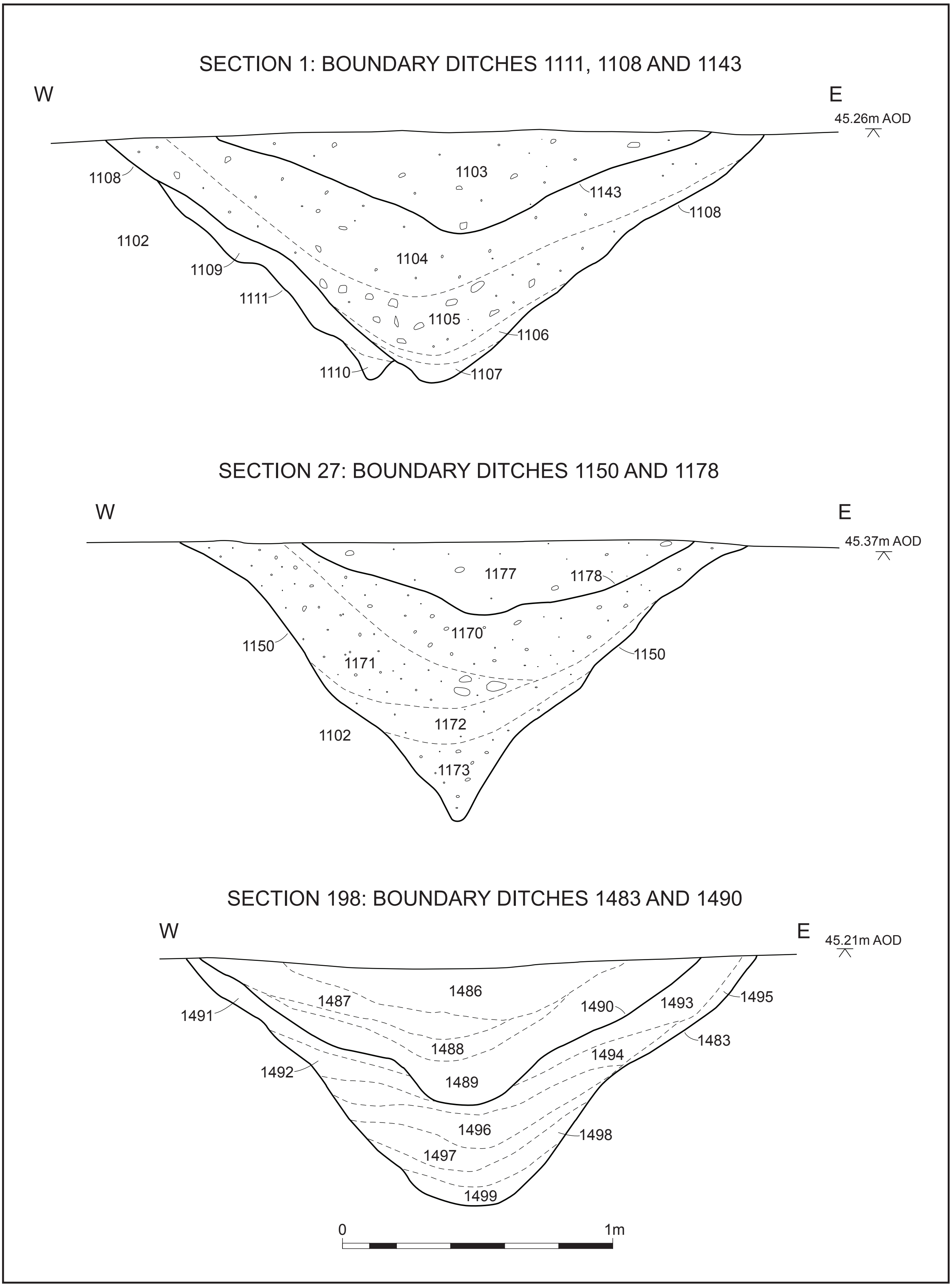
Plan and section of tree-throw 1118

Figure 4



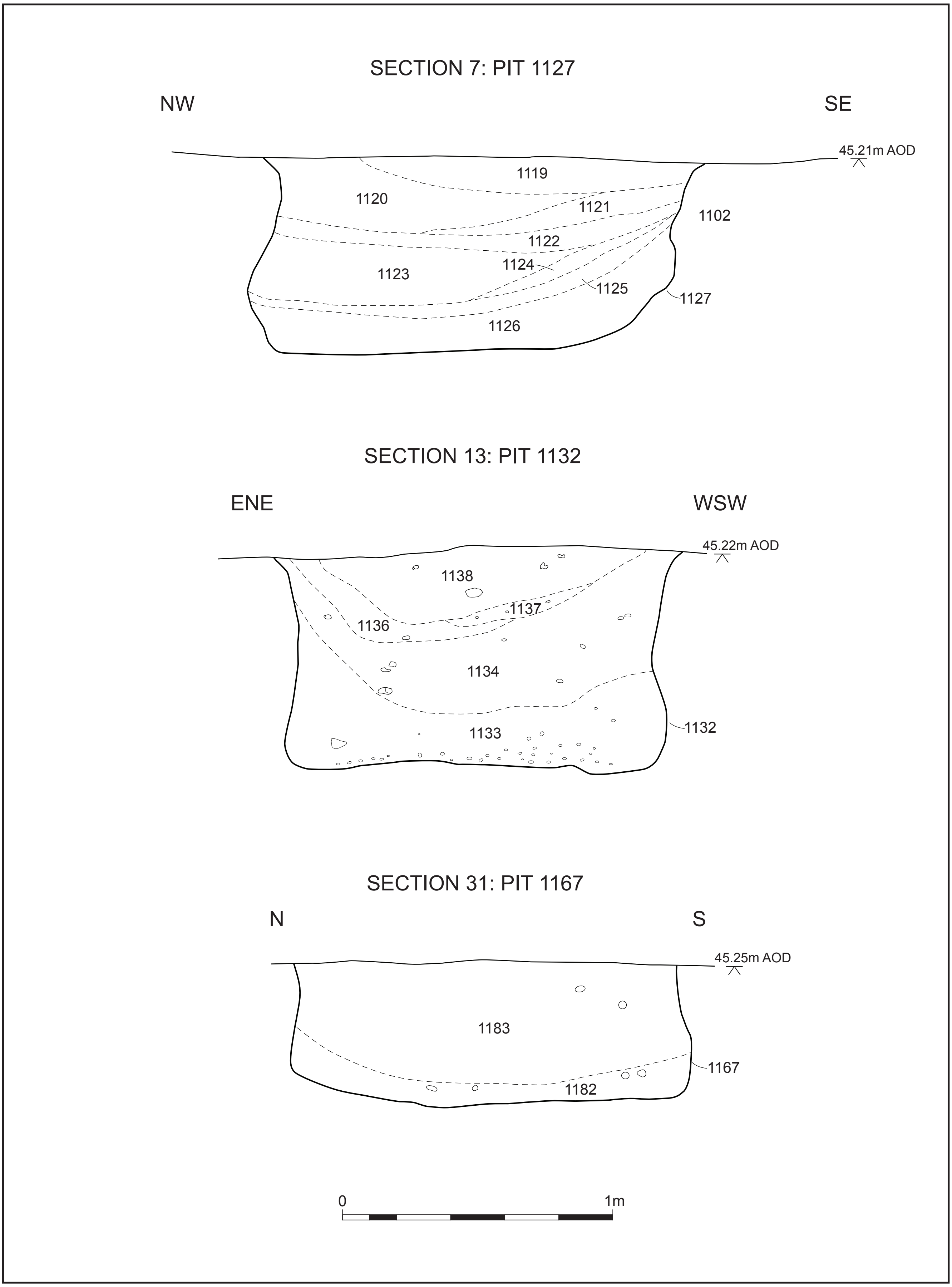
Plan and section of tree-throw 1452

Figure 5



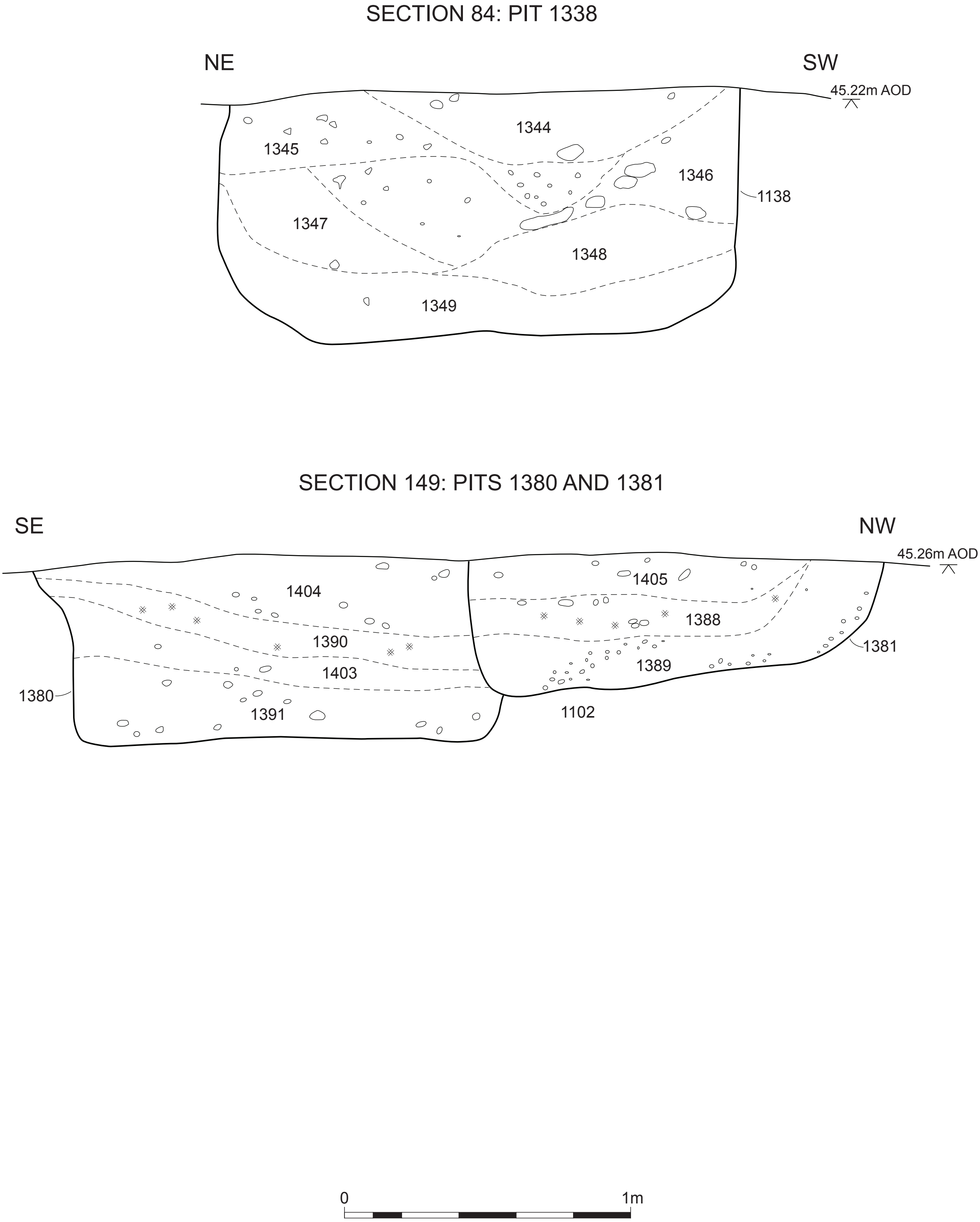
Boundary ditch sections

Figure 6



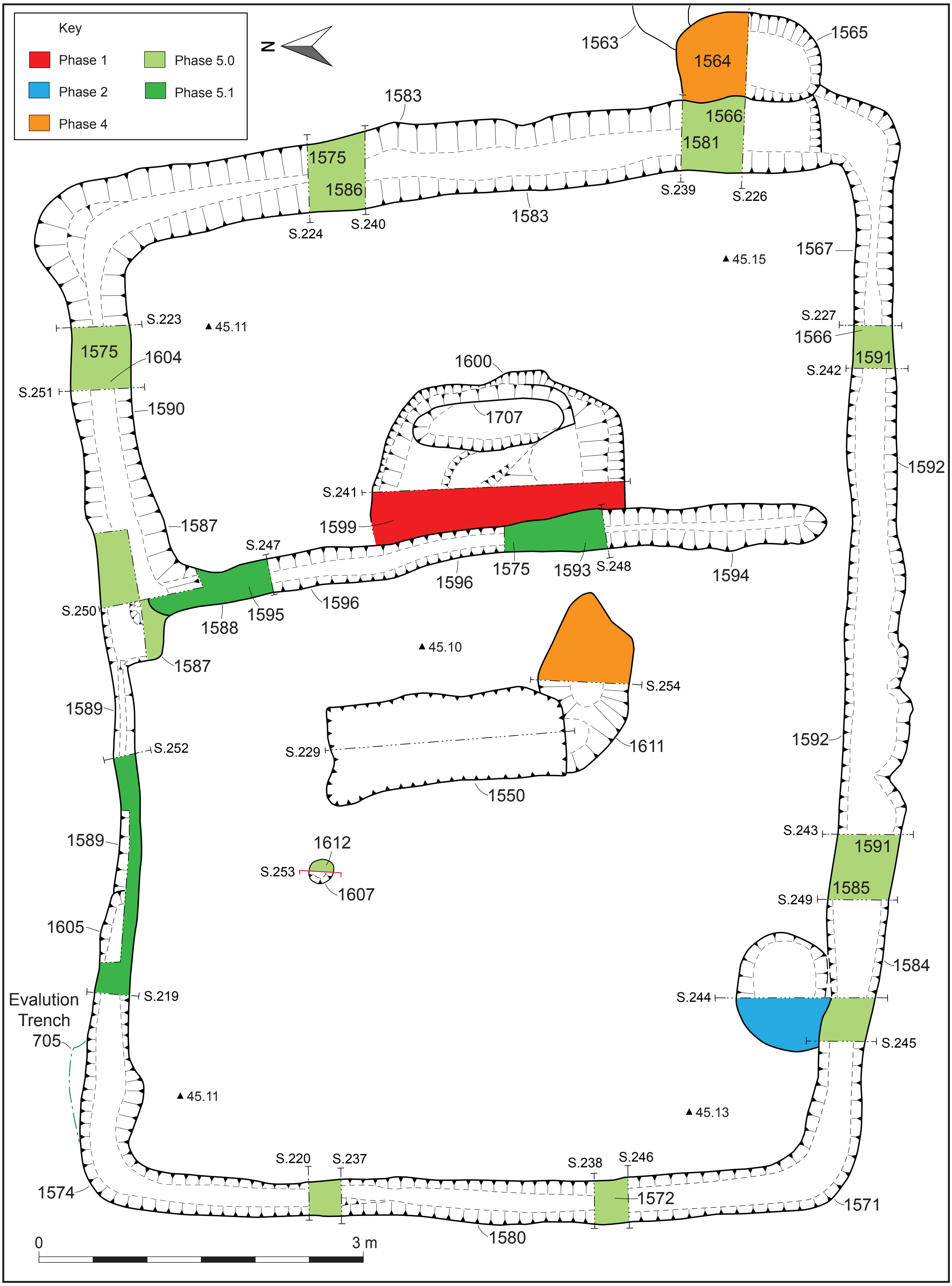
Storage pit sections

Figure 7



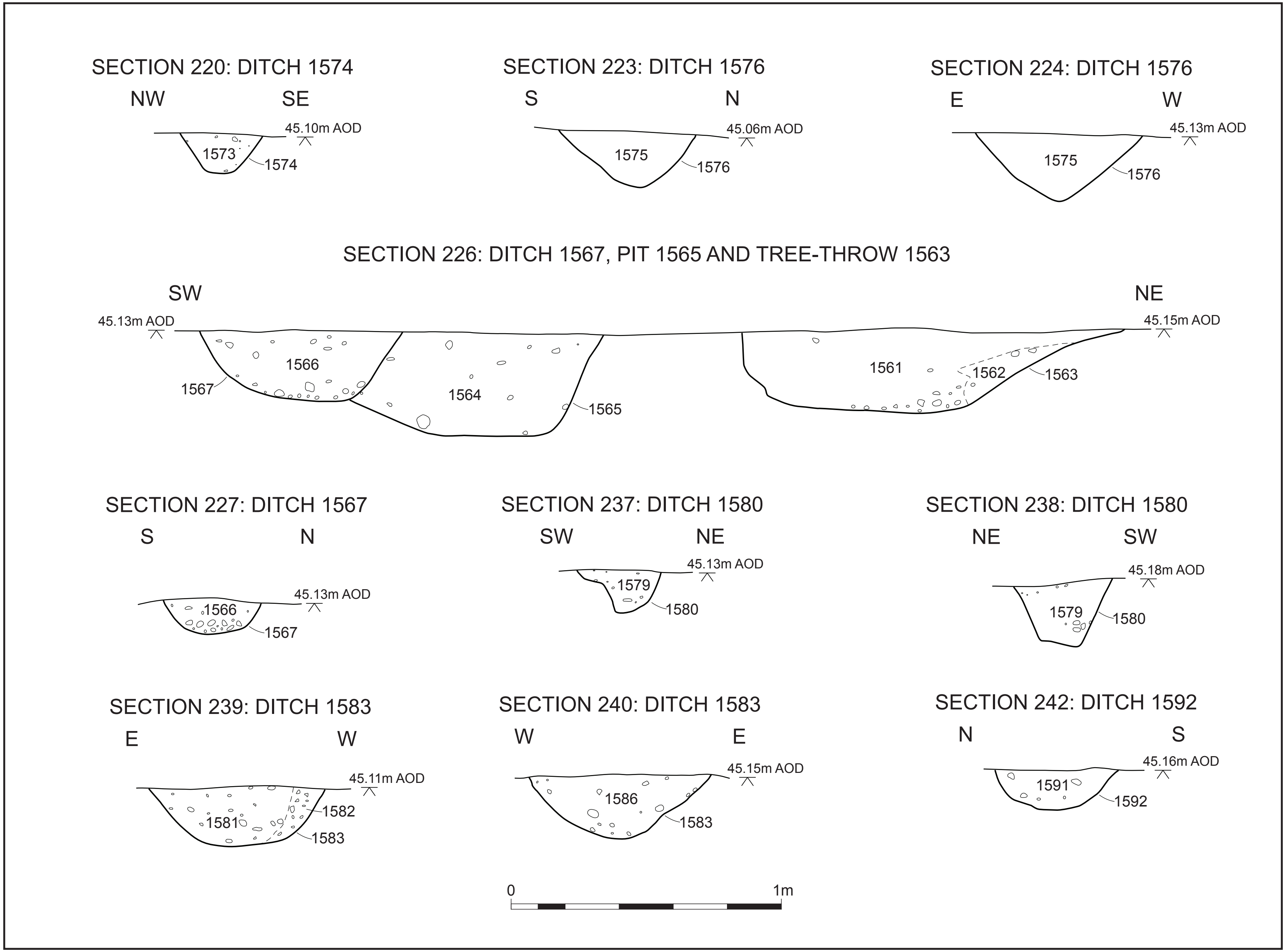
Storage pit sections

Figure 8



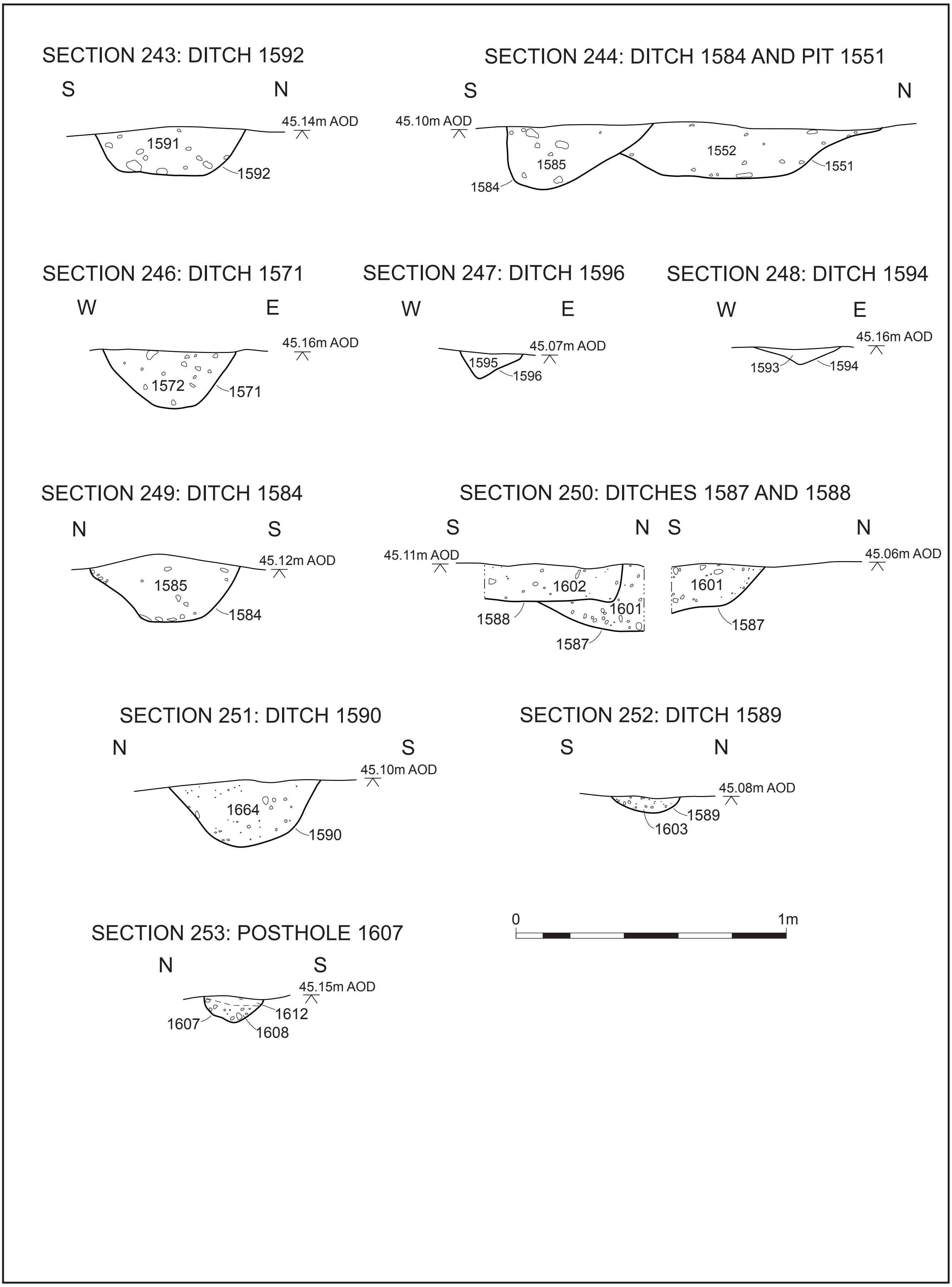
Plan of mortuary enclosure CG10

Figure 9



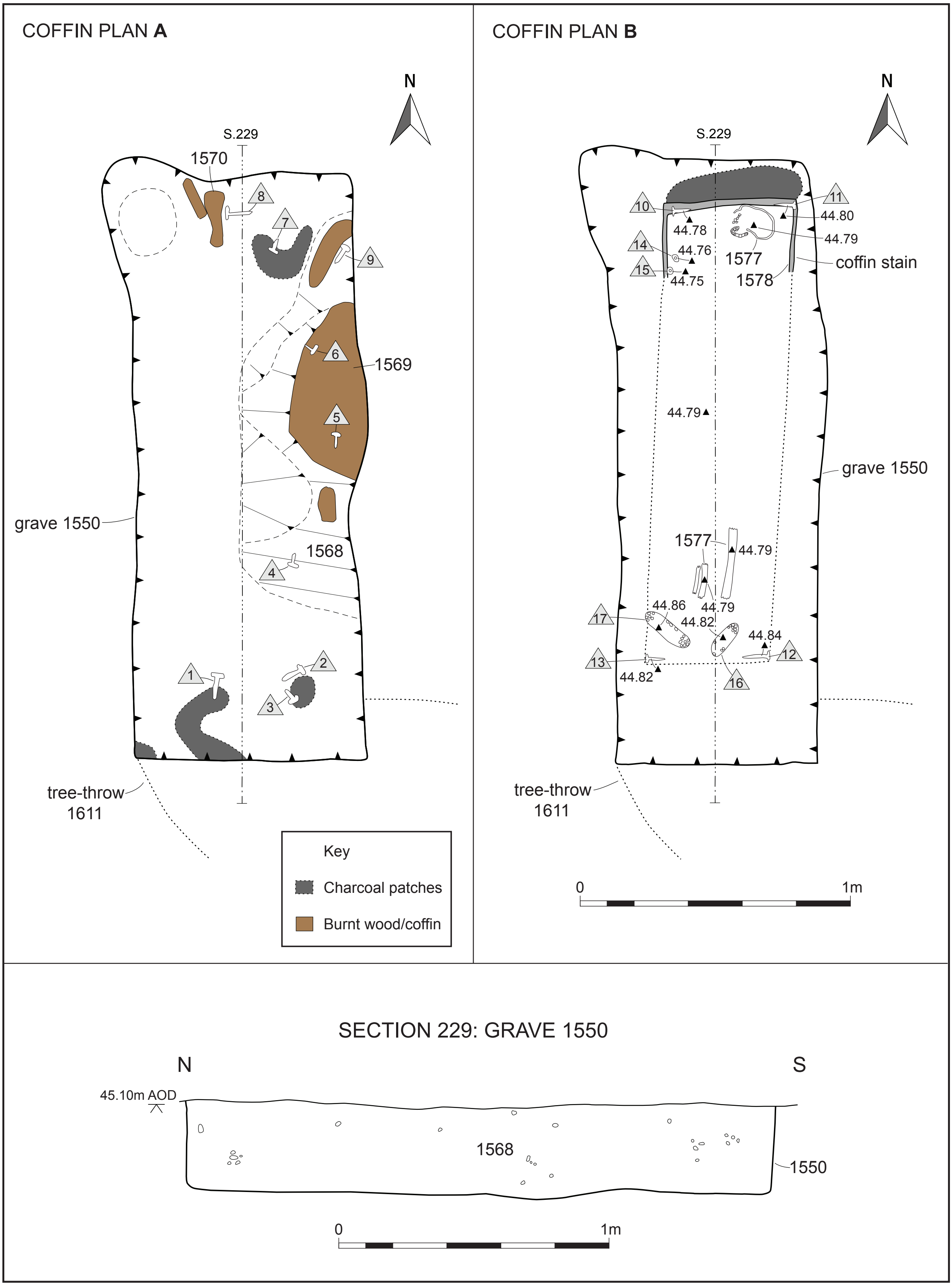
Mortuary enclosure CG10: sections

Figure 10



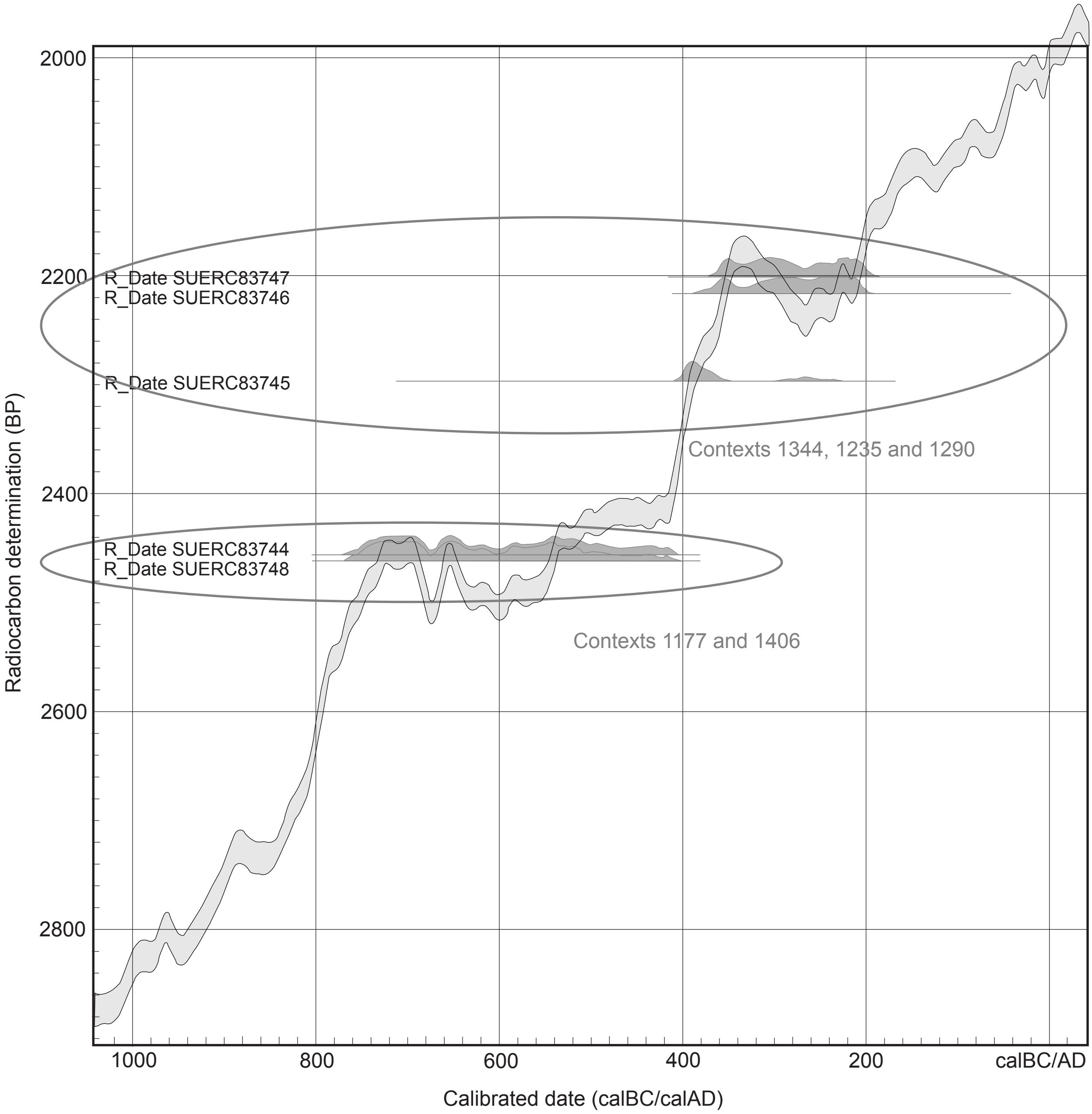
Mortuary enclosure CG10: sections

Figure 11



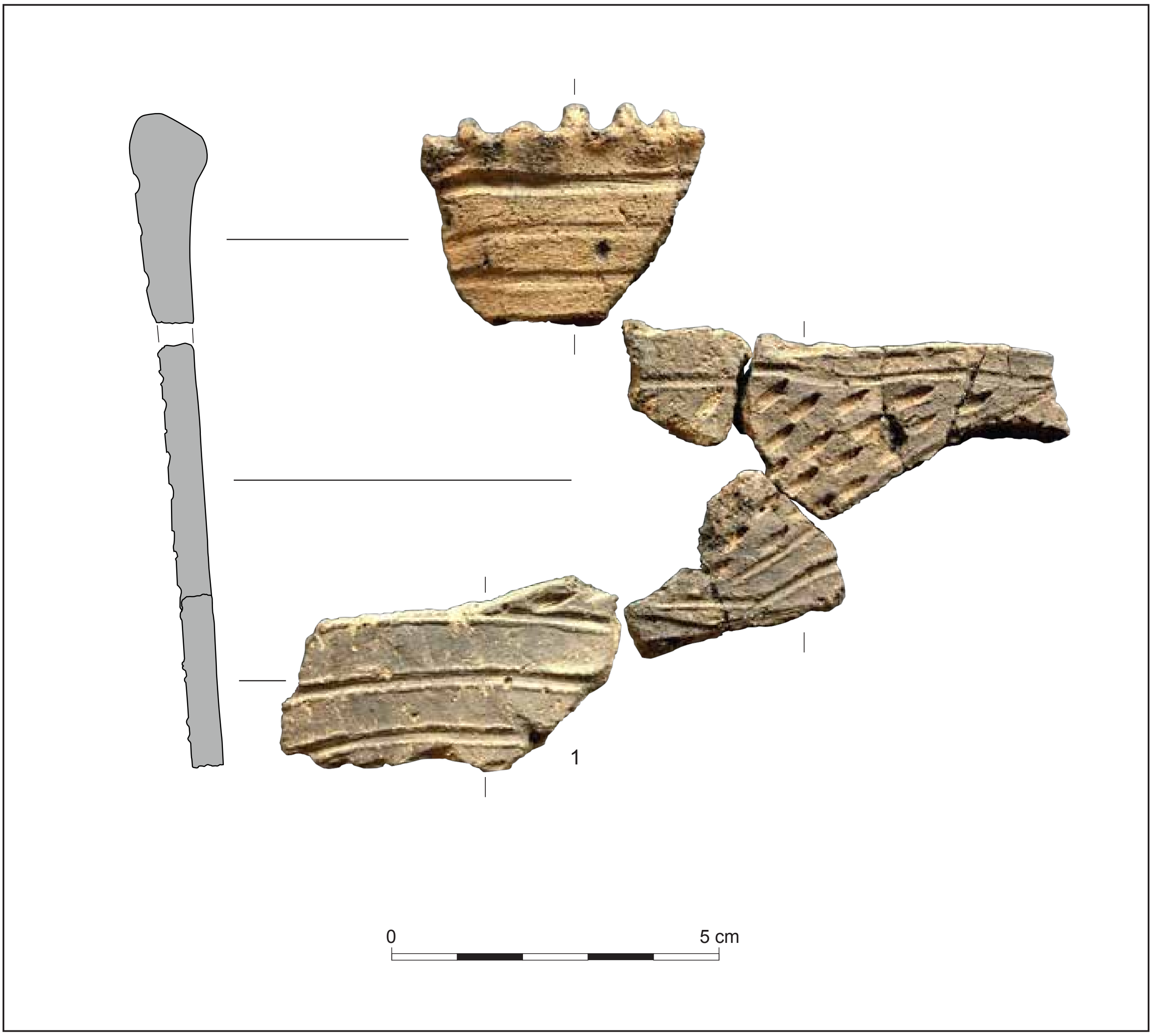
Plan A: upper excavation of Grave 1550 showing burnt coffin lid and coffin fragments: Plan B: lower excavation of grave 1550 and (below) grave section

Figure 12



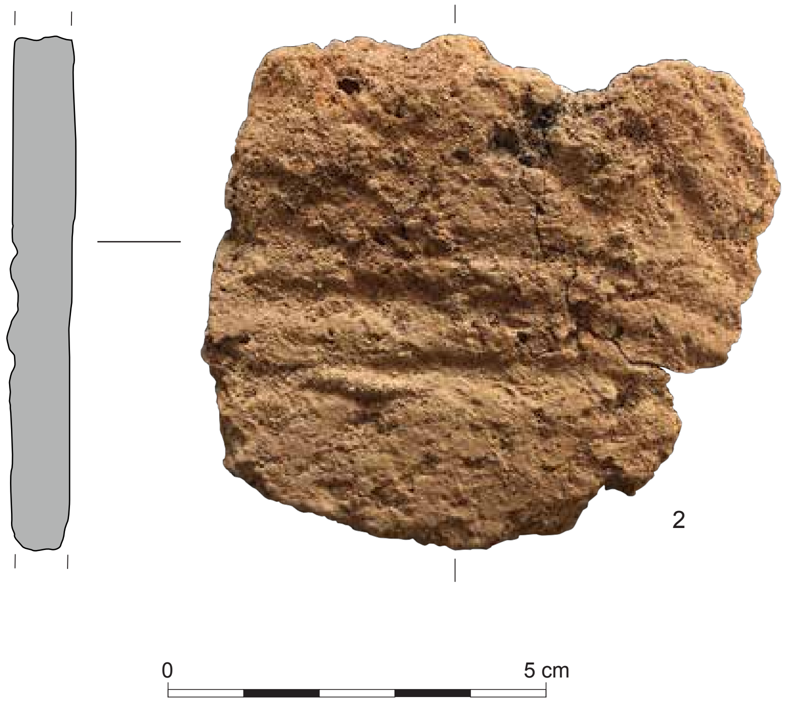
Calibrated dates relating to the Iron Age plotted against the radiocarbon curve. The figure illustrates that the calibrated dates fall within two distinct groups.

Figure 13



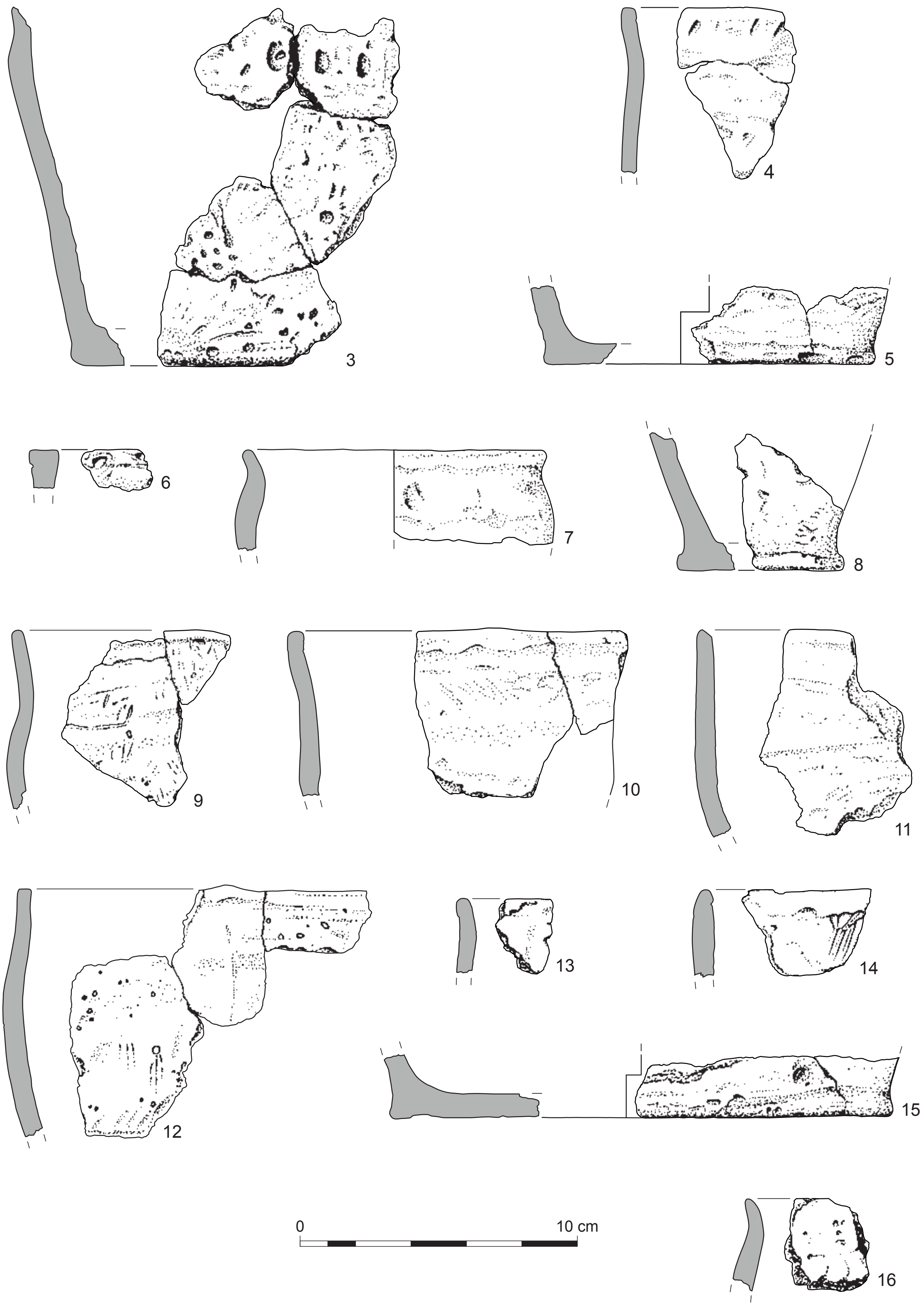
Clacton substyle Grooved Ware vessel from pit 1551

Figure 14



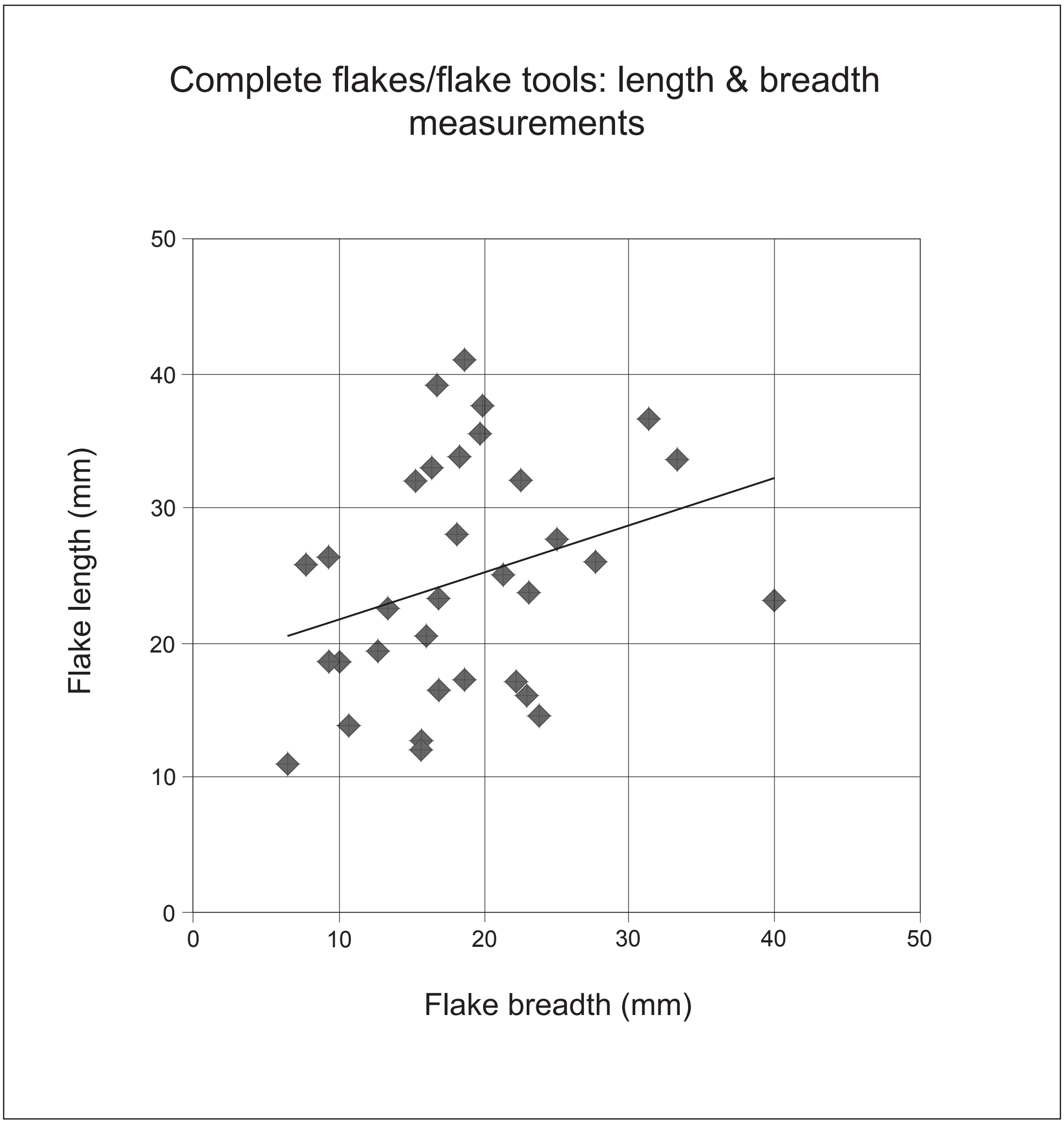
Grooved Ware body sherd from pit 1551

Figure 15



Iron Age pottery

Figure 16



Flint chart

Figure 17

Blade, residual within Iron Age pit 1338

Blade from tree-throw 1454

Burin spall, truncated piece, and knife from Grooved Ware pit 1551

Broken knife within tree-throw 1452

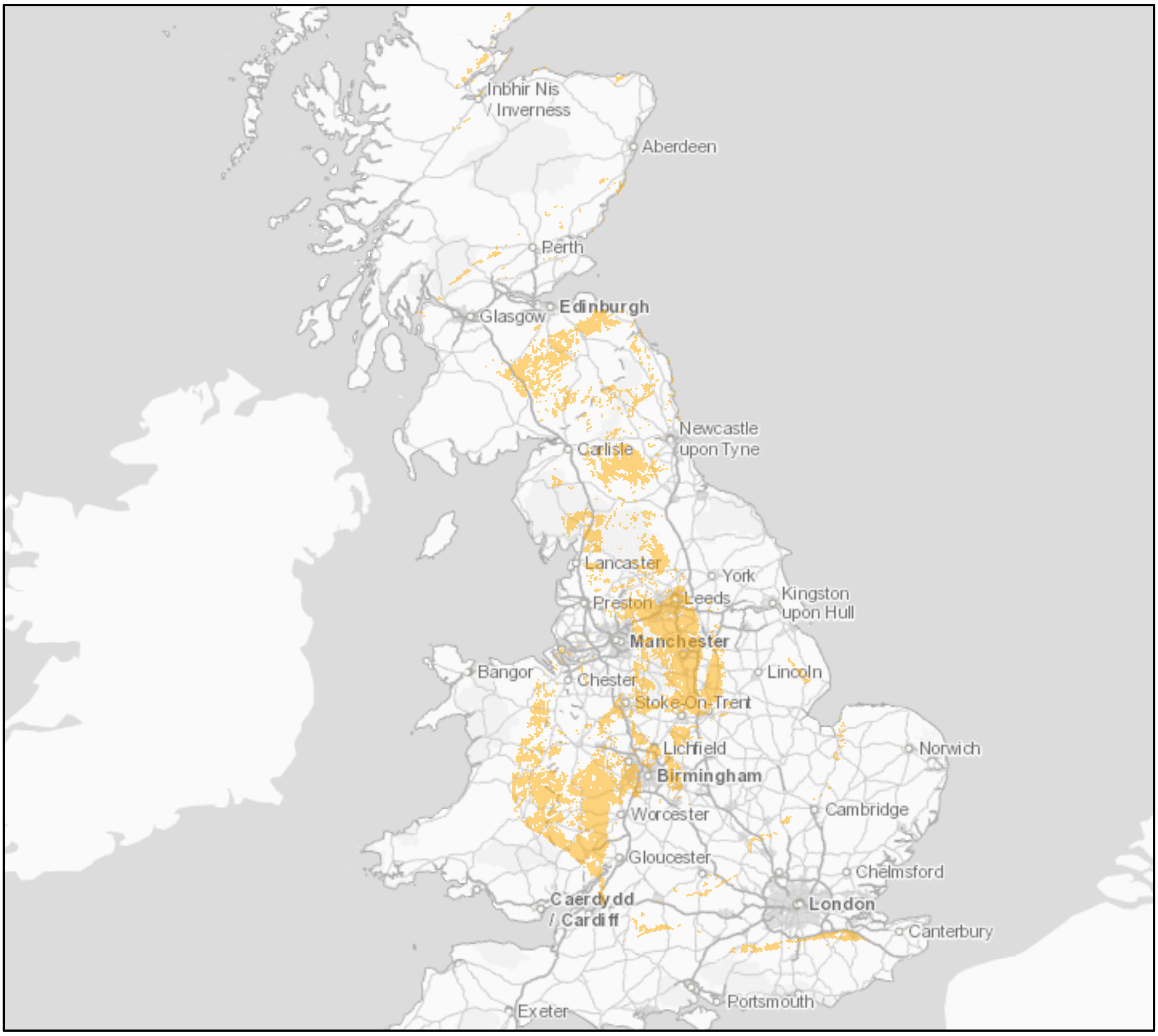
Unusual trapezoidal knife within tree-throw 1452

Broken knife within tree-throw 1118

0mm 30mm

Selected examples of worked flint

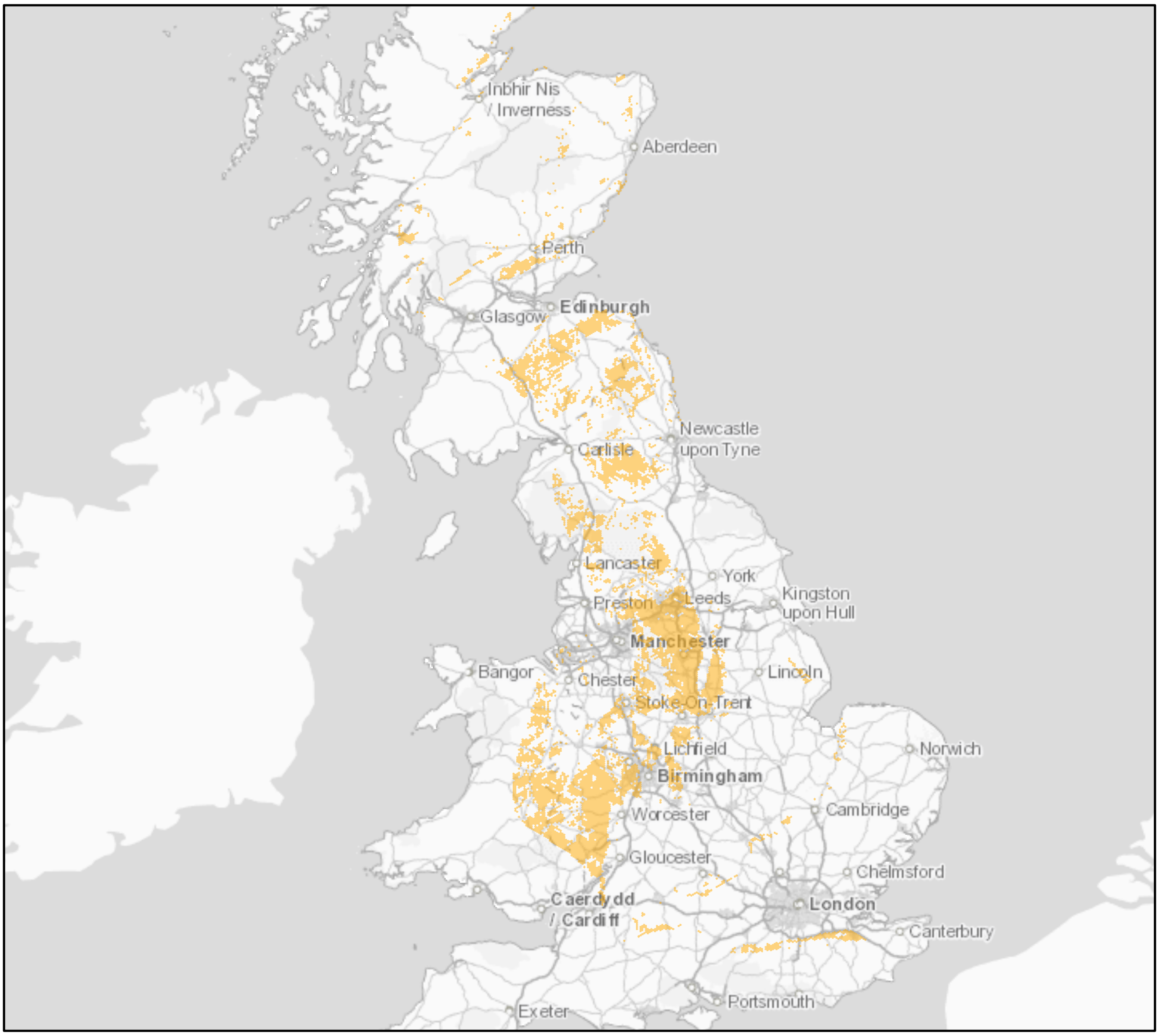
Biosphere Isotope Domains



0 30 60 120 180 240 Kilometers

The highlighted regions represent the areas that cannot be excluded as an origin for your sample within the following constraints: The strontium isotope value of the unknown is within the interquartile range of the strontium isotope data for these areas. The oxygen isotope value is within 1 standard deviation (SD) of the range of measurements from human tooth enamel that define the domain and the drinking water is with the contour range of data. The sulphur data is with the interquartile range of data defining the domain or, in the case of the Coastal Effects Zone, it is with the fixed range of 21.0‰ (the $\delta^{34}S_{VCDT}$ of seawater) and 8‰. Note that if your sample plots within the Coastal Effects Zone the strontium isotope composition can be strongly and variably affected by the contribution of seawater which has value of $^{87}Sr/^{86}Sr$ ~ 0.7092. See the User Guide for the Biosphere Isotope Domains GB (V1) Dataset and Portal for further information and references.

Biosphere Isotope Domains



0 30 60 120 180 240
Kilometers

The highlighted regions represent the areas that cannot be excluded as an origin for your sample within the following constraints: The strontium isotope value of the unknown is within the interquartile range of the strontium isotope data for these areas. The oxygen isotope value is within 1 standard deviation (SD) of the range of measurements from human tooth enamel that define the domain and the drinking water is with the contour range of data. The sulphur data is with the interquartile range of data defining the domain or, in the case of the Coastal Effects Zone, it is with the fixed range of 21.0‰ (the $\delta^{34}S_{VCDT}$ of seawater) and 8‰. Note that if your sample plots within the Coastal Effects Zone the strontium isotope composition can be strongly and variably affected by the contribution of seawater which has value of $^{87}Sr/^{86}Sr$ ~ 0.7092. See the User Guide for the Biosphere Isotope Domains GB (V1) Dataset and Portal for further information and references.

Plates

Plate 1: Tree-throw [1452], 1.00m scale, facing south east


Plate 2: Tree-throw [1118], 0.5m scale, facing north

Plate 3: Pit [1392], 1m scale, facing south east

Plate 4: Pit [1621], 0.50m scale, facing south

Plate 5: Boundary ditch [1110] and re-cuts [1108] and [1143], 2.00m scale, facing north northwest

Plate 6: Boundary ditch [1150] and re-cut [1178], 2.00m scale, facing north northwest

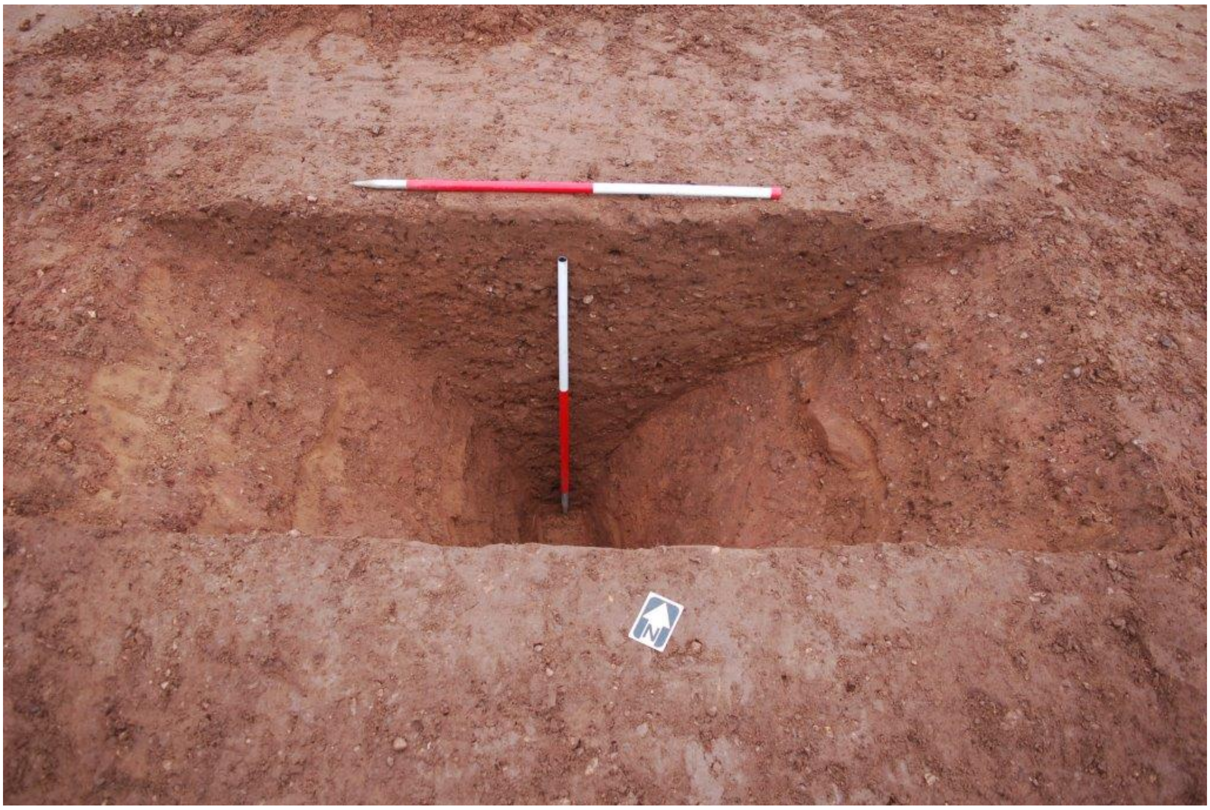


Plate 7: Boundary ditch [1135] and re-cut [1144], 2 x 1.00m scale, facing north northwest

Plate 8: Boundary ditch [1483] and re-cut [1490], 1.00m scale, facing north northwest

Plate 9: Typical example of a storage pit [1127], 1.00m scale, facing north-northeast

Plate 10: typical example of a storage pit [1269], 1.00m scale, facing north

Plate 11: Storage pit [1243], showing banding of deposited habitation waste and soil, 0.50m scale, facing south-east

Plate 12: Mortuary enclosure CG10 pre-excavation, 2 x 1.00m, facing south-west

Plate 13: Mortuary enclosure CG10 pre-excavation, 2 x 1.00m, facing east-north-east

Plate 14: Mortuary enclosure CG10 post-excavation, 2.00 x 1.00m, facing south-west


Plate 15: Mortuary enclosure CG10 post-excavation, 2.00 x 1.00m, facing east-north-east


Plate 16: Grave [1550] and skeleton (1557), 1.00m and 0.50m scales, facing east

Plate 17: Skeleton skull (1557), 0.30m scale

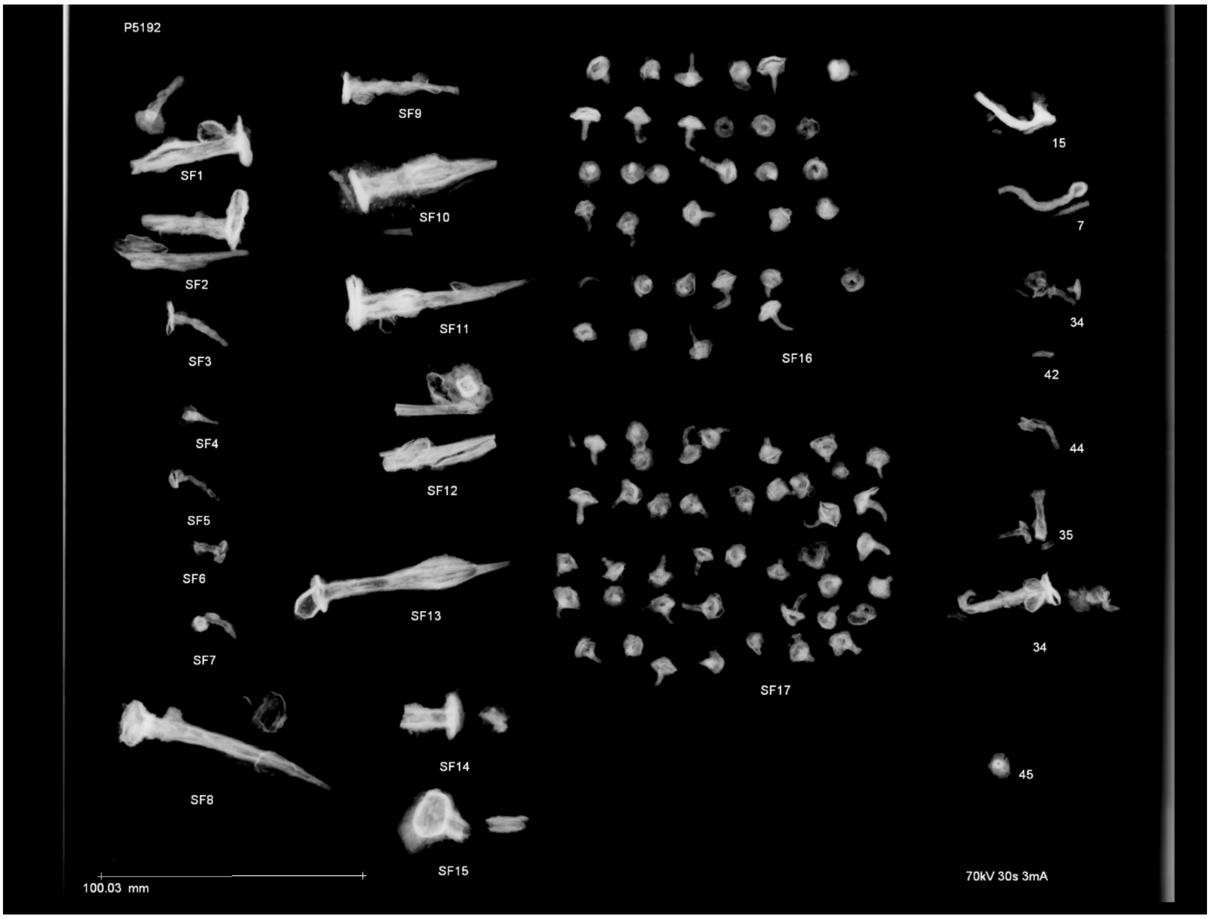


Plate 18: Radiograph of metalwork from site. SFs 1-17 are from grave [1550]. Those on the right were recovered from environmental samples and are associated with their sample numbers

Appendix 1: Finds Tables

Context	Fill of	Date range start	Date range end	*Tpq* start	*Tpq* end
1100		1750	2000	1900	2000
1101		-10000?	43?	EIA	MIA
1103	1143	-10000?	43?	EIA	MIA
1104	1008	0	0	EIA	MIA
1116	1118	-3000	-2000	-3000	-2000
1119	1127	0	0	EIA	MIA
1121	1127	-3000	43	-3000	43
1123	1127	-10000?	EIA	LBA	EIA
1128	1145	0	0	EIA	MIA
1142	1144	0	0	EIA	MIA
1170	1150	0	0	EIA	LIA
1177	1178	-10000?	43?	EIA	MIA
1187	1184	0	0	EIA	MIA
1196	1192	-10000?	43?	LBA-EIA	0
1235	1231	-10000?	EIA-MIA	382 cal BC	199 cal BC
1237	1243	-3000	43	EIA	MIA
1239	1243	0	0	EIA	MIA
1244	1245	0	0	EIA	MIA
1253	1252	0	0	EIA	MIA
1268	1269	0	0	EIA	MIA
1292	1295	0	0	EIA	MIA
1300	1265	EBA	0	EBA	EBA
1307	1303	1800	2000	1800	2000
1308	1303	0	0	EIA	MIA
1309	1303	0	0	EIA	MIA
1310	1304	0	0	EIA	MIA
1312	1317	0	0	EIA	MIA
1315		43 AD?	0	43 AD?	0
1322	1321	0	0	EIA	MIA
1323	1316	0	0	EIA	MIA
1335	1337	-3000	43	-3000	43
1344	1338	-10000?	43?	370 cal BC	183 cal BC
1349	1338	-10000	-2400	-10000	-2400
1354	1353	0	0	EIA	MIA
1367	1366	0	0	EIA	MIA
1369	1368	0	0	EIA	MIA
1376	1375	-10000?	43?	LBA	EIA
1377		Early Iron Age	Middle Iron Age	765 cal BC	411 cal BC
1388	1381	-10000?	EIA-MIA	EIA	MIA
1390	1380	0	0	EIA	MIA
1393	1392	LBA-EIA	0	LBA-EIA	0
1395	1382	0	0	EIA	MIA
1397	1382	0	0	EIA	MIA
1406	1377	-10000?	EIA-MIA?	767 cal BC	412 cal BC
1407	1377	0	0	EIA	MIA
1408	1377	0	0	EIA	MIA
1409	1384	0	0	EIA	MIA
1420	1418	0	0	EIA	MIA
1432	1429	-10000?	43?	EIA	MIA
1451	1452	-3000	-2000	EIA?	MIA?
1455	1453	0	0	EIA	MIA
1465	1454	-10000	-2400	-10000	-2400
1475	1476	0	0	1800	2000
1489	1490	0	0	EIA	MIA
1500	1484	0	0	EIA	MIA
1505		43		43	410?
1527	1527	0	0	EIA	MIA
1530	1525	0	0	EIA	MIA
1533	1527	0	0	-10000	43
1536	1535	0	0	EIA	MIA
1545	1540	0	0	EIA	MIA
1552	1551	-10000	-2000	-2836	-2489
1554	1553	0	0	EIA	MIA
1564	1565	EBA	EBA	EBA	EBA
1568	1550	-10000?	410	251	410
1570	1550	-10000?	43?	-10000?	43?
1572	1571	-10000	-2400	-10000	-2400
1599	1600	-10000?	43?	-10000?	43?

1603	1589	0	0	EIA	MIA
1609	1611	-12400	EIA-MIA	EIA	MIA
1622	1621	-10000?	43?	LBA	0
1655	1647	0	0	EIA	MIA

Appendix Table 1.1: Summary of the finds dating by context

Appendix 2: Flint Tables

	Site phase			1			2			3			
	Cut number			**1454**	**1600**	**1611**	**1118**	**1452**	**1551**	**1192**	**1375**	**1429**	**1621**
	Context number			**1465**	**1599**	**1609**	**1116**	**1451**	**1552**	**1196**	**1376**	**1432**	**1622**
Tool	blade	4	11.1	1				2					
	end-scraper	2	30.8	1									
	knife	2	9.3					1	1				
	broken knife	2	19.4				1	1					
	truncated piece	1	0.6						1				
Debitage	burin spall	2	0.8	1					1				
	chip	38	6.3	2	3				6				3
	chunk	7	10.3				1	3			1	1	
	flake	35	63.2	1	1	1		13	7	1	2		1
	flake core	2	19.1										
	tested nodule	2	31.4										
Combined count:		**97**		6	4	1	2	20	16	1	3	1	4
Combined weight (g):			**202.3**	31	4.6	0.2	15.4	48.6	13.7	2.5	3.1	0.6	2.6
Residual?					N		N	N	N		N		
total heat-affected		**4**	4.1%										
total edge-damaged		**5**	5.2%	2				2	1				
total with retouch		**7**	7.2%	1			1	2	2				
total broken		**2**	2.1%				1	1					

Appendix Table 2.1: Worked flint by context, phases 1-3

	Site phase			4													5				7	
	Context group			**3**	**3**	**4**	**4**	**5**	**5**	**5**	**6**	**8**	**8**	**9**			**10**	**10**				
	Cut number			**1143**	**1178**	**1127**		**1243**	**1338**		**1231**	**1377**	**1381**	**1527**	**708**	**1337**	**703**	**1571**	**1550**			
	Context number			**1103**	**1177**	**1121**	**1123**	**1237**	**1344**	**1349**	**1235**	**1406**	**1388**	**1533**	**714**	**1335**	**704**	**1572**	**1568**	**1570**	**500**	**1101**
Tool	blade	4	11.1							1												
	end-scraper	2	30.8																		1	
	knife	2	9.3																			
	broken knife	2	19.4																			
	truncated piece	1	0.6																			
Debitage	burin spall	2	0.8																			
	chip	38	6.3	1			1		1		3	3	1	2				1	9	2		
	chunk	7	10.3						1													
	flake	35	63.2		1	1									1		1	2	1			1
	flake core	2	19.1					1								1						
	tested nodule	2	31.4		2																	
Combined count:		**97**		1	3	1	1	1	2	1	3	3	1	2	1	1	1	3	10	2	1	1
Combined weight(g):			**202.3**	0.1	31.5	4.9	0.2	5.2	0.4	1.6	0.1	1.4	0.3	0.6	2.3	13.9	3.2	2.8	2	0.1	5.7	3.7
Residual?										Y							Y	Y	Y	Y	Y	Y
total heat-affected		**4**	4.1%						1			1	1					1				
total edge-damaged		**5**	5.2%																			
total with retouch		**7**	7.2%																		1	
total broken		**2**	2.1%																			

Appendix Table 2.2: Worked flint by context, phases 4-7

Appendix 3: Environmental Tables

Phases	
1	Mesolihtic-Neolihtic
2	Late Neolithic to Early Bronze Age
3	Early to Middle Iron Age
4	Late Roman
5	Post-medieval
6	Modern

Context Groups	
1	Boundary ditch
2	Boundary ditch
3	Boundary ditch
4	Storage pit group
5	Storage pit group
6	Storage pit group
7	Post-medieval fence line
8	Storage pit group
9	Storage pit group
10	Mortuary enclosure

Frequency	
*	0-10
**	Oct-20
***	21-50
****	51-100+

Key for Appendix Tables 3.1-3.4

Context	Sample	Feature type	Fill of	Period	Phase	Context group	Sample volume (L)	Vol processed (L)	Grain	cereal NFI	chaff	legume	seed	fruit/nut	ACL	Charcoal	Comments	Potential	Charcoal Potential	C14 sample	potential C14 sample
1708	45	Grave	1707	Roman		10	10	10								(*)	stone	D	Poor		
1609	47	Tree-bowl	1611	EIA-MIA	4	3	40	10								(*)		D	Poor		
1451	26	Tree-bowl	charcoal and flint rich fill of pit1452	LN-EBA	4	0	40	10							*	(****) ****	amorphous charred fragments, glassy slag. abundant modern roots.	D	Good		
1552	38	Pit	fill of BA pit 1551	LN-EBA	2	6	30	10						*		(**)	amorphous charred fragments, fired clay abundant modern roots with seeds.	D	Fair	Hazelnut shell fragments (Corylus avellana)2840-2480calBC	
1552	46	Pit	1551	LN-EBA	2	6	20	10								(**)	fired clay, burnt bone, coal	D	Fair	Hazelnut shell fragments (Corylus avellana)?	
1196	3	Tree-bowl	fill of tree-throw1192	LBA-EIA	3	5	40	10							**	*	Amorphous charred fragments. abundant modern roots. coal	D	Poor		
1376	22	Tree-bowl	charcoal rich area of tree-throw 1375	LBA-EIA	3	5	20	10							*	(**)*	amorphous charred fragments, abundant modern roots. Burnt bone.	D	Fair		
1123	1	Pit	storage pit 1127	EIA-MIA	4	6	10	10								(**)**	A small flot with modern roots and seeds. bone	D	Fair		
1177	2	Ditch	charcoal rich fill of enclosure ditch 1178	EIA-MIA	4	5	40	10	*	*						(***)	Possible wheat grain (cf *Triticum* sp.), possible barley grain (cf. *Hordeum* sp.) cereal nfi, abundant modern roots. Coal and bone	D/C	Moderate	HNS 770-410cal BC	y
1222	4	Pit	fill of storage pit 1223	EIA-MIA	4	6	20	10								(**)**	very small flot with modern roots, seeds and cereal chaff. coal and bone	D	Fair		
1235	5	Pit	charcoal rich pit 1231	EIA-MIA	4	6	10	10	*	*			*			(***)**	Wheat grains x3 (*Triticum* sp.),cereal nfi, possible black bindweed (cf. *Fallopia convolvulus*) abundant modern roots.	D/C	Moderate	390-190calBC	y
1237	6	Pit	charcoal rich fill of pit 1243	EIA-MIA	4	5	40	10	*	*					*	(**)	possible glume type wheat grains (*Triticum* sp.), possible wheat (cf.*Triticum* sp.),cereal nfi, black bindweed (*Fallopia convolvulus*),x2 fragments of *Tilia* charcoal for C14 amorphous charred fragments, abundant modern roots.	D/C	Fair	Yes	y
1239	7	Pit	charcoal rich fill of pit 1244	EIA-MIA	4	5	20	10		*	*		*		*	(*)**	Wheat glume bases x2 (*Triticum spelta*/*dicoccum*), cereal grain nfi, indeterminate seed, amorphous charred fragments. abundant modern roots.	D/C	Poor		

Context	Sample	Feature type	Fill of	Period	Phase	Context group	Sample volume (L)	Vol processed (L)	Grain	cereal NFI	chaff	legume	seed	fruit/nut	ACL	Charcoal	Comments	Potential	Charcoal Potential	C14 sample	potential C14 sample
1253	8	Pit	fill of pit 1252	EIA-MIA	4	0	10	10					*		*	?	? Charcoal extracted for dating. Grass type seed fragment (Poaceae), amorphous charred fragments, abundant modern roots.	D		?	
1290	9	Pit	fill of pit 1291	EIA-MIA	4	7	20	10		*					*	(**)***	cereal grain nfi, amorphous charred fragments, abundant modern roots.	D	Fair	410-260calBC	
1307	12	Pit	fill of pit 1303	EIA-MIA	4	7	30	10		*		*	*		*		Legume seed (1mm), indet seed, cereal grain nfi, amorphous charred fragments, abundant modern roots. Burnt bone.	D	Poor		
1309	13	Pit	fill of pit 1304	EIA-MIA	4	5	30	10							*	(*)	amorphous charred fragments, very small flot with modern roots.	D	Poor		
1344	18	Pit	upper fill of storage pit 1338	EIA-MIA	4	5	40	10					*		*	(**)**	possible brome/oat type seed x1 (cf.*Bromus*/*Avena* sp.), amorphous charred fragments, sandy flot with abundant roots.	D	Fair	380-180calBC	
1349	19	Pit	basal fill of storage pit 1338	EIA-MIA	4	5	40	10							**	(**)**	amorphous charred fragments. Very small flot with modern roots and seeds.	D	Fair		
1354	20	Pit	fill of pit 1353	EIA-MIA	4	5	10	10							*	(**)*	amorphous charred fragments, abundant modern roots. Ceramic and coal.	D	Fair		
1388	23	Pit	Charcoal rich fill of pit 1381	EIA-MIA	4	8	20	10		*		*	*		*	(**) ****	cereal grain nfi, legume(1mm), , black bindweed (*Fallopia convolvulus*), grass type (poaceae), indet seed, amorphous charred fragments, abundant modern roots and monocotyledonous stems, modern seeds, pottery, burnt bone, coal	D/C	Fair		
1410	24	Pit	Charcoal rich fill of pit 1384	EIA-MIA	4	8	10	10	*	*						(***)**	Wheat grain x1 (Triticum sp.), cereal grain nfi, abundant modern roots. Burnt bone.	D/C	Moderate		
1406	25	Pit	Charcoal rich fill of pit 1377	EIA-MIA	4	8	40	10	*	*			*		*	(**)**	Barley grain x1 (*Hordeum* sp.), , cereal grain nfi, possible stinking chamomile (cf. *Anthemis cotula*), amorphous charred fragments. Burnt bone.	D/C	Fair	770-410calBC	
1455	27	Pit	charcoal pit fill1453	EIA-MIA	4	8	40	10							*	(*)*	Amorphous charred fragments, coal	D	Poor		
1405	28	Pit	Charcoal rich fill of pit1381	EIA-MIA	4	8	40	10						**		**	Hazelnut shell fragments (*Corylus avellana*) x18	C/D	Poor	x1 Hazelnut shell fragment	
1501	29	Ditch	Charcoal rich fill of ditch 1484	EIA-MIA	4	0	10	10		*			**		*	(**)***	Cereal grains nfi, possible brome/oat type grains x7(cf. *Bromus*/*Avena* sp.), indereminate seeds, amorphous charred fragments	D/C	Fair		
1489	30	Ditch	ditch fill 1490	EIA-MIA	4	9	10	10								(**)***	A small soily flot with modern roots and insects. Struck flint	D	Fair		
1533	31	Pit	Charcoal richfill of pit[1527]	EIA-MIA	4	8	40	10								(*)**	A small soily flot with modern roots and seeds. Bone	D	Poor		
1545	32	Pit	Charcoal rich fill of pit 1540	EIA-MIA	4	9	40	10							**	(*)**	A small flot with modern roots , amorphous charred fragments, burnt bone	D	Poor		

Context	Sample	Feature type	Fill of	Period	Phase	Context group	Sample volume (L)	Vol processed (L)	Grain	cereal NFI	chaff	legume	seed	fruit/nut	ACL	Charcoal	Comments	Potential	Charcoal Potential	C14 sample	potential C14 sample
1537	33	Pit	Charcoal rich fill of pit 1539	EIA-MIA	4	0	40	10							*	(*)**	A small flot with modern roots and seeds, amorphous charred fragments, bone	D	Poor		
1522	48	Pit	1524	EIA-MIA	4	9	20	10								(*)*	Coal	D	Poor		
1103	49	Ditch	1143	EIA-MIA	4	9	40	10								(***)	Burnt bone.	D	Moderate		
1568	34	Grave	charcoal fill of grave 1550	Late Roman	5	9	40	30		*					*	(****) ****	abundant modern roots with seeds, cereal nfi grain fragments. amorphous charred fragments, pottery, coal.	D	Good		
1569	35	Grave	burnt wood in CG10	Late Roman	5	10	20	20		*						(****) ****	possible cereal grain fragment nfi.	D	Good		
1570	36	Grave	burnt wood in CG10	Late Roman	5	10	0.1	1								(***) ****		D	Moderate		
1572	37	Gully	southwest corner of barrow ditch 1571 CG10	Late Roman	5	10	20	10							*	(*)*	amorphous charred fragments, coal, abundant modern roots.	D	Poor		
1575	38	Gully	1576	Late Roman	5	10	20	10										D	Poor	1620-1440calBC	
1573	39	Gully	1574	Late Roman	5	10	20	10		*			*		**	(**)**	cereal grain nfi, possible brome/oat type grains x2 (cf. *Bromus*/*Avena* sp.), indet seed,	D/C	Fair		
1566	41	Ditch	1567	Late Roman	5	10	20	10							*	(*)*	Amorphous charred fragments, bone	D	Poor		
1568	42	Grave	1550	Late Roman	5	10	10	10								(**)**	Bone and coal.	D	Fair		
1591	43	Ditch	1592	Late Roman	5	10	20	10								(*)	Coal.	D	Poor		
1313	15	Posthole	postpipe of 1315	Post-medieval	6	7	10	10					*		****	*	Corn flower (*Centaurea cyanus*), frequent amorphous charred fragments, fuel ash slag, spherical hammerscale, Fe fragments, coal, abundant modern roots.	D/C	Poor		
1314	16	Posthole	backfill of 1315	Post-medieval	6	7	10	10							**	(*)**	amorphous charred fragments, abundant modern roots with seeds	D	Poor		
1276	10	Posthole	fill of posthole1277	Post-medieval	0	7	10	10	*				*		*	(*)*	Wheat grains x2 (*Triticum* sp.), possible brome/oat grainsx4 (cf.*Bromus*/*Avena* sp.), amorphous charred fragments, abundant modern roots.	D/C	Poor		
1278	11	Posthole	fill of posthole 1279	Post-medieval	0	7	10	10	*	*			*		*	(**)**	x1 possible wheat (cf.*Triticum* sp.) and x 5 cereal grains nfi extracted for C14. cleavers (*Galium aperine*), amorphous charred fragments	D/C	Fair	Yes	
1306	14	posthole	fill of small pit/posthole 1305		0	7	10	10							*	(**)**	amorphous charred fragments, abundant modern roots.	D	Fair		
1322	17	Pit	charcoal rich fill of pit 1321		0		10	10	*	*						(**)***	Possible wheat grain (cf.*Triticum* sp.), cereal nfi, Modern roots and seeds. Possible shale	D	Fair		
1367	21	Posthole	fill of posthole 1366		0	9	10	10	*	*			*		*	(**)**	Wheat grain x1 (*Triticum* sp.), cereal grain nfi, ,black bindweed (*Fallopia convolvulus*), amorphous charred fragments	D/C	Fair		

Appendix Table 3.1: Environmental assessment results

			Context	1451	1552	1552	1196	1376	1123	1609	1177	1222	1235	1237	1239	1253	1290	1307	1309
			Sample	26	38	46	3	22	1	47	2	4	5	6	7	8	9	12	13
			Feature	Pit 1452	Pit 1551	Pit 1551	Tree-throw 1192	Tree-throw 1375	Pit 1127	Tree-bowl 1611	Ditch 1178	Pit 1223	Pit 1231	Pit 1243	Pit 1244	Pit 1252	Pit 1291	Pit 1303	Pit 1304
			Period	LN-EBA	LN-EBA	LN-EBA	LBA-EIA	LBA-EIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA
			Phase	2	2	2	3	3	4	4	4	4	4	4	4	4	4	4	4
			Context group	0	6	6	5	5	4	3	5	6	6	5	5	6	7	7	5
Taxa	**Common Name**	**Part**	**Habitat**																
Triticum sp.	glume wheat type	grain(sprouted)	cultivated											2					
Triticum sp.	wheat (sprouted)	grain	cultivated										3						
cf. *Triticum* sp.	possible wheat	grain	cultivated								1			2					
Hordeum sp.	barley	grain(sprouted)	cultivated																
cf. *Hordeum* sp	possible barley	grain	cultivated								1								
Avena /Bromus sp.	oat/brome	grain	cultivated, grassland																
cf.*Avena /Bromus sp.*	possible oat/brome	grain	cultivated, grassland																
Cereal NFI	unidentified cereal	grain fragments (charred)	cultivated								1		**	*	*		1	*	
Triticum spelta/dicoccum	spelt/emmer	glume base	cultivated												2				
Vicia/Lathyrus sp. (1mm)	vetch/pea	seed	disturbed arable, cultivated															1	
Corylus avellana L.	hazelnut	shell frags(partially charred)	waste,scrub, hedgerow			*								1					
Brassicaceae														1					
Fallopia convolvulus (L.) Love.	black bindweed.	achene	disturbed arable											1					
cf.*Fallopia convolvulus* (L.) Love.	possible black bindweed.	achene											1						
Galium aperine L.	cleavers	nutlet	disturbed arable, disturbed cultivated, hedgerow																
Centaurea cyanus L.	cornflower	achene	cornfields, waste places																
cf.*Anthemis cotula*	stinking chamomile	achene	arable, heavy soils																
Poaceae	grass	caryopsis														1			
unident		seed													1			1	
unident		amorphous charred fragments		*			**	*						*	*	*	*	*	*
		charcoal		(****)****		(**)	*	(**)*	(**)**	(*)	(***)	(**)**	(***)**	(**)	(*)**		(**)***		(*)

Appendix Table 3.2: Full environmental analysis results

			Context	1344	1349	1354	1388	1410	1406	1455	1405	1501	1489	1533	1545	1537	1522	1103	1568	1569	1708
			Sample	18	19	20	23	24	25	27	28	29	30	31	32	33	48	49	34	35	45
			Feature	Pit1338	Pit1338	Pit 1353	Pit 1381	Pit1384	Pit1377	Pit 1453	Pit1381	Ditch 1484	Ditch 1490	Pit 1527	Pit 1540	Pit1539	Pit1524	Ditch 1143	Grave 1550	Grave 1550	Grave 1707
			Period	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	EIA-MIA	Late Roman	Late Roman	Late Roman
			Phase	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5
			Context group	5	5	5	8	8	8	8	8	0	9	8	9	0	9	9	10	10	10
Taxa	**Common Name**	**Part**	**Habitat**																		
Triticum sp.	glume wheat type	grain(sprouted)	cultivated																		
Triticum sp.	wheat (sprouted)	grain	cultivated					1													
cf. *Triticum* sp.	possible wheat	grain	cultivated																		
Hordeum sp.	barley	grain(sprouted)	cultivated						1												
cf. *Hordeum* sp	possible barley	grain	cultivated																		
Avena /Bromus sp.	oat/brome	grain	cultivated, grassland	1																	
cf.*Avena /Bromus sp.*	possible oat/brome	grain	cultivated, grassland									7									
Cereal NFI	unidentified cereal	grain fragments (charred)	cultivated					*	1			1							*	*	
Triticum spelta/dicoccum	spelt/emmer	glume base	cultivated																		
Vicia/Lathyrus sp. (1mm)	vetch/pea	seed	disturbed arable, cultivated				1														
Corylus avellana L.	hazelnut	shell frags(partially charred)	waste,scrub, hedgerow								18										
Brassicaceae																					
Fallopia convolvulus (L.) Love.	black bindweed.	achene	disturbed arable				1														
cf.*Fallopia convolvulus* (L.) Love.	possible black bindweed.	achene																			
Galium aperine L.	cleavers	nutlet	disturbed arable, disturbed cultivated, hedgerow																		
Centaurea cyanus L.	cornflower	achene	cornfields, waste places																		
cf.*Anthemis cotula*	stinking chamomile	achene	arable, heavy soils						1												
Poaceae	grass	caryopsis					1														
unident		seed					1					2									
unident		amorphous charred fragments		*	**	*	*			*		*			**	*			*		
		charcoal		(**)**	(**)**	(**)*	(**)****	(***)**	(**)**	(*)*	**	(**)***	(**)***	(*)**	(*)**	(*)**	(*)*	(***)	(****)****	(****)****	

Appendix Table 3.3: Full environmental analysis results

			Context	2.0	1572	1575	1573	1566	1568	1591	1313	1314	1367	1276	1278	1306	1322	1620
			Sample	36	37	38	39	41	42	43	15	16	21	10	11	14	17	
			Feature	Grave 1550	Ditch 1571	Ditch 1576	Ditch 1574	Ditch 1567	Grave 1550	Ditch159 2	Posthole 1315	Posthole 1315	Posthole 1366	Posthole 1277	Posthole 1279	Pit1305	Pit1321	Pit 1618
			Period	Late Roman	Late Roman	Late Roman	Late Roman	Late Roman	Late Roman	Late Roman	Post-medieval	Post-medieval	Post-medieval					
			Phase	5	5	5	5	5	5	5	6	6	6	0	0	0	0	0
			Context group	10	10	10	10	10	10	10	9	9	9	0		0		
Taxa	**Common Name**	**Part**	**Habitat**															
Triticum sp.	glume wheat type	grain(sprouted)	cultivated															
Triticum sp.	wheat (sprouted)	grain	cultivated										*	2				
cf. *Triticum* sp.	possible wheat	grain	cultivated												1		3	
Hordeum sp.	barley	grain(sprouted)	cultivated															
cf. *Hordeum* sp	possible barley	grain	cultivated															
Avena /Bromus sp.	oat/brome	grain	cultivated, grassland				2											
cf.*Avena /Bromus sp.*	possible oat/brome	grain	cultivated, grassland											4				
Cereal NFI	unidentified cereal	grain fragments (charred)	cultivated				*						*		5		**	
Triticum spelta/dicoccum	spelt/emmer	glume base	cultivated															
Vicia/Lathyrus sp. (1mm)	vetch/pea	seed	disturbed arable, cultivated															
Corylus avellana L.	hazelnut	shell frags(partially charred)	waste,scrub, hedgerow			*												
Brassicaceae																		
Fallopia convolvulus (L.) Love.	black bindweed.	achene	disturbed arable										1					
cf.*Fallopia convolvulus* (L.) Love.	possible black bindweed.	achene																
Galium aperine L.	cleavers	nutlet	disturbed arable, disturbed cultivated, hedgerow												1			
Centaurea cyanus L.	cornflower	achene	cornfields, waste places								1							
cf.*Anthemis cotula*	stinking chamomile	achene	arable, heavy soils															
Poaceae	grass	caryopsis																
unident		seed					*											
unident		amorphous charred fragments			*	*	**	*			****	**		*	*	*		
		charcoal		(***)****	(*)*		(**)**	(*)*	(**)**	(*)	*	(*)**	(**)**	(*)*	(**)**	(**)**	(**)***	(*)

Appendix Table 3.4: Full environmental analysis results

Appendix 4: Radiocarbon dating results

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RADIOCARBON DATING CERTIFICATE

18 December 2018

Laboratory Code	SUERC-83744 (GU49774)
Submitter	Liz Pearson Worcestershire Archaeology The Hive Sawmill Walk The Butts Worcester WR1 3PB
Site Reference	Westham Lane, Barford, Warwickshire
Context Reference	1177
Sample Reference	P5192/1177/2
Material	Charred plant remains : Corylus avellana
$\delta^{13}C$ relative to VPDB	-28.6 ‰
Radiocarbon Age BP	2457 ± 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

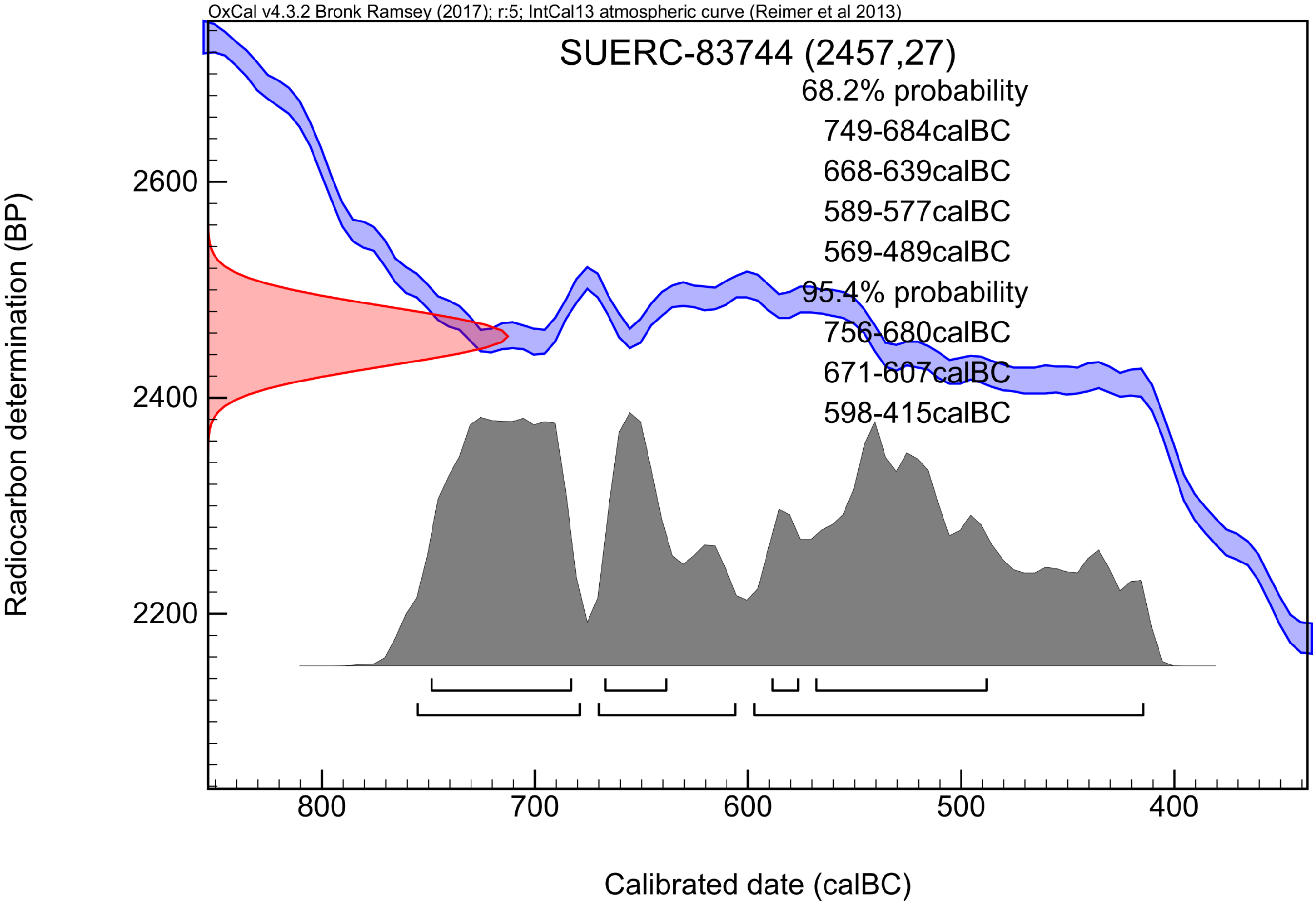
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2013) *Radiocarbon 55(4) pp.1869-87*

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RADIOCARBON DATING CERTIFICATE
18 December 2018

Laboratory Code	SUERC-83745 (GU49775)
Submitter	Liz Pearson Worcestershire Archaeology The Hive Sawmill Walk The Butts Worcester WR1 3PB
Site Reference	Westham Lane, Barford, Warwickshire
Context Reference	1290
Sample Reference	P5192/1290/9
Material	Charcoal roundwood : Quercus robur/petraea
$\delta^{13}C$ relative to VPDB	-25.8 ‰
Radiocarbon Age BP	2297 ± 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

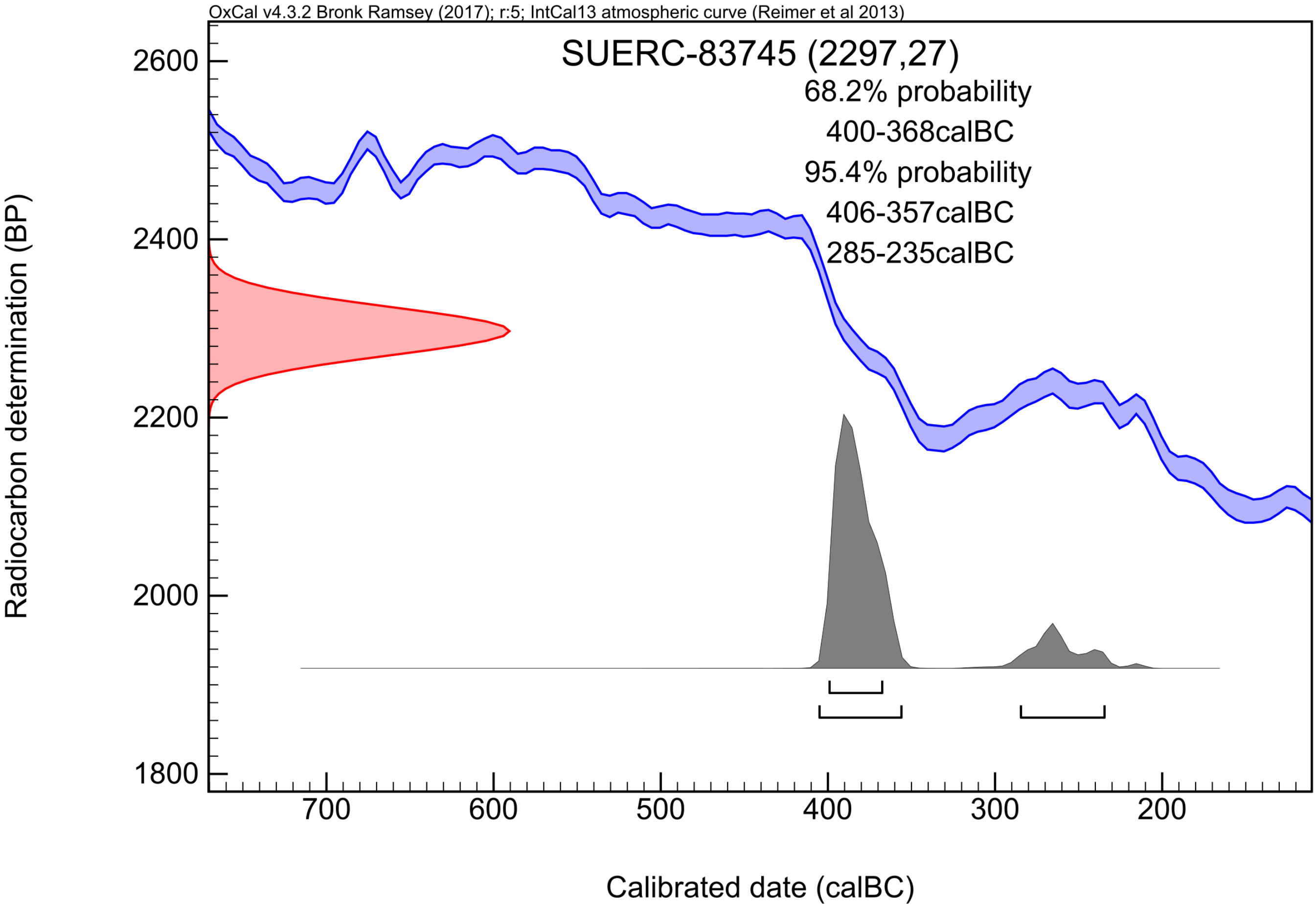
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*

† Reimer et al. (2013) *Radiocarbon 55(4) pp.1869-87*

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RADIOCARBON DATING CERTIFICATE
18 December 2018

Laboratory Code	SUERC-83746 (GU49776)
Submitter	Liz Pearson Worcestershire Archaeology The Hive Sawmill Walk The Butts Worcester WR1 3PB
Site Reference	Westham Lane, Barford, Warwickshire
Context Reference	1235
Sample Reference	P5192/1235/5
Material	Charred plant remains : Maloideae sp charcoal
$\delta^{13}C$ relative to VPDB	-26.5 ‰
Radiocarbon Age BP	2218 ± 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

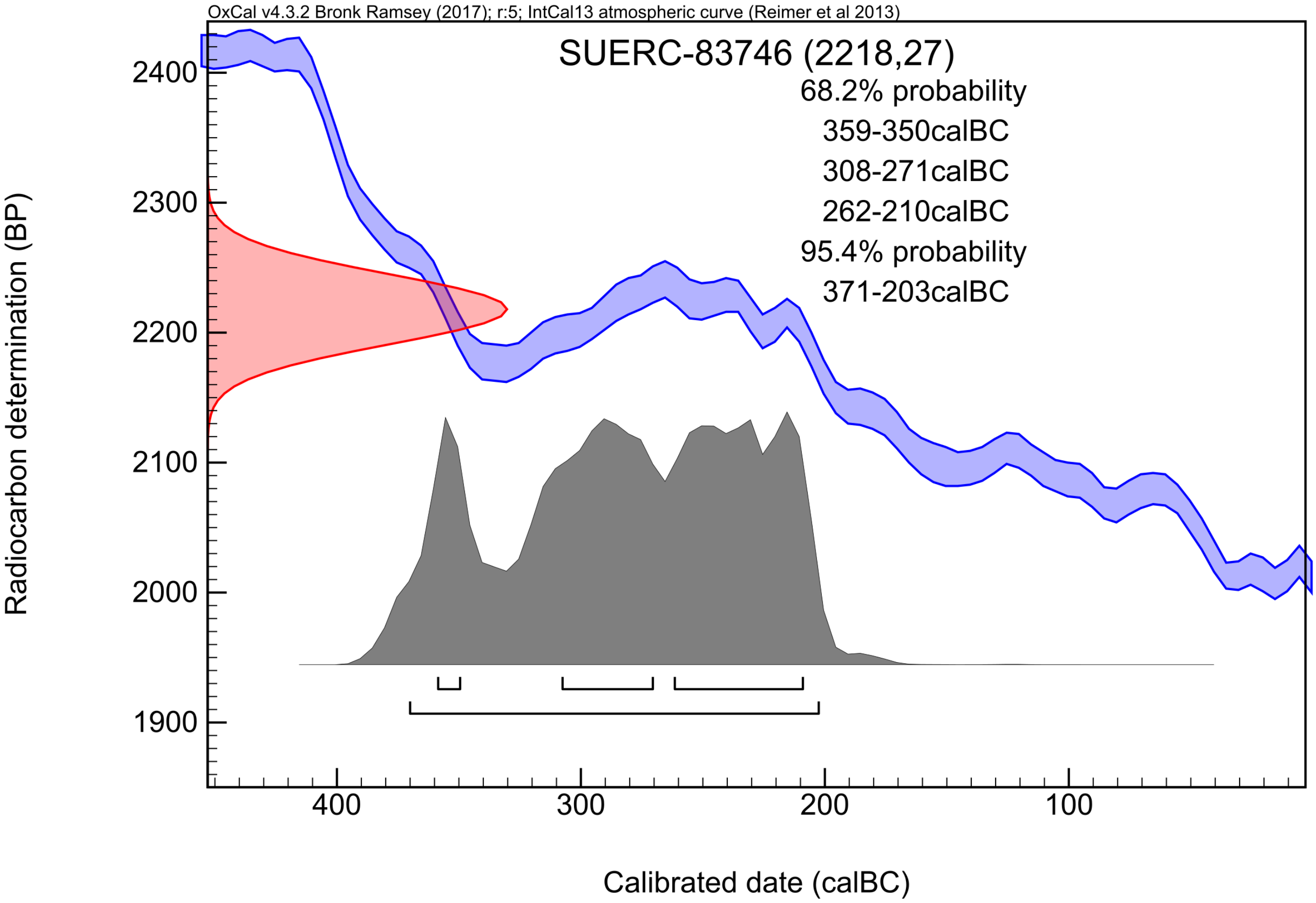
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : B Tagney

Checked and signed off by : P. Naysmith



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2013) *Radiocarbon 55(4) pp.1869-87*

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RADIOCARBON DATING CERTIFICATE
18 December 2018

Laboratory Code	SUERC-83747 (GU49777)
Submitter	Liz Pearson Worcestershire Archaeology The Hive Sawmill Walk The Butts Worcester WR1 3PB
Site Reference	Westham Lane, Barford, Warwickshire
Context Reference	1344
Sample Reference	P5192/1344/18
Material	Charcoal : Tilia sp
$\delta^{13}C$ relative to VPDB	-26.8 ‰
Radiocarbon Age BP	2202 ± 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

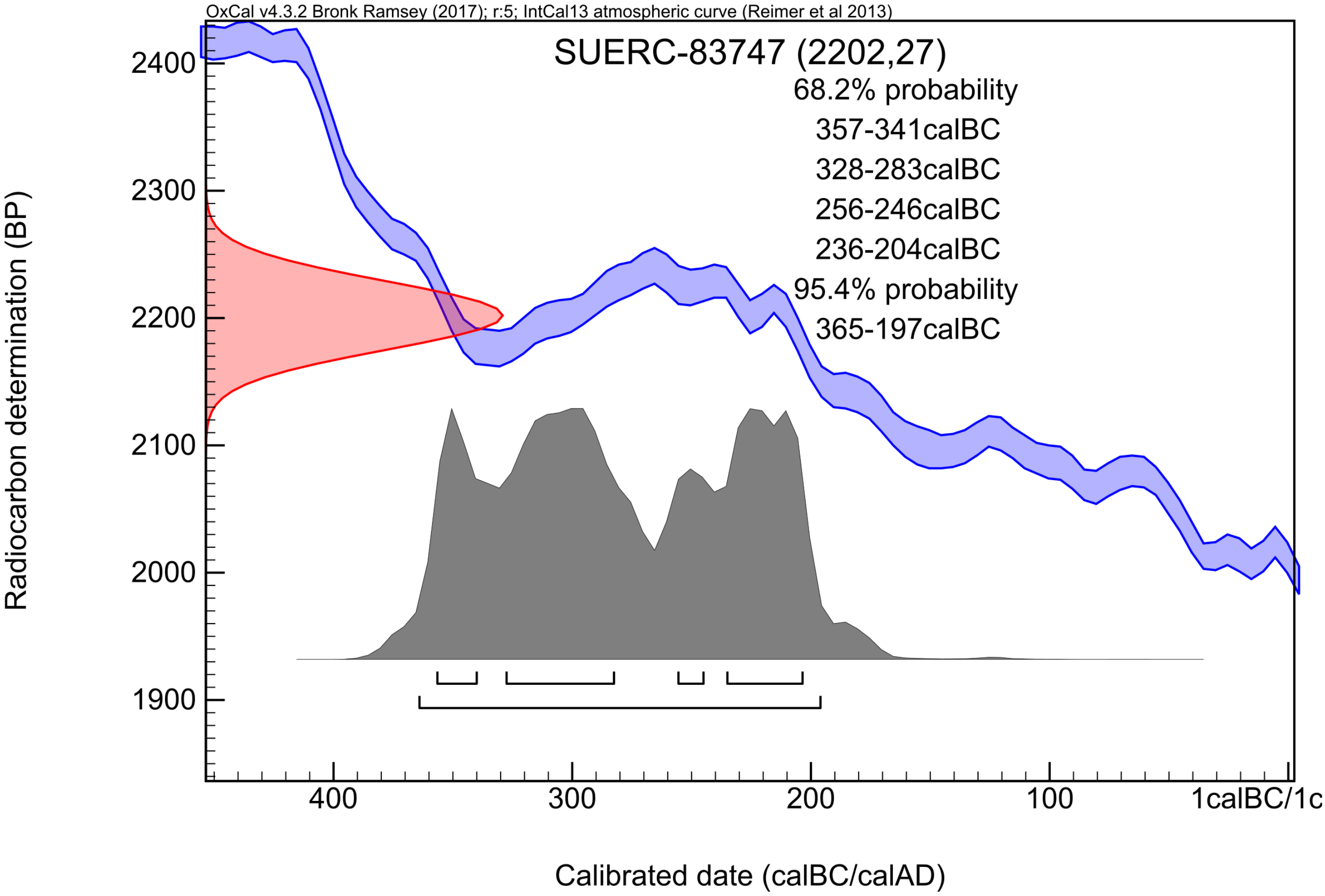
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2013) *Radiocarbon 55(4) pp.1869-87*

SUERC
Scottish Universities Environmental Research Centre
Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE
18 December 2018

Laboratory Code	SUERC-83748 (GU49778)
Submitter	Liz Pearson Worcestershire Archaeology The Hive Sawmill Walk The Butts Worcester WR1 3PB
Site Reference	Westham Lane, Barford, Warwickshire
Context Reference	1406
Sample Reference	P5192/1406/25
Material	Charred plant remains : Corylus avellana shell fragment
$\delta^{13}C$ relative to VPDB	-24.9 ‰
Radiocarbon Age BP	2463 ± 27

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

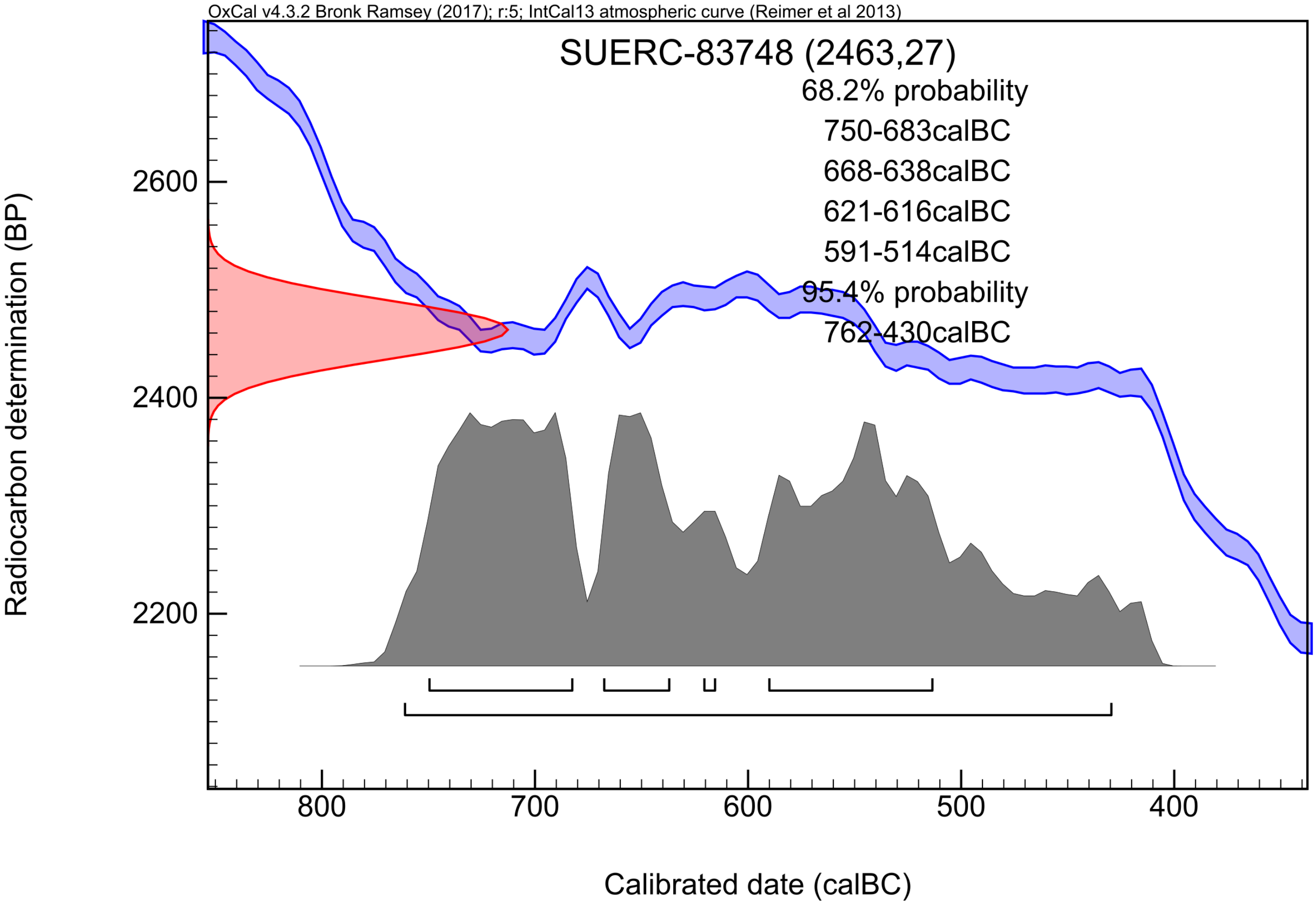
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : B Tagney

Checked and signed off by : P. Naysmith



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve.†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2013) *Radiocarbon 55(4) pp.1869-87*

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RADIOCARBON DATING CERTIFICATE

18 December 2018

Laboratory Code	GU49779
Submitter	Liz Pearson Worcestershire Archaeology The Hive Sawmill Walk The Butts Worcester WR1 3PB
Site Reference	Westham Lane, Barford, Warwickshire
Context Reference	1465
Sample Reference	P5192/1577
Material	Human remains (bone) : Human
Result	Failed due to insufficient carbon.

N.B. Any questions directed to the laboratory should quote the GU coding given above.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Checked and signed off by : P. Naysmith

Scottish Universities Environmental Research Centre
Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
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RADIOCARBON DATING CERTIFICATE
18 December 2018

Laboratory Code	GU49781
Submitter	Liz Pearson Worcestershire Archaeology The Hive Sawmill Walk The Butts Worcester WR1 3PB
Site Reference	Westham Lane, Barford, Warwickshire
Context Reference	1599
Sample Reference	P5192/1599
Material	Human remains (tooth) : Human
Result	Failed due to insufficient carbon.

N.B. Any questions directed to the laboratory should quote the GU coding given above.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Checked and signed off by : P. Naysmith

Beta Analytic Inc
4985 SW 74 Court
Miami, Florida 33155
Tel: 305-667-5167
Fax: 305-663-0964
info@betalabservices.com

ISO/IEC 17025:2005-Accredited Testing Laboratory

REPORT OF RADIOCARBON DATING ANALYSES

Elizabeth Pearson	Report Date: April 11, 2019
Worcestershire Archaeology	Material Received: March 13, 2019

Laboratory Number	Sample Code Number	Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes Calendar Calibrated Results: 95.4 % Probability High Probability Density Range Method (HPD)	
Beta - 520857	**P5192/1577**	**1700 +/- 30 BP**	IRMS δ13C: -24.0 o/oo

(71.9%)	**313 - 406 cal AD**	**(1637 - 1544 cal BP)**
(23.5%)	**254 - 304 cal AD**	**(1696 - 1646 cal BP)**

Submitter Material: Bone (Non-heated)
Pretreatment: (organic sediment) acid washes
Analyzed Material: Organic sediment
Analysis Service: AMS-Standard delivery
Percent Modern Carbon: 80.93 +/- 0.30 pMC
Fraction Modern Carbon: 0.8093 +/- 0.0030
D14C: -190.74 +/- 3.02 o/oo
Δ14C: -197.46 +/- 3.02 o/oo(1950:2,019.00)
Measured Radiocarbon Age: (without d13C correction): 1680 +/- 30 BP
Calibration: BetaCal3.21: HPD method: INTCAL13

Results are ISO/IEC-17025:2005 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP), "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the 14C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB-1. References for calendar calibrations are cited at the bottom of calibration graph pages.

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL13)

(Variables: d13C = -24.0 o/oo)

Laboratory number **Beta-520857**

Conventional radiocarbon age **1700 ± 30 BP**

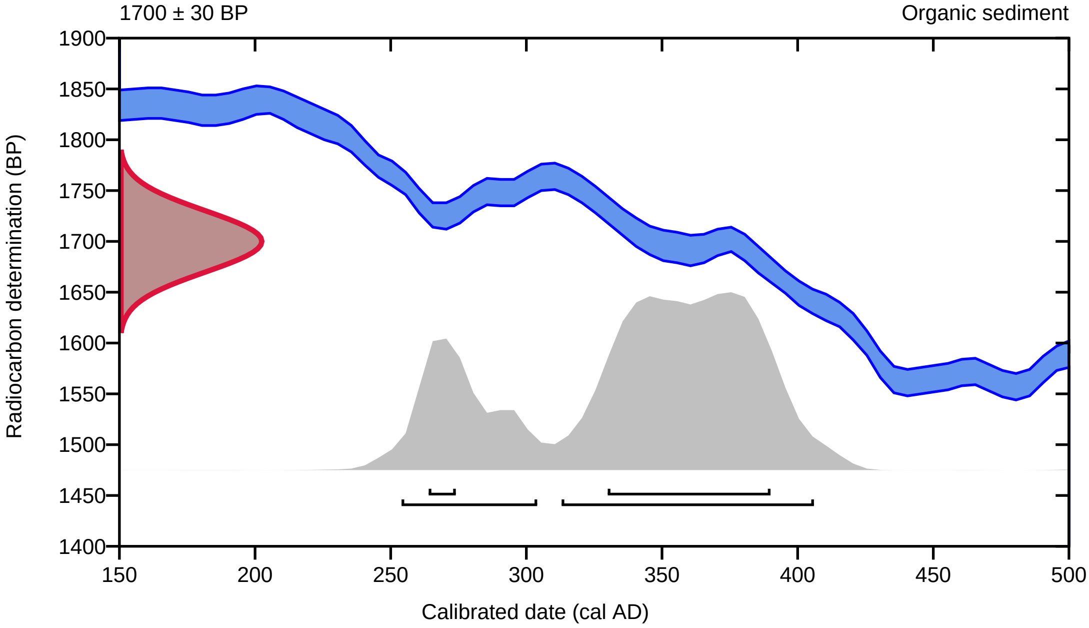
95.4% probability

(71.9%)	313 - 406 cal AD	(1637 - 1544 cal BP)
(23.5%)	254 - 304 cal AD	(1696 - 1646 cal BP)

68.2% probability

(59.8%)	330 - 390 cal AD	(1620 - 1560 cal BP)
(8.4%)	264 - 274 cal AD	(1686 - 1676 cal BP)

P5192/1577



Database used

INTCAL13

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. Radiocarbon, 51(1), 337-360.

References to Database INTCAL13

Reimer, et.al., 2013, Radiocarbon55(4).

Beta Analytic Radiocarbon Dating Laboratory

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ISO/IEC 17025:2005-Accredited Testing Laboratory

REPORT OF RADIOCARBON DATING ANALYSES

Elizabeth Pearson — Report Date: April 12, 2019

Worcestershire Archaeology — Material Received: April 05, 2019

Laboratory Number	Sample Code Number	Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes Calendar Calibrated Results: 95.4 % Probability High Probability Density Range Method (HPD)	
Beta - 522566	**P5192/1552/46**	**4060 +/- 30 BP**	IRMS δ13C: -25.7 o/oo

(87.7%)	**2678 - 2482 cal BC**	**(4627 - 4431 cal BP)**
(7.7%)	**2840 - 2813 cal BC**	**(4789 - 4762 cal BP)**

Submitter Material: Charcoal
Pretreatment: (charred material) acid/alkali/acid
Analyzed Material: Charred material
Analysis Service: AMS-Standard delivery
Percent Modern Carbon: 60.33 +/- 0.23 pMC
Fraction Modern Carbon: 0.6033 +/- 0.0023
D14C: -396.75 +/- 2.25 o/oo
Δ14C: -401.76 +/- 2.25 o/oo(1950:2,019.00)
Measured Radiocarbon Age: (without d13C correction): 4070 +/- 30 BP
Calibration: BetaCal3.21: HPD method: INTCAL13

Results are ISO/IEC-17025:2005 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP), "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the 14C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB-1. References for calendar calibrations are cited at the bottom of calibration graph pages.

BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL13)

(Variables: d13C = -25.7 o/oo)

Laboratory number **Beta-522566**

Conventional radiocarbon age **4060 ± 30 BP**

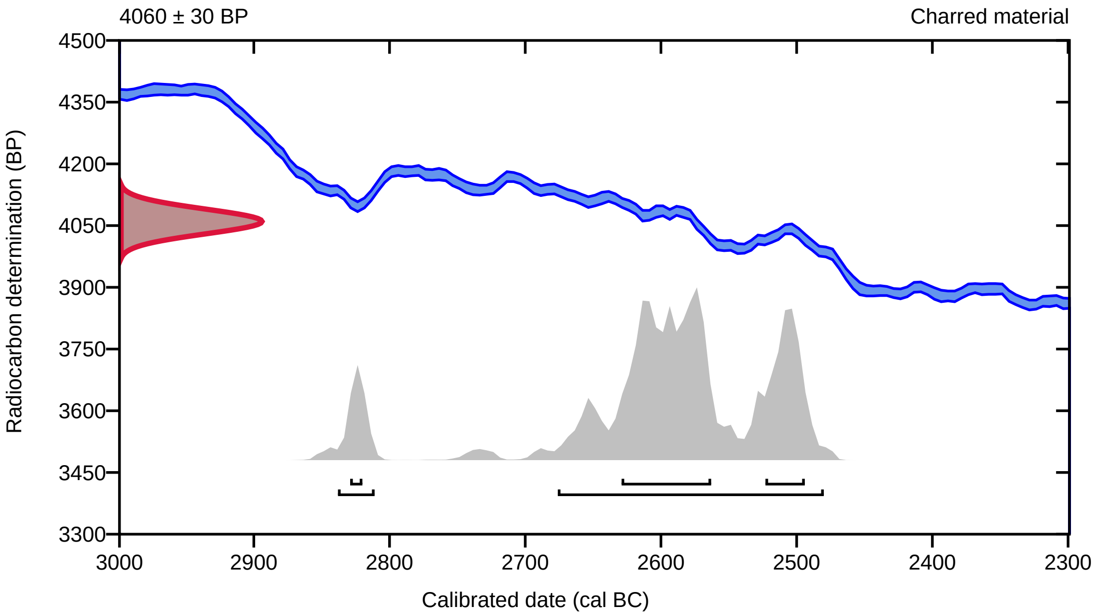
95.4% probability

(87.7%)	2678 - 2482 cal BC	(4627 - 4431 cal BP)
(7.7%)	2840 - 2813 cal BC	(4789 - 4762 cal BP)

68.2% probability

(46.5%)	2631 - 2565 cal BC	(4580 - 4514 cal BP)
(17.7%)	2525 - 2496 cal BC	(4474 - 4445 cal BP)
(3.9%)	2831 - 2822 cal BC	(4780 - 4771 cal BP)

P5192/1552/46



Database used

INTCAL13

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. Radiocarbon, 51(1), 337-360.

References to Database INTCAL13

Reimer, et.al., 2013, Radiocarbon55(4).

Liz Pearson Pearson
Worcestershire Archaeology
The Hive
Sawmill Walk, The Butts,
Worcester WR1 3PD
UK
Customer No. 2311661

^{14}CHRONO Centre
Queens University Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification:	UBA-40959
Date of Measurement:	2019-07-08
Site:	Westham Lane, Barford, Warwickshire
Sample ID:	P5192/1575/40
Material Dated:	charcoal
Pretreatment:	AAA
mg Graphite:	1.000
Submitted by:	Liz Pearson Pearson

Conventional ^{14}C Age:	3242±28 BP
Fraction corrected	using AMS δ^{13}C

Information about radiocarbon calibration

RADIOCARBON CALIBRATION PROGRAM*
CALIB REV7.0.1

*To be used in conjunction with:
Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215-230.
Annotated results (text) - -

40959
UBA-40959
Radiocarbon Age BP 3242 +/- 28
Calibration data set: intcal13.14c # Reimer et al. 2013

% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal BC 1598- 1587	0.111
	1533- 1493	0.630
	1480- 1455	0.259
95.4 (2 sigma)	cal BC 1610- 1575	0.156
	1565- 1443	0.844

References for calibration datasets:
Reimer PJ, Bard E, Bayliss A, Beck JW, Blackwell PG, Bronk Ramsey C, Buck CE Cheng H, Edwards RL, Friedrich M, Grootes PM, Guilderson TP, Haflidason H, Hajdas I, HattÃ© C, Heaton TJ, Hogg AG, Hughen KA, Kaiser KF, Kromer B, Manning SW, Niu M, Reimer RW, Richards DA, Scott EM, Southon JR, Turney CSM, van der Plicht J.
IntCal13 and MARINE13 radiocarbon age calibration curves 0-50000 years calBP
Radiocarbon 55(4). DOI: 10.2458/azu_js_rc.55.16947

Comments:
* This standard deviation (error) includes a lab error multiplier.
** 1 sigma = square root of (sample std. dev.^2 + curve std. dev.^2)
** 2 sigma = 2 x square root of (sample std. dev.^2 + curve std. dev.^2)
where ^2 = quantity squared.
[ ] = calibrated range impinges on end of calibration data set
0* represents a "negative" age BP
1955* or 1960* denote influence of nuclear testing C-14

NOTE: Cal ages and ranges are rounded to the nearest year which may be too precise in many instances. Users are advised to round results to the nearest 10 yr for samples with standard deviation in the radiocarbon age greater than 50 yr.

<>

UBANo	Sample ID	Material Type	^{14}C Age	±	F14C	±	mg Graphite
UBA-40959	P5192/1575/40	Corylus avellana charcoal	3242	28	0.6680	0.0023	1.000

Appendix 5: Summary of project archive

TYPE	DETAILS*
Artefacts and Environmental	Ceramics, Environmental, Glass,Metal, Wood, Worked bone, Worked stone/lithics,
Paper	Context sheet, Correspondence, Diary (Field progress form), Drawing, Matrices, Photograph, Plan, Report, Section, Survey
Digital	Database, AutoCAd DWG, Images raster/digital photography, Spreadsheets, Survey, Text

**OASIS terminology*