

Archaeological evaluation at land adjacent to Hanborough Station, Long Hanborough, Oxfordshire



© Worcestershire County Council

Worcestershire Archaeology
Archive and Archaeology Service
The Hive, Sawmill Walk,
The Butts, Worcester
WR1 3PD

Status: Revision 1
Date: 5 February 2018
Author: Elspeth Iliff
Email: eiliff@worcestershire.gov.uk
Contributors: C Jane Evans and Elizabeth Pearson
Illustrator: Carolyn Hunt
Project reference: P5221
Report reference: 2529
HER reference: TBC
Oasis id: fieldsec1-307936

Contents

Summary

1

Report

1 Background	2
1.1 Reasons for the project	2
2 Aims	2
3 Methods	3
3.1 Personnel	3
3.2 Documentary research	3
3.3 Fieldwork strategy	3
3.4 Structural analysis	3
3.5 Artefact methodology, by C Jane Evans	4
3.5.1 Artefact recovery policy	4
3.5.2 Method of analysis	4
3.6 Environmental archaeology methodology, by Elizabeth Pearson	4
3.6.1 Sampling policy	4
3.6.2 Processing and analysis	4
3.6.3 Discard policy	4
3.7 Statement of confidence in the methods and results	5
4 The application site	5
4.1 Topography, geology and archaeological context	5
4.2 Current land-use	5
5 Results	5
5.1 Structural analysis	5
5.1.1 Phase 1: Natural deposits	5
5.1.2 Phase 2: Prehistoric deposits	6
5.1.3 Phase 3: Medieval to late medieval deposits	6
5.1.4 Phase 4: Modern deposits	6
5.1.5 Phase 5: Undated deposits	7
5.2 Artefact analysis, by C Jane Evans	7
5.2.1 Summary artefactual evidence by period	9
5.2.2 Significance	10
5.2.3 Recommendations	10
5.2.4 Discard and retention	10
5.3 Environmental analysis, by Elizabeth Pearson	10
5.3.1 Summary of environmental remains by phase	11
5.3.2 Radiocarbon dating	12
5.3.3 Significance	12
6 Synthesis	12
7 Significance	13
7.1 Nature of the archaeological interest in the site	13
7.2 Relative importance of the archaeological interest in the site	13
7.3 Physical extent of the archaeological interest in the site	14
8 Publication summary	14
9 Acknowledgements	15
10 Bibliography	15

Archaeological evaluation at Land adjacent to Hanborough Station, Long Hanborough, Oxfordshire

Elsbeth Iliff

With contributions by C Jane Evans and Elizabeth Pearson

Illustrations by Carolyn Hunt

Summary

An archaeological evaluation was undertaken in December 2017 at land adjacent to Hanborough Station, Long Hanborough, Oxfordshire (NGR SP 443180 214180). It was commissioned by Orion Heritage Ltd on behalf of their client, Bloor Homes, who intend to construct a residential development for which planning permission has been granted on appeal.

There were nineteen trenches and two test pits excavated across the site, which comprised two agricultural fields. The trenches were partly positioned to test anomalies identified on a preceding geophysical survey and partly in a gridded array in order to test the quality of capture from the survey in blank areas. Test pits were hand excavated in an area of machine exclusion adjacent to the railway, and as a replacement for trenches not excavated in order to avoid the route of an unmapped live water pipe.

Archaeological remains of varying significance were identified across the site, and there were also twelve blank trenches. Correlation with geophysical anomalies was inconsistent and a small number of features not identified on the geophysical survey were found, including pits, furrows and a burnt mound, particularly in the north-west half of the site.

Two main phases of activity were identified: prehistoric and medieval to late-medieval. The prehistoric phase consisted of a small spread of burnt stone and charcoal, likely to represent part of a burnt mound. This feature has been scientifically dated to the early to middle Bronze Age and probably forms an isolated but significant element of a wider prehistoric landscape. As similar features are normally located at a distance from settlements, it is likely that any associated occupation is located further from the site. There is potential for the presence of associated features such as pits or troughs, but no indication of these was found during the trial trenching. The medieval to late-medieval phase could be characterised as a period of agricultural use of the land. A small number of other pits were identified along the north-east edge of the site, but remain undated and poorly understood in relation to each other and the sequence of activity.

Report

1 Background

1.1 Reasons for the project

An archaeological evaluation was undertaken at land adjacent to Hanborough Station, Long Hanborough, Oxfordshire (NGR SP 443180 214180; Figure 1). It was commissioned by Orion Heritage Ltd on behalf of their client, Bloor Homes, who intend to construct a residential development with associated works. Planning permission has been granted by West Oxfordshire District Council on appeal (reference 15/03797/OUT; Appeal reference: APP/D3125/W/16/3148400).

The proposed development site is considered to include potential heritage assets, the significance of which may be affected by the application. A desk-based assessment (DBA) and a geophysical survey were undertaken prior to evaluation trenching (Orion Heritage 2015; Archaeological Surveys Ltd 2015). The desk-based assessment revealed a variety of heritage assets in the wider area, but nothing had previously been noted within the site. The geophysical survey identified a number of anomalies, some of which suggested ridge and furrow cultivation, and a small number potentially indicative of pits and ditches. As a result, consultation between Orion Heritage and Hugh Coddington, the Planning Archaeologist for Oxfordshire County Council and archaeological advisor to West Oxfordshire District Council, established the need for an archaeological evaluation to comprise a 2% sample of the site.

The project conforms to a Written Scheme of Investigation (WSI) prepared by Orion Heritage Ltd for which a Methods Statement (including detailed specification) was produced (Orion Heritage 2017; WA 2017). While no brief was issued, a trench plan was presented as part of the Methods Statement (WA 2017) which was approved in consultation with Orion Heritage and the planning archaeologist.

The evaluation was carried out following the trench arrangement and in line with industry guidelines and standards set out in *Standard and guidance: Archaeological field evaluation* (CIfA 2014a).

2 Aims

The overall aims of the archaeological evaluation were as follows:

- to determine the presence or absence of archaeological remains;
- to evaluate the geophysical survey results;
- to determine the character, extent, date, complexity, integrity, state of preservation and quality of any archaeological remains present, therefore ensuring their preservation by record;
- to provide robust baseline information to inform scoping of a mitigation strategy, should this be required.

The objectives of the project were to ensure:

- the protection and recording of archaeological assets discovered during the archaeological works;
- that any below-ground archaeological deposits exposed are promptly identified;
- the recording of archaeological remains, to place this record in its local context and to make this record available.

3 Methods

3.1 Personnel

The fieldwork project was led by Richard Bradley (BA (hons.), MA; ACIfA); who has been practicing archaeology since 2005, assisted by Elspeth Iliff (BA (hons.); MSc; PCIfA) and Emma Chubb (BA (hons.); MA). The report was prepared by Elspeth Iliff (BA (hons.) MSc; PCIfA), with assistance from Richard Bradley. The project manager responsible for the quality of the project was Robin Jackson (BA (hons.); ACIfA). Illustrations were prepared by Carolyn Hunt (BSc (hons.); PG Cert; MCIfA). Elizabeth Pearson (MSc; ACIfA) contributed the environmental report. Jane Evans (BA, MA, MCIfA), with comments from Robert Hedge (MA Cantab, PCIfA), completed the finds report.

3.2 Documentary research

An archaeological desk-based assessment (DBA) was undertaken by Orion Heritage on behalf of their client (Orion Heritage 2015). This document provides detailed research and background information on the project and, therefore, only a brief summary of this is presented below (Section 4.1).

The DBA consulted the Oxfordshire Historic Environment Record, analysing a search area of 1km radius from the boundary line of the site. This provided access to records of archaeological sites, monuments and findspots within the search area, as well as readily available archaeological and historical information from related documentary and cartographic sources. Ordnance Survey early and modern mapping and aerial photographs were also examined.

3.3 Fieldwork strategy

A detailed specification was prepared by Worcestershire Archaeology (WA 2017).

Fieldwork was undertaken between 13th and 21st of December 2017. The Worcestershire Archaeology internal project reference number is P5221.

Nineteen trenches and two test pits, amounting to just under 1,050m² in area, were excavated over the 5.93ha site, representing a sample of just under 2%. The location of the trenches is indicated in Figure 2. Trenches 3, 4, 7, 8, 10, 14, 17, 18, 19, 20 and 21 and Test Pits 22 and 23 were located to investigate both positive and negative linear and discrete anomalies identified by the geophysical survey (Archaeological Surveys 2015). The remaining ten trenches were placed to provide a sample across the rest of the development area and to ensure the testing of areas indicated as 'blank' on the geophysical survey.

During the course of the evaluation, a live but unmapped water pipe was encountered in Trench 10 in the central part of the site. The broad alignment of this pipe was ascertained and as a result, Trench 3 and Trench 4 were not excavated as these were suspected to intersect with the projected route. Test Pit 22 and Test Pit 23 were added to the methodology as a substitution for these two trenches.

Deposits considered not to be significant were removed under constant archaeological supervision using a 360° 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). On completion of excavation, trenches were reinstated by replacing the excavated material.

3.4 Structural analysis

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

3.5 Artefact methodology, by C Jane Evans

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

3.5.1 Artefact recovery policy

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

3.5.2 Method of analysis

All hand-retrieved finds were examined. They were identified, quantified and dated to period. A *terminus post quem* date was produced for each stratified context. The date was used for determining the broad date of phases defined for the site. All information was recorded on Microsoft 2007 Access database. Artefacts from environmental samples are included.

No detailed fabric analysis was undertaken but for the purposes of dating, sample sherds were examined under x20 magnification and referenced to the Oxfordshire County type-series (Mellor 1994).

3.6 Environmental archaeology methodology, by Elizabeth Pearson

The environmental project conforms to relevant sections of the *Standard and guidance: Archaeological field evaluation* (ClfA 2014), *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage 2011), and *Environmental archaeology and archaeological evaluations* (AEA 1995).

The aims of the assessment were to determine the state of preservation, type, and quantity of environmental remains recovered, from the samples and information provided. This information will be used to assess the importance of the environmental remains.

3.6.1 Sampling policy

Samples were taken according to standard Worcestershire Archaeology practice (2012). A total of three samples (each of up to 40 litres) were taken from the site.

3.6.2 Processing and analysis

The samples were processed by flotation using a Siraf tank. The flots were collected on a 300mm sieve and the residue retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

The residues were scanned by eye and the abundance of each category of environmental remains estimated. A magnet was also used to test for the presence of hammer scale. The flots were scanned using a low power MEIJI stereo light microscope and plant remains identified using modern reference collections maintained by Worcestershire Archaeology, and a seed identification manual (Cappers et al 2012). Nomenclature for the plant remains follows the *New Flora of the British Isles*, 3rd edition (Stace 2010).

Charcoal was examined under a low power MEIJI stereo light microscope in order to determine the presence of oak and non-oak charcoal.

A single sample of alder/hornbeam/hazel (*Alnus/Carpinus/Corylus* sp) charcoal from the fill of a possible burnt mound was submitted to Beta Analytic Inc, Florida for radiocarbon dating.

3.6.3 Discard policy

Remaining sample material and scanned residues will be discarded after a period of 3 months following submission of this report unless there is a specific request to retain them.

3.7 Statement of confidence in the methods and results

The methods adopted allow a high degree of confidence that the aims of the project have been achieved.

4 The application site

4.1 Topography, geology and archaeological context

The site is located on the eastern side of Long Hanborough, on a south-east facing slope dropping from c. 85m AOD in the north-west end down to c. 80m AOD at the southern edge. The underlying geology is mapped as Cornbrash formation at the south-eastern end of the site, with Kellaways Clay Member across the rest of the site (BGS 2018).

As noted above, an archaeological desk-based assessment (DBA) was undertaken by Orion Heritage (Orion Heritage 2015). The archaeological and historical background for the site presented in that document is summarised below:

No designated heritage assets were recorded on the site or in the immediate vicinity. The nearest Scheduled Monument is a Bronze Age barrow (MOX36, no. 1006358) located c. 900m to the north west of the site. The Old Farmhouse (MXO22724), a Grade II listed building, is the only listed building nearby, situated c. 120m to the west. The site is close to the Blenheim Palace World Heritage Site, which is around 300m to the north.

The DBA considered there to be a low potential for prehistoric remains, based on only a small amount of prehistoric archaeology being recorded within the site vicinity, including sherds of prehistoric pottery (MOX2983), two bronze age flint scatters (MOX3005 and MOX3011), and the Bronze Age barrow mentioned above. While there was no evidence to specifically suggest the presence of Roman remains at the site, due to the presence of a Roman Villa (MOX12683) and a possible Roman settlement (MOX2954 and MOX2982) roughly 1km away, it was considered possible that the site may have potential for Roman remains connected with this local occupation. There have been no Saxon, medieval or post-medieval remains recorded in the area around the site, although a number of post-medieval remains have been found. These were, however, not considered to have any direct bearing on the site.

The site is largely unchanged from how it is depicted on the first edition OS map, and it is considered that the potential for domestic occupation is low. However, the desk-based assessment did suggest that agricultural remains could be present.

4.2 Current land-use

The development site covers one large field (Field 1) and part of a smaller field to the north-west (Field 2). This part of the site (Field 2) is currently a grass field, in use for pasture, with extant ridge and furrow visible. The eastern part of the site (Field 1) is in arable rotation and had partial crop cover at the time fieldwork was undertaken.

5 Results

5.1 Structural analysis

The trenches and features recorded are shown in Figures 2 to 5. The results of the structural analysis are presented in Appendix 1.

5.1.1 Phase 1: Natural deposits

Natural deposits were encountered in all trenches and test pits excavated, at between 0.24m and 0.55m below the ground surface. The geology of the site was predominantly a gravel and limestone brash in an orangey yellow to orangey brown silty clay matrix (Plates 2 and 3). Grey blue and yellowy orange clays were observed in Trenches 1, 7, 8, 9, 11 and 12 at the north-western end of the site, with patches of limestone brash seen in a number of these trenches (Plate 4). This reflects the changes in geology shown on the BGS mapping (BGS 2018). A variable natural

deposit of light brown sandy gravel with clay and brash patches was recorded in Trench 18, and a stark change in the natural in Trench 14 was observed, changing from the limestone brash in a yellowish brown silty clay matrix to greyish yellow clay silt containing occasional sub-rounded and sub-angular pebbles.

An irregular feature in Trench 12 was interpreted as a natural feature based on its form [1204]. The full extent was not visible as it continued beyond the northern edge of the trench, but it was possible that it may be a tree throw. There were no finds, but some charcoal flecking was noted.

Trench 21 also contained two possible natural features that correlated with anomalies on the geophysical survey, [2104] and [2106]. Both were shallow, irregular, and lacking in cultural indicators. The fill of [2104] was very similar to the surrounding natural and the base of the feature was irregular and stony, suggesting a natural origin.

5.1.2 Phase 2: Prehistoric deposits

A prehistoric feature was identified at the north-western end of Trench 18 [1810] (Plate 5). Whilst the full extent was not clear as the feature continued beyond both the north-east and south-west sides of the trench, it appeared to be a shallow, irregular depression, 2.2m wide and 0.29m in depth, containing heat cracked stones and charcoal. The nature of the feature and its location in low lying wet ground suggest that it may be part of a burnt mound. Whilst no artefactual dating evidence was found, a small chip of possible worked flint and occasional charcoal fragments were recovered. The flint could not be closely dated, but suggested a prehistoric age for the feature. This was confirmed by scientific dating of charcoal from the fill as 1880-1650 cal BC (Appendix 3).

5.1.3 Phase 3: Medieval to late medieval deposits

A linear feature was excavated at the north-west end of Trench 1, measuring 1.86m in width and 0.4m in depth [105] (Plate 6). This feature was interpreted as a possible field boundary ditch, but due to its similar alignment with extant ridge and furrow visible in the field, it was considered possible that it may have been a deep furrow. The two clay fills both contained pottery, with sherds from each fill dating to the mid-11th to 13th century, and one sherd from the upper fill (103) dating to the late medieval period, 13th to 16th century. This may suggest that the feature is of late medieval date, containing residual medieval pottery, or that it may have been in use for a considerable period of time.

At the northern end of Trench 2 was a linear feature [204] interpreted as a furrow on account of its form, and how it lined up with extant ridge and furrow in the field (Plate 7). It measured 0.26m in depth, and contained a clay fill with pottery of mid-11th to 13th century date. A second linear feature [206] on a similar alignment to [204] was also recorded in Trench 5, and was also considered to be a furrow. It is highly likely that these are contemporary.

A small gully feature crossed Trench 5 towards its southern end [504] (Plate 8). This gully was aligned north-west to south-east and filled with a homogenous silty clay fill containing three sherds of medieval pottery, dated to the mid-11th to 13th century. This feature was particularly shallow, measuring just 0.08m in depth, and 0.42m wide. It probably related to agriculture, and perhaps has been used for drainage, as the surrounding area was particularly wet.

A discrete feature [1006], identified as a probable fire pit, was encountered at the northern end of Trench 10 (Plate 9). This feature was fairly shallow at 0.25m depth, and measured 1.43m wide, with the full length not visible as it continued beyond the eastern edge of the trench. The feature contained a very dark, charcoal rich fill that a number of sherds of pottery were recovered from, all dated to the medieval period, and more closely to the mid-11th to 13th century, as discussed below. Environmental remains from this feature included well preserved charcoal, adding weight to the interpretation as a fire pit.

5.1.4 Phase 4: Modern deposits

The site was covered by a mid brownish grey clay silt topsoil, which was under grass in Field 2 and formed a ploughsoil in Field 1. A live but unmapped water pipe was found in Trench 10, and a

number of land-drains were also found to cross the site. A rounded modern feature was recorded in Trench 8 filled with blueish silty clay with yellow mottling [804]. An area of modern intrusion was recorded at the south-east end of Trench 18 [1808]. It was filled by brash in a clay matrix, and interpreted as modern backfill as it was observed to be clearly cutting the subsoil. It is possible that this reflects a curving but irregular geophysical anomaly noted in this area.

5.1.5 Phase 5: Undated deposits

Trench 5 contained three undated discrete features, [1504] [1506] and [1509], close to one another and roughly in the middle of the trench (Plates 10 and 11). Feature [1504] was interpreted as a possible pit, while features [1506] and [1509] were both more tenuously suggested to be either pits or postholes. All three were shallow, the deepest being only 0.2m deep [1509]. Their depth, coupled with a lack of finds and a slightly more irregular form to [1504] and [1506], made it difficult to determine their original function. These three features were positioned in close proximity to one another, but no relationships were visible and the features were all of slightly different forms, so may not have been related.

5.2 Artefact analysis, by C Jane Evans

The artefactual assemblage recovered is summarised in Tables 1 to 3.

Fieldwork produced a small assemblage dating from the medieval to post-medieval period; mainly pottery (94 sherds, 267g) with occasional fragments of glass, animal bone and charcoal (Table 1). The animal bone is quantified below but not discussed in this report. Finds were only recovered from ten of the trenches evaluated, and from thirteen contexts (Table 2). The largest quantity came from pit [1006] in Trench 10. All the pottery was very abraded, with inclusions sometimes leached out, and fragmentary; the average sherd weight was generally well below average (ie below c 10g).

period	material class/sub type	object specific type	count	weight(g)	average weight(g)
prehistoric	stone	flint flake	2	0.9	0.45
medieval	ceramic	pot	88	179	2
late med/early post-med	ceramic	pot	4	58	15
late med/post-medieval	ceramic	pot	1	4	4
post-medieval	ceramic	pot	1	26	26
post-med/modern	glass	fragment	3	5	2
undated	animal bone	fragment	2	10	5
undated	charcoal	fragment	2	2.5	1

Table 1: Quantification of the assemblage by period and material class/sub-type

Trench	Feature type	Fill of	period	object specific type	count	weight(g)	average weight(g)
1	Ditch	105	late med/early post-med	pot	1	17	17
			medieval	pot	2	13	7
2	Furrow	204	medieval	pot	2	6	3
	Subsoil		late med/early post-med	pot	2	16	8
			medieval	pot	1	17	17
5	Gully	504	medieval	pot	3	17	6
	Topsoil		post-medieval	pot	1	26	26
8	Subsoil		prehistoric	flint	1	0.8	1
9	Topsoil		late med/post-med	pot	1	4	4
			undated	Charcoal	1	2	2
10	Pit	1006	medieval	pot	66	86	1
			undated	Charcoal	1	0.5	1
12	Topsoil		late med/early post-med	pot	1	25	25
18	Burnt mound	1810	prehistoric	flint chip	1	0.1	0
22	Subsoil		medieval	pot	14	40	3
			undated	Animal bone	2	10	5
23	Topsoil		post-med/modern	Glass	3	5	2

Table 2: Quantification of the assemblage by Trench and feature type

period	fabric class	count	weight(g)
medieval	OXAC/OXBB?	88	179
late med/early post-med	OXAM?	4	58
late med/post-medieval	unidentified	1	4
post-medieval	post-medieval red ware (OXAM?)	1	26

Table 3: Quantification of the pottery by fabric class

5.2.1 Summary artefactual evidence by period

Prehistoric

Two possible worked flints were recovered: a flake from the subsoil in Trench 8 (801), with post depositional damage, and a tiny chip from the burnt mound in Trench 18 (fill 1809). Neither could be closely dated or even confidently identified as worked (Rob Hedge, pers comm).

context	object specific type	count	weight(g)	period	start date	end date	tpq date range
103	pot	1	17	late med/early post-med	13th	16th	13th-16th
103	pot	1	9	medieval	mid 11th	13th	
104	pot	1	4	medieval	mid 11th	13th	mid 11th-13th
201	pot	2	16	late med/early post-med	13th	16th	13th-16th
201	pot	1	17	medieval	mid 11th	13th	
203	pot	2	6	medieval	mid 11th	13th	mid 11th-13th
500	pot	1	26	post-medieval			post-medieval
503	pot	3	17	medieval	mid 11th	13th	mid 11th-13th
801	flint flake	1	0.8	prehistoric			prehistoric
900	pot	1	4	late med/post-medieval	14th	16th	14th-16th
900	charcoal	1	2	undated			
1003	pot	66	86	medieval	mid 11th	13th	mid 11th-13th
1003	charcoal	1	0.5	undated			
1200	pot	1	25	late med/early post-med	15th	16th	15th-16th
1809	flint chip	1	0.1	prehistoric			prehistoric
2201	animal bone	2	10	undated			mid 11th-13th
2201	pot	14	40	medieval	mid 11th	13th	
2300	glass	3	5	post-med/modern			post-medieval/modern

Table 4: Summary of context dating based on artefacts

Medieval and post-medieval

The majority of the pottery was in an oolitic limestone-tempered ware, probably Cotswold oolitic limestone tempered ware (OXAC) but possibly including Minety ware from north Wiltshire (OXBB). This suggests a date between the mid-11th, or more probably 12th to 13th century. Forms included a jar with a simple out-curving rim from pit [1006], Trench 10. This had been burnt and shattered and the fabric was heavily leached, making precise identification difficult. Fragmentary rims from dishes were recovered from a gully in Trench 5 (fill 503) and the Trench 22 subsoil (2201).

Sherds of probable Brill/Boarstall ware (OXAM), with specks of green glaze externally, came from a ditch in Trench 1 (fill 103) and the subsoil in Trench 2 (201). These date between the 13th and 16th centuries. Other sherds included the rim of a bowl, with green glaze internally, from Trench 12, and a body sherd from another bowl with a brown internal glaze, from the topsoil in Trench 5. These are dated late-medieval to post-medieval.

The only other finds were sherds of post-medieval to modern glass from the Trench 23 topsoil.

5.2.2 Significance

Small quantities of finds were scattered across the site, none suggesting significant activity on the site.

5.2.3 Recommendations

No further analysis is recommended.

5.2.4 Discard and retention

Finds could be considered for discard, in consultation with the local museum.

5.3 Environmental analysis, by Elizabeth Pearson

The environmental evidence recovered is summarised in Tables 5 to 7.

Context	Sample	Feature type	Fill of	period	Sample volume (L)	Volume processed (L)	Residue assessed	Flot assessed
1003	3	Pit	1006	medieval	40	40	Yes	Yes
1507	1	Pit	1509	undated	10	10	Yes	yes
1809	2	Burnt mound	1810	prehistoric	20	20	Yes	Yes

Table 5: List of bulk samples

context	sample	mollusc	charcoal	charred plant	uncharred plant	artefacts	comments
1003	3		abt	occ	abt*	occ pot, chert	
1507	1		occ		occ*	occ chert	
1809	2	occ	occ		mod*	occ flint, abt heat -cracked stones	* = modern and intrusive, possible

Table 6: Summary of environmental remains; occ = occasional; mod = moderate, abt = abundant, * = modern and intrusive

context	sample	preservation type	species detail	category remains	quantity/diversity	comment
1003	3	ch	cf <i>Maloideae</i> sp, <i>Quercus</i> sp, unidentified wood fragments	misc	++/+++/low	
1003	3	ch	<i>Poaceae</i> sp indet grain	grain	+/low	
1003	3	ch	unidentified seed	seed	+/low	
1003	3	?wa	Cereal sp indet culm node	misc	+++/low	Modern debris
1507	1	ch	<i>Alnus/Carpinus/Corylus</i> sp wood, unidentified wood fragments	misc	+/low	
1507	1	?wa	Cereal sp indet culm node	misc	+/low	Modern and intrusive
1809	2	ch	unidentified wood fragments	misc	+/low	tiny fragments
1809	2	?wa	<i>Chenopodium album</i> , <i>Aethusa cynapium</i>	seed	+/low	Modern and intrusive
1809	2	?wa	<i>Triticum</i> sp hexaploid rachis	misc	++/low	Modern and intrusive

Table 7: Plant remains from bulk samples

Key:

preservation	quantity
ch = charred	+ = 1 - 10
min = mineralised	++ = 11- 50
wa = waterlogged	+++ = 51 - 100
?wa = waterlogged or uncharred	++++ = 101+
	* = modern and intrusive

5.3.1 Summary of environmental remains by phase

Uncharred remains, consisting of mainly root fragments are assumed to be modern and intrusive as they are unlikely to have survived in the soils on site for long without charring or waterlogging.

Only two fragments of animal bone were hand-collected from subsoil deposits, likely medieval or later, demonstrating low potential to recover animal bone.

Prehistoric

Only occasional fragments of alder/hornbeam/hazel (*Alnus/Carpinus/Corylus* sp) and small, unidentifiable charcoal fragments were recovered from a burnt mound layer (1809).

Medieval

Well-preserved charcoal was moderately abundant in the fill (1003) of a possible fire pit [1006]. Oak (*Quercus robur/petraea*) and possible pear/apple/whitebeam/hawthorn (cf *Maloideae*) were

identified, along with a small charred grass grain (*Poaceae sp indet*). Both oak and *Maloideae* woods are commonly identified in charred assemblages.

Little other interpretation could be made other than that the assemblage adds weight to the interpretation of the feature as a fire pit.

Undated

Only a small quantity of charcoal, which included alder/hornbeam/hazel (*Alnus/Carpinus/Corylus* sp) wood, was noted in the fill (1507) of pit [1509]. No other remains were identified which would indicate an approximate date for the pit.

5.3.2 Radiocarbon dating

A single sample of alder/hornbeam/hazel (*Alnus/Carpinus/Corylus* sp) charcoal was submitted to Beta Analytic Inc, Florida for radiocarbon dating from the fill of a burnt mound (1809) [1810]. The results of the radiocarbon dating indicated an early to middle Bronze Age date, which is consistent with many other burnt mounds dated by radiocarbon dating both in this area and further afield. Detailed results are available in Appendix 3.

The results are conventional radiocarbon ages (Stuiver and Polach 1977) and are listed in Table 8. The calibrated date ranges for the samples have been calculated using the maximum intercept method (Stuiver and Reimer 1986), and are quoted with end points rounded outwards to ten years. The probability distributions of the calibrated dates, calculated using the probability method (Stuiver and Reimer 1993) in Appendix 3. They have been calculated using OxCal v4.2 (Bronk Ramsey 2009) and the current internationally-agreed atmospheric calibration dataset for the northern hemisphere, IntCal13 (Reimer *et al* 2013).

Laboratory code	Context number	Material	$\delta^{13}\text{C}$ (‰)	Conventional Age	OxCal calibrated age (95.4% probability or 2 sigma)
Beta-484595	1809	Charcoal <i>Alnus/Carpinus/Corylus</i> sp	-25.2 ‰	3430 +/- 30 BP	1880 – 1650 cal BC

Table 8: Radiocarbon dating results

5.3.3 Significance

Assessment of environmental remains has shown preservation of a limited range of environmental remains, but that there is the potential for survival of charcoal which could be used to radiocarbon date features not dated by artefactual remains.

6 Synthesis

The evaluation has established the presence of a small number of archaeological features across a wide area. The majority of the features present were in the north-western half of the site (Trenches 1, 2, 5 and 10). These features indicate medieval to post-medieval agricultural use of the north-western half of the field that does not appear to extend (or perhaps has not survived) further south-east. A number of undated deposits were clustered further to the south-east close to the adjacent railway line (Trench 15), and a further prehistoric area of activity was identified in the far south-eastern corner of the site (Trench 18).

The features are, in general, not associated with anomalies on the geophysical survey, and a number of the anomalies targeted by the trenches were either not identified or were shown to represent natural variations. The general lack of finds and the dispersed nature of the features in

the south-east half of the site would support the absence of significant archaeological remains in those areas.

The medieval phase of this site consists of furrows in Trench 2, a possible field boundary ditch in Trench 1, a possible drainage gully in Trench 5, and a pit in Trench 10. These features together suggest an agricultural use for at least part of the site. Some cultural material of medieval to late-medieval date was also recovered from subsoil and topsoil deposits in this area, in Trenches 2, 9 and 12. The possible fire pit in Trench 10 contained medieval pottery, but was isolated and is likely to have been related to the agricultural use. Its positioning slightly further south-east from the rest of the medieval features may indicate that it is situated on the periphery of a specific agricultural area.

The cluster of three small, undated pits/postholes in Trench 15 may be an extension of the agricultural activity, but it is uncertain if they relate to a similar period of activity due to the lack of dating activity. As these features were rather ill-defined and shallow, and do not appear to form a structure, it is difficult to infer either function or date.

Archaeological activity in the south-east corner of the site consisted of a prehistoric phase. Trench 18 contained a shallow depression containing charcoal and heat cracked stones. There were no finds but the feature was scientifically dated to 1880-1650 cal BC, the early to middle Bronze Age. This nature of the fill and the inclusions within it are considered characteristic of a burnt mound. While there is no obvious water source in the vicinity, as often noted with burnt mounds, this feature was in a particularly wet part of the site, and it is possible that a former watercourse (ie a palaeochannel or pond) may be nearby. A possible worked flint was recovered from the fill, and another was found in the subsoil of Trench 8, located in another somewhat waterlogged part of the site. This could indicate further ephemeral or episodic prehistoric activity across the southern edge of the site. The lack of other prehistoric features suggests that the site was not used for earlier occupation, although it is possible that a settlement site may have been positioned on higher and drier ground somewhere in the surrounding area.

7 Significance

7.1 Nature of the archaeological interest in the site

The site contained a fairly limited number of archaeological features and deposits, and appeared to represent small-scale prehistoric use and a phase of medieval to late-medieval agricultural activity. A small cluster of pits was found along the north-west edge of the site, but remain undated and poorly understood in relation to one another and to the rest of the activity.

The possible burnt mound feature in Trench 18 was of most interest, particularly as it has been scientifically dated to the early to middle Bronze Age. This feature indicates an area of prehistoric activity in the south-east part of the site and that associated features may be found in the immediate vicinity.

The majority of features across the site were characteristic of medieval to late-medieval agricultural use. Artefactual evidence from this period mostly came from furrow fills, as well as from topsoil and subsoil deposits across the site, and was heavily fragment and abraded, consistent with an agricultural origin.

While preservation of only a limited range of environmental remains was observed, there is potential for survival of charcoal which could be used to radiocarbon date features if necessary.

7.2 Relative importance of the archaeological interest in the site

The features observed during the evaluation appear to illustrate a site of variable importance, with some features of limited significance, whilst others demonstrated higher potential.

The evidence of medieval to late-medieval agricultural activity suggests a site of interest at a local level for improving understanding of agricultural use of the land in the immediate vicinity.

Archaeological significance can be attached to the possible burnt mound, which is likely to be of local significance as a feature in isolation, but could provide information to improve understanding of such archaeology in the surrounding region. Around 300 burnt mound sites have been recorded around the New Forest, with fewer recorded in other parts of the south, such as this area (Hey and Hind 2014, 134). A number of eroded or ploughed-out burnt mounds dating from the early to late Bronze Age were excavated at Yarnton, a large site roughly five kilometres to the south-east of Long Hanborough, and similar features are being found with increasing frequency across the south (see Hey *et al* 2016, 79-80). As this is still an area with a lower density of burnt mounds compared to areas in the midlands and further south in the New Forest, this example could be an important addition to the current distribution.

7.3 Physical extent of the archaeological interest in the site

The main archaeological interest is attached to the possible burnt mound feature in the far south-east corner of the site, specifically around Trench 18. Apart from this feature, much of the south-east half of the site was devoid of archaeological remains.

The medieval and late-medieval remains are mostly limited to the north-west half of the site between Trench 1 and Trench 10, with some artefactual evidence from topsoil and subsoil deposits in other trenches.

The three pit or posthole features in Trench 15 suggest small-scale activity along the north-east edge of the site, although as they remain undated it is unknown if they relate to any of the other features found on the site.

The survival of most features was reasonable and the topsoil and subsoil across the site were of moderate depth. The archaeological features are, however, likely to be vulnerable to any intrusive groundwork.

8 Publication summary

Worcestershire Archaeology has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, Worcestershire Archaeology intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

An archaeological evaluation was undertaken for Orion Heritage Ltd on behalf of their client Bloor Homes, at land adjacent to Hanborough Station, Long Hanborough, Oxfordshire (NGR SP 443180 214180).

Nineteen trenches and two test pits were excavated across the site. The trenches were partly positioned to test anomalies identified on a preceding geophysical survey and partly in a gridded array in order to test the quality of capture from the survey in blank areas. Test pits were hand excavated in an area of machine exclusion adjacent to the railway, and as a replacement for trenches in order to avoid an unmapped live water pipe. Archaeological remains of varying significance were identified across the site, although there were also twelve blank trenches. Correlation with geophysical anomalies was inconsistent and a small number of features not identified on the geophysical survey were found, including pits, furrows and a burnt mound, particularly in the north-west half of the site.

Two main phases of activity were identified: prehistoric and medieval to late-medieval. The prehistoric phase consisted of a small spread of burnt stone and charcoal, likely to represent part of a burnt mound. This feature has been scientifically dated to the early to middle Bronze Age and likely forms an isolated but significant element of a wider prehistoric landscape. The medieval to late-medieval phase could be characterised as a period of agricultural use of the land. A small number of other pits were identified along the north-east edge of the site, but remain undated and poorly understood in relation to each other and the sequence of activity.

9 Acknowledgements

Worcestershire Archaeology would like to thank the following for their kind assistance in the successful conclusion of this project:

Cathy Patrick (Orion Heritage Ltd), Anthony Tang and Chris Shaw (Bloor Homes), Hugh Coddington (Planning Archaeologist, Oxfordshire County Council), and Aquamain UK Ltd.

10 Bibliography

AAF 2011 *Archaeological archives: a guide to the best practice in the creation, compilation, transfer and curation*, Archaeological Archives Forum, <http://www.archaeologyuk.org/archives/>

Archaeological Surveys, 2015 *Land adjacent to Hanborough Station, Long Hanborough, Oxfordshire, Magnetometer Survey Report for Orion Heritage Ltd*, Archaeological Surveys Ltd, unpublished report dated September 2015

Association for Environmental Archaeology 1995 *Environmental archaeology and archaeological evaluations. Recommendations concerning the environmental component of archaeological evaluations in England*, Working Papers of the Association for Environmental Archaeology, **2**

BGS 2017 *Geology of Britain Viewer*, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>, British Geological Survey, accessed 22 January 2018

Bronk Ramsey, C, 2009 Bayesian analysis of radiocarbon dates, *Radiocarbon*, **51**, 337-60

Cappers, T R J, Bekker, R M, and Jans, J E A, 2012 *Digitale Zadenatlas van Nederland: Digital seed atlas of the Netherlands*, *Groningen Archaeological Studies*, **4**, Barkhuis Publishing and Groningen University Library: Groningen

ClfA 2014a *Standard and guidance: Archaeological field evaluation*, Chartered Institute for Archaeologists, <http://www.archaeologists.net/codes/ifa>

ClfA 2014b *Standard and guidance for the collection, documentation, conservation and research of archaeological materials*, Chartered Institute for Archaeologists, <http://www.archaeologists.net/codes/ifa>

DCLG 2012 *National Planning Policy Framework*, Department for Communities and Local Government

English Heritage 2011 *Environmental archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation*, Centre for Archaeology Guidelines

Hey, G, Bell, C, Dennis, C, and Robinson, M, 2016 *Yarnton: Neolithic and Bronze Age Settlement and Landscape, results of excavations 1990-1998* Thames Valley Landscapes Monographs **39**, Oxford Archaeology

Hey, G, and Hind, J, 2014 *Solent-Thames Research Framework for the Historic Environment Resource Assessments and Research Agendas*, Project Report, Oxford Wessex

Mellor, M, 1994 *Oxfordshire Pottery: a synthesis of middle and late Saxon, medieval and post-medieval pottery in the Oxford Region*, *Oxoniensia*, **59**, 17-217

Orion Heritage, 2015 *Land adjacent to Hanborough Station Heritage Desk-Based Assessment*, Orion Heritage Ltd, unpublished document dated September 2015

Orion Heritage, 2017 *Land adjacent to Hanborough Station, Long Hanborough Archaeological Written Scheme of Investigation*, Orion Heritage Ltd, unpublished document dated April 2017

PCRG/SGRP/MPRG, 2016 *A standard for pottery studies in archaeology*

Reimer, P J, Bard, E, Bayliss, A, Beck, J W, Blackwell, P, Bronk Ramsey, C, Buck, C E, Cheng, H, Edwards, R L, Friedrich, M, Grootes, P M, Guilderson, T P, Hafflidason, H, Hajdas, I, Hatté, C, Heaton, T J, Hoffmann, D L, Hogg, A G, Hughen, K A, Kaiser, K F, Kromer, B, Manning, S W, Niu,

M, Reimer, R W, Richards, D A, Scott, E M, Southon, J R, Staff, R A, Turney, C S M, and van der Plicht, J, 2013 IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP, *Radiocarbon*, **55**, 1869–87

SMA 1993 *Selection, retention and dispersal of archaeological collections*, Society for Museum Archaeology, <http://www.socmusarch.org.uk/publica.htm>

Stace, C, 2010 *New flora of the British Isles*, Cambridge University Press, (3rd edition)

Stuiver, M, and Polach, H A, 1977 Reporting of 14C data, *Radiocarbon*, **19**, 355–63

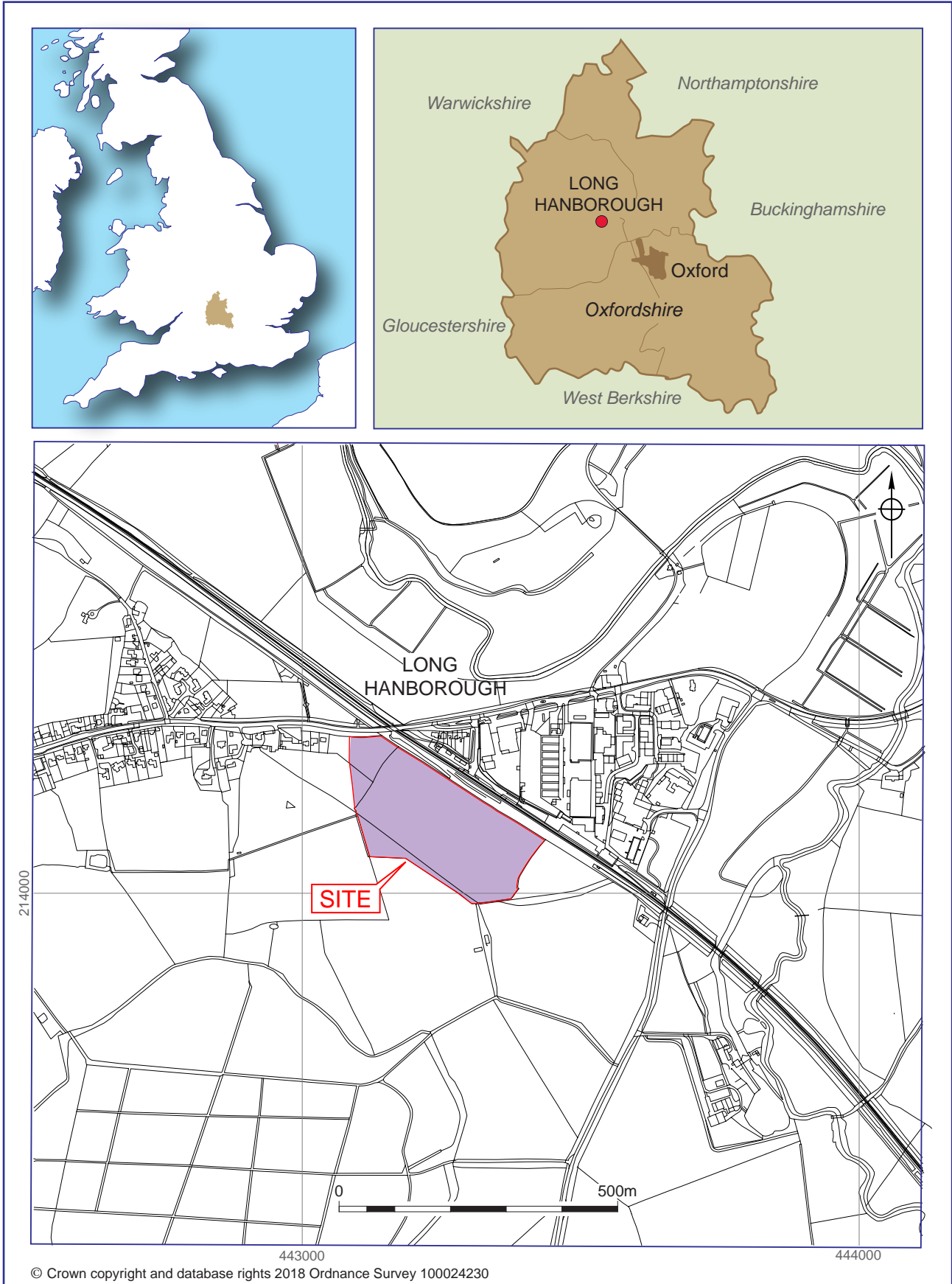
Stuiver, M, and Reimer, P J, 1986 A computer program for radiocarbon age calculation, *Radiocarbon*, **28**, 1022–30

Stuiver, M, and Reimer, P J, 1993 Extended 14C data base and revised CALIB 3.0 14C age calibration program, *Radiocarbon*, **35**, 215–30

WA 2012 *Manual of service practice, recording manual*, Worcestershire Archaeology, Worcestershire County Council, report **1842**

WA 2017 *Method Statement for an archaeological evaluation at Land adjacent to Hanborough Station, Long Hanborough, Oxfordshire*, Worcestershire Archaeology, Worcestershire County Council, unpublished document dated 21 November 2017, **P5221**

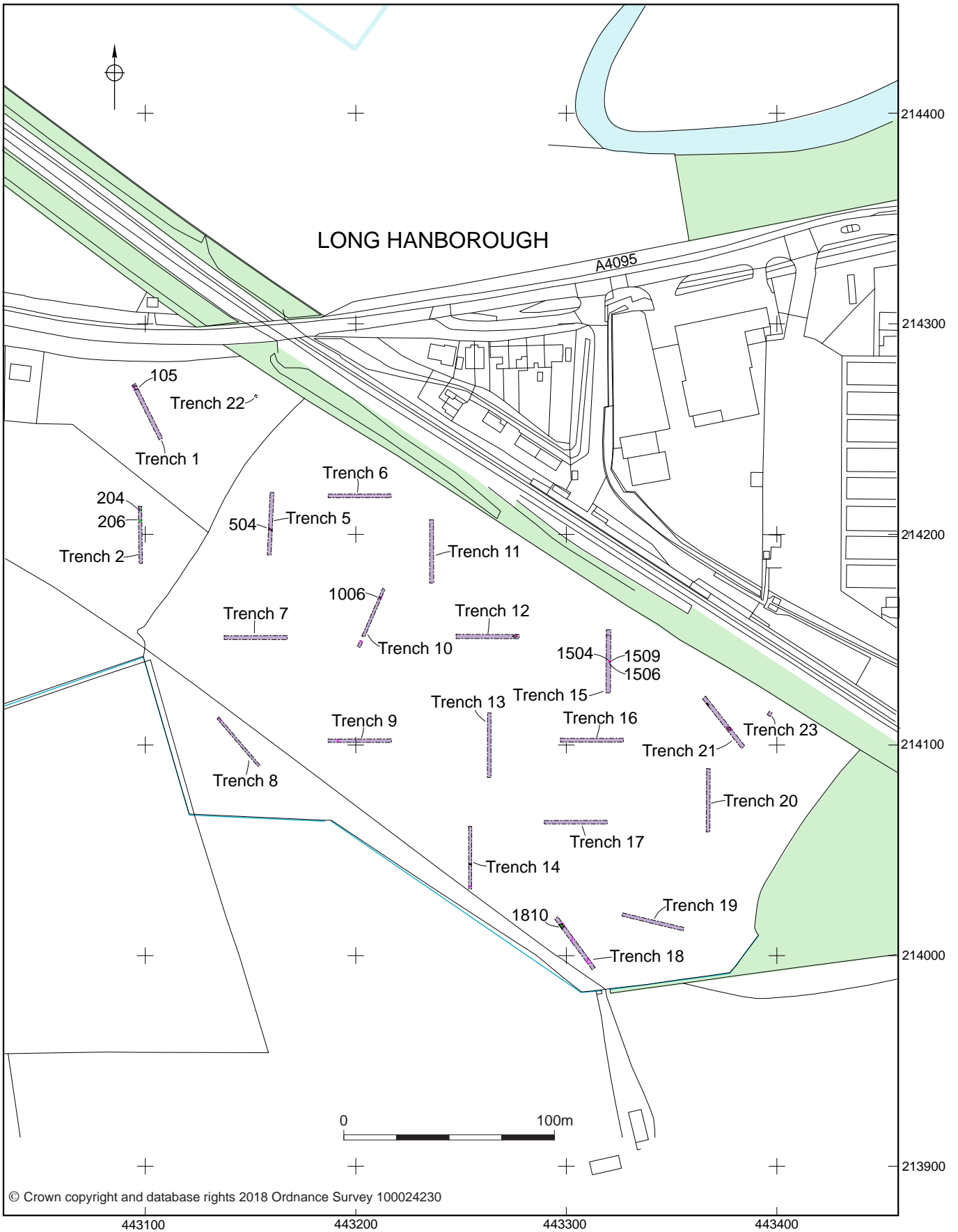
Figures



© Crown copyright and database rights 2018 Ordnance Survey 100024230

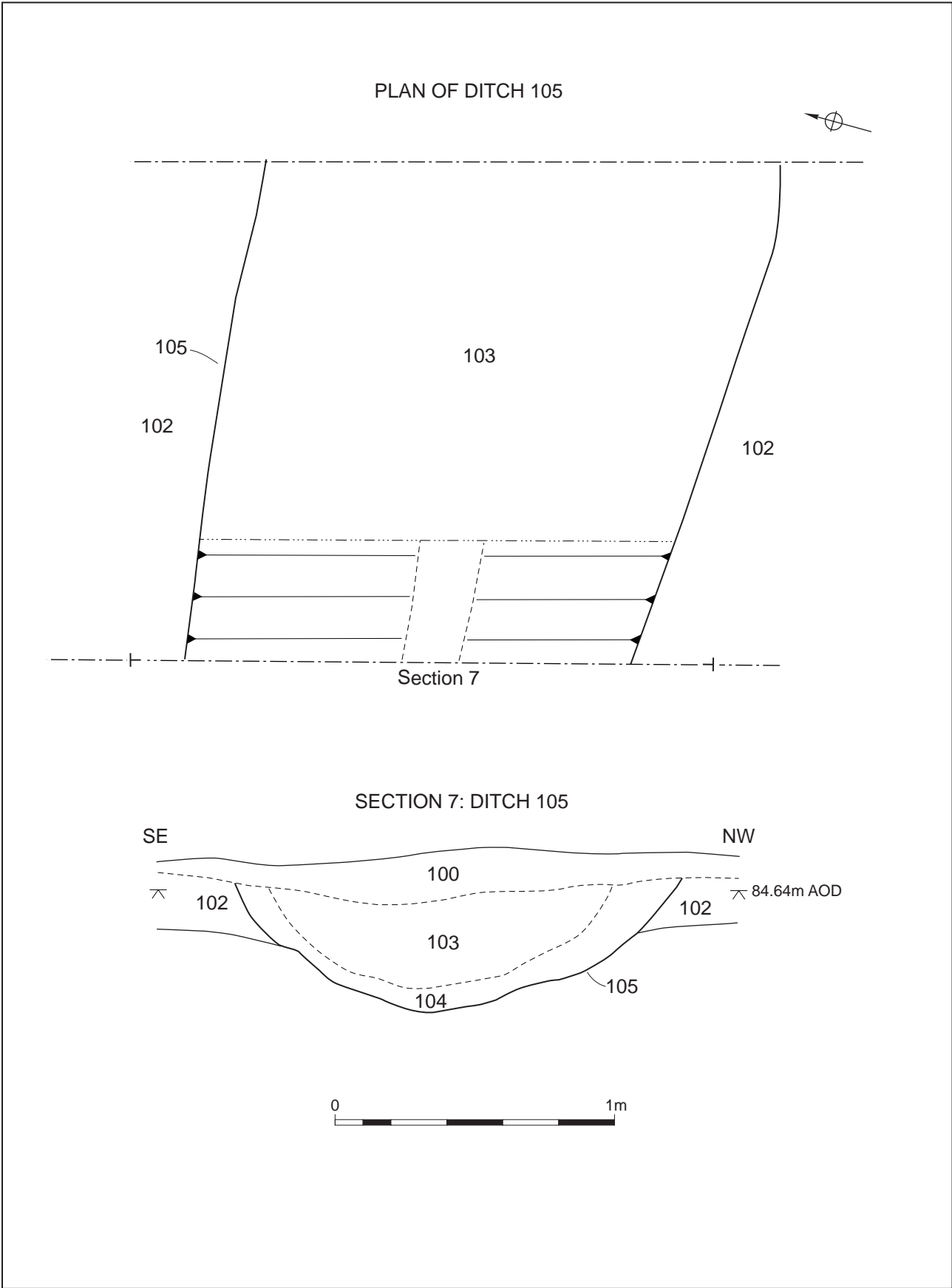
Location of the site

Figure 1



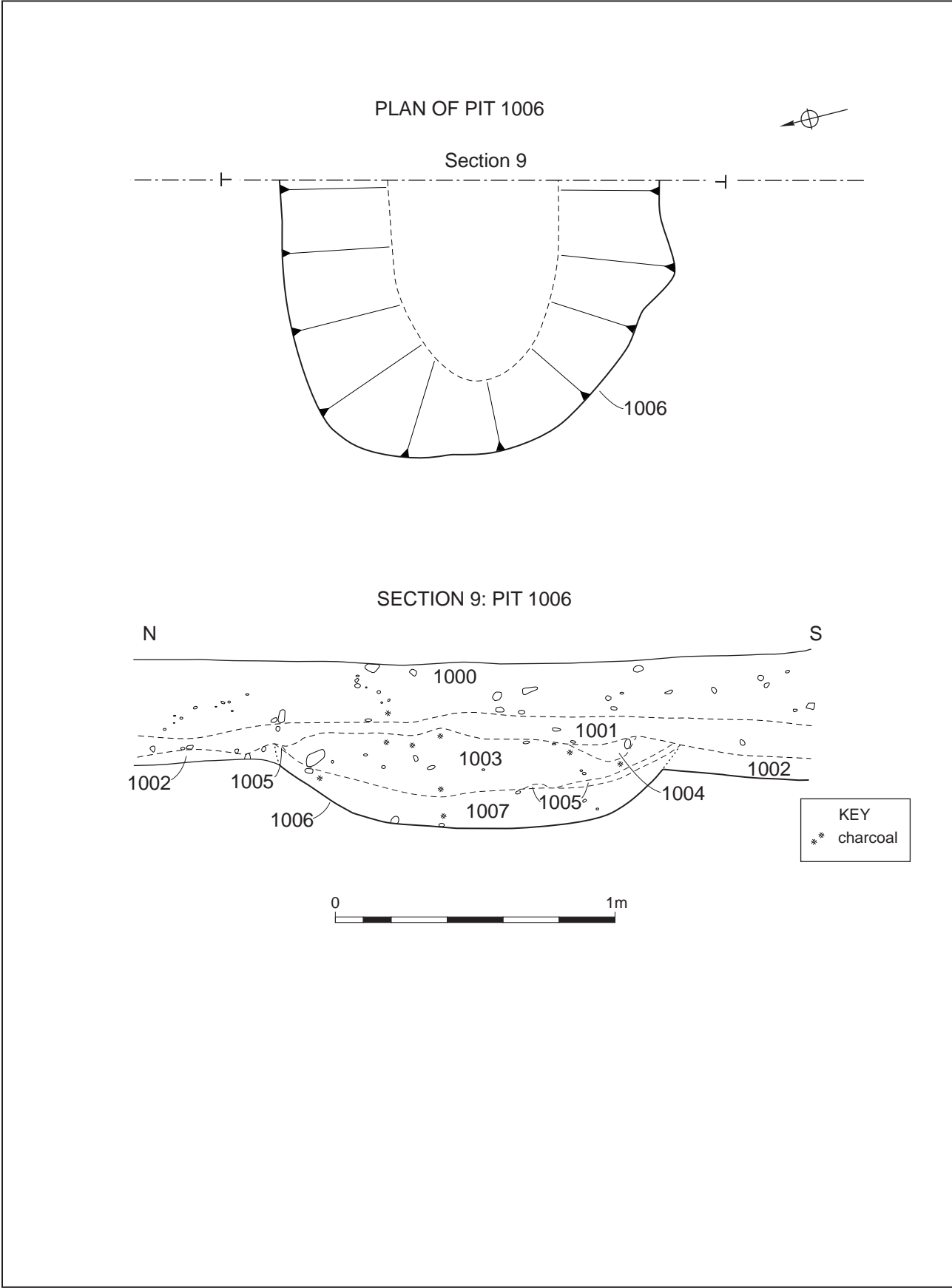
Trench location plan

Figure 2



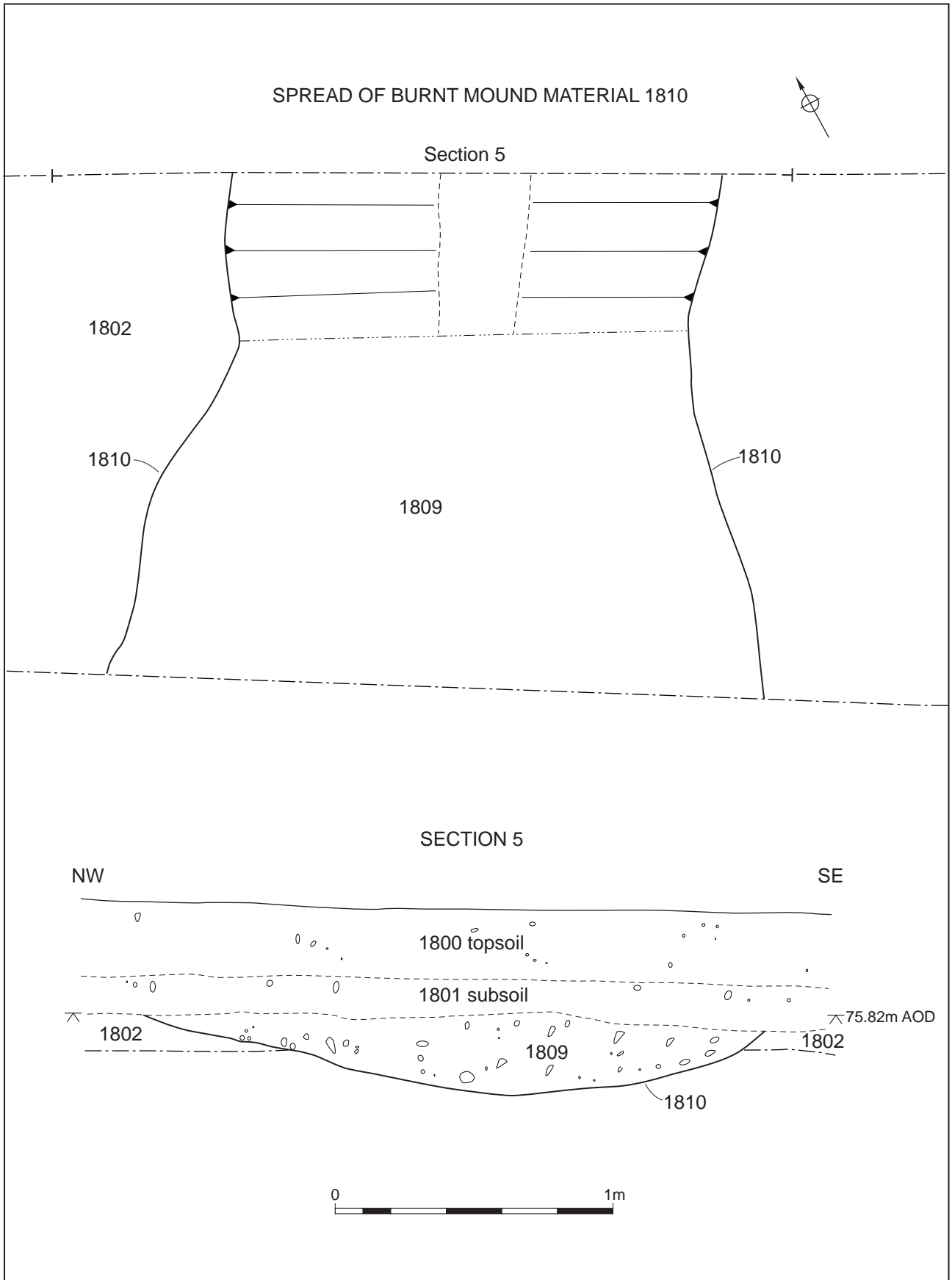
Ditch 105: plan and section

Figure 3



Pit 1006: plan and section

Figure 4



Spread of burnt mound material 1810: plan and section

Figure 5

Plates



Plate 1: Trenches open in Field 1, looking south-east across the site



Plate 2: Trench 17, facing east (scales 1m)



Plate 3: Test pit 22 facing east (scales 1m)



Plate 4: Trench 2 facing south (scales 1m)



Plate 5: Possible burnt mound deposit 1809, below topsoil and subsoil, Trench 18, facing north-east (scale 1m)



Plate 6: Ditch 105, Trench 1, facing south-west (scales 1m and 0.5m)



Plate 7: Furrow 204, Trench 2, facing west (scale 1m)



Plate 8: Gully 504, Trench 5, facing east (scale 0.3m)



Plate 9: Pit 1006, section of Trench 10, facing east (scale 1m)



Plate 10: Pit 1504, Trench 15, facing north-west (scale 0.3m)



Plate 11: Pits/postholes 1506 and 1509, Trench 15 facing south-east (scale 1m)

Appendix 1 Trench descriptions

Trench 1

Site area: Field 2

Maximum dimensions: Length: 27m Width: 1.85m Depth: 0.29m

Orientation: NW-SE

Context	Context type	Feature type	Description	Interpretation	Depth
100	Layer	Topsoil	Friable dark brownish grey clay silt	Topsoil	0.18m
101	Layer	Subsoil	Soft light grey clay	Subsoil	0.06m
102	Layer	Natural	Firm light blueish grey clay	Natural	0.05m+
103	Fill	Ditch	Moderately compact mid blueish grey silty clay	Upper fill of ditch [105]. Contained charcoal and pot.	0.31m
104	Fill	Ditch	Compact light yellowish grey silty clay	Basal fill of ditch [105]. Containing charcoal and 1 pot sherd.	0.25m
105	Cut	Ditch		Cut of ditch. E-W aligned.	0.4m

Trench 2

Site area: Field 2

Maximum dimensions: Length: 27.1m Width: 1.9m Depth: 0.49m

Orientation: N-S

Context	Context type	Feature type	Description	Interpretation	Depth
200	Layer	Topsoil	Friable mid brownish grey clay silt	Topsoil	0.26m
201	Layer	Subsoil	Firm mid yellowish brown silty clay	Subsoil	0.23m
202	Layer	Natural	Mid orangey brown silty clay	Natural	0.05m+
203	Fill	Furrow	Firm mid greyish brown clay	Fill of furrow [204]. Contains charcoal and pot.	0.26m
204	Cut	Furrow		Cut of furrow. Matches extant ridge and furrow in field.	0.26m
205	Fill	Furrow	Firm mid greyish brown clay	Fill of furrow [206]. Unexcavated.	unexc
206	Cut	Furrow		Linear furrow cut.	unexc

Trench 3

Unexcavated

Trench 4

Unexcavated

Trench 5

Site area: Field 1

Maximum dimensions: Length: 29.6m Width: 1.9m Depth: 0.36m

Orientation: N-S

Context	Context type	Feature type	Description	Interpretation	Depth
500	Layer	Topsoil	Moderately compact mid brownish grey silty clay	Topsoil	0.24m
501	Layer	Subsoil	Moderately compact light yellowish brown silty clay	Subsoil	0.09m
502	Layer	Natural	Orangey brown silty clay	Natural - limestone brash	0.03m
503	Fill	Gully	Friable mid brownish grey silty clay	Single homogenous fill in shallow gully [504].	0.08m
504	Cut	Gully		Cut for small, shallow gully.	0.08m

Trench 6

Site area: Field 1

Maximum dimensions: Length: 20.9m Width: 1.8m Depth: 0.42m

Orientation: E-W

Context	Context type	Feature type	Description	Interpretation	Depth
600	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.23m
601	Layer	Subsoil	Friable light pinky grey clay silt	Subsoil	0.06m
602	Layer	Natural	Compact light brownish grey silty clay	Natural	0.13m+

Trench 7

Site area: Field 1

Maximum dimensions: Length: 30m Width: 1.8m Depth: 0.36m

Orientation: E-W

Context	Context type	Feature type	Description	Interpretation	Depth
700	Layer	Topsoil	Moderately compact mid brownish grey silty clay	Topsoil	0.22m
701	Layer	Subsoil	Compact light greyish yellow silty clay	Subsoil	0.06m
702	Layer	Natural	Compact mid yellowish orange silty clay	Natural	0.06m+

Trench 8

Site area: Field 1

Maximum dimensions: Length: 30.2m Width: 1.8m Depth: 0.5m

Orientation: NW-SE

Context	Context type	Feature type	Description	Interpretation	Depth
800	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.21m
801	Layer	Subsoil	Friable mid yellowish grey silty clay	Subsoil	0.12m
802	Layer	Natural	Compact light greyish yellow silty clay	Natural	0.17m+
803	Fill	Modern Feature	Compact light blueish grey silty clay	Fill of modern feature [804].	unexc
804	Cut	Modern Feature		Cut of modern feature.	unexc

Trench 9

Site area: Field 1

Maximum dimensions: Length: 31.2m Width: 1.8m Depth: 0.58m

Orientation: E-W

Context	Context type	Feature type	Description	Interpretation	Depth
900	Layer	Topsoil	Moderately compact mid greyish brown silty clay	Topsoil	0.33m
901	Layer	Subsoil	Compact light orangey yellow silty clay	Subsoil	0.22m
902	Layer	Natural	Compact mid yellowish orange silty clay	Natural	0.03m+
903	Fill	Field drain		Stone fill of land drain [904].	unexc
904	Cut	Field drain		Cut of land drain.	unexc

Trench 10

Site area: Field 1

Maximum dimensions: Length: 30.4m Width: 1.8m Depth: 0.46m

Orientation: NE-SW

Context	Context type	Feature type	Description	Interpretation	Depth
1000	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.23m
1001	Layer	Subsoil	Friable mid brownish grey silty clay	Subsoil	0.12m
1002	Layer	Natural	Friable light orangey brown silty clay	Natural	0.11m
1003	Fill	Pit	Compact dark greyish black silty clay	Main fill of pit [1006]. Charcoal fill with some fragments of pottery.	0.25m
1004	Fill	Pit	Friable light brownish	Upper fill of pit [1006]	0.07m

Land adjacent to Hanborough Station, Long Hanborough, Oxfordshire

			yellow silty clay		
1005	Fill	Pit	Compact mid purpleish red silty clay	Basal fill of pit [1006].	0.03m
1006	Cut	Pit		Cut of probable fire pit containing 3 fills with abundant flecks of charcoal and some finds of pot.	0.25m
1007	Fill	Layer	Friable mid orangey yellow silty clay	Possible layer or earlier feature cut by fire pit [1006].	0.15m

Trench 11

Site area: Field 1

Maximum dimensions: Length: 30.2m Width: 1.88m Depth: 0.38m

Orientation: N-S

Context	Context type	Feature type	Description	Interpretation	Depth
1100	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.18m
1101	Layer	Subsoil	Friable mid yellowish brown clay silt	Subsoil	0.11m
1102	Layer	Natural	Friable light brownish yellow silty clay	Natural	0.09m+

Trench 12

Site area: Field 1

Maximum dimensions: Length: 30.8m Width: 1.94m Depth: 0.46m

Orientation: E-W

Context	Context type	Feature type	Description	Interpretation	Depth
1200	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.25m
1201	Layer	Subsoil	Friable mid greyish brown clay silt	Subsoil	0.09m
1202	Layer	Natural	Friable mid orangey pink silty clay	Natural	0.12m+
1203	Fill	Natural	Friable mid pinky brown silty clay	Fill of natural feature [1204].	
1204	Cut	Natural		Cut of possible natural feature, possibly a tree throw.	

Trench 13

Site area: Field 1

Maximum dimensions: Length: 32m Width: 1.8m Depth: 0.47m

Orientation: N-S

Context	Context type	Feature type	Description	Interpretation	Depth
1300	Layer	Topsoil	Moderately compact mid greyish brown silty clay	Topsoil	0.28m
1301	Layer	Subsoil	Compact light reddish orange silty clay	Subsoil	0.16m

1302	Layer	Natural	Compact light orangey brown silty clay	Natural	0.03m
------	-------	---------	--	---------	-------

Trench 14

Site area: Field 1

Maximum dimensions: Length: 28.9m Width: 1.8m Depth: 0.5m

Orientation: N-S

Context	Context type	Feature type	Description	Interpretation	Depth
1400	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.24m
1401	Layer	Subsoil	Friable light yellowish brown silty clay	Subsoil	0.13m
1402	Layer	Natural	Friable mid yellowish brown silty clay	Natural	0.13m+
1403	Layer	Natural	Friable mid greyish yellow clay silt	Change in natural	
1404	Fill	Field drain	Friable mid yellowish grey clay silt	Fill of land drain [1405].	
1405	Cut	Field drain		Cut of land drain	

Trench 15

Site area: Field 1

Maximum dimensions: Length: 30.1m Width: 2.1m Depth: 0.56m

Orientation: N-S

Context	Context type	Feature type	Description	Interpretation	Depth
1500	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.35m
1501	Layer	Subsoil	Friable light pinky brown clay silt	Subsoil	0.08m
1502	Layer	Natural	Friable mid orangey brown silty clay	Natural	0.13m+
1503	Fill	Pit	Friable dark brownish orange clay silt	Fill of possible pit [1504]	0.09m
1504	Cut	Pit		Cut of possible pit.	0.09m
1505	Fill	Pit	Friable mid pinky grey clay silt	Fill of possible pit or posthole.	0.13m
1506	Cut	Pit		Cut of slightly irregular shaped possible pit or posthole.	0.13m
1507	Fill	Pit	Friable mid pinky grey clay silt	Upper fill of possible pit or posthole.	0.14m
1508	Fill	Pit	Friable light pinky brown clay silt	Basal fill of possible post hole or pit.	0.09m
1509	Cut	Pit		Cut of possible pit or posthole.	0.2m

Trench 16

Site area: Field 1

Maximum dimensions: Length: 30.8m Width: 1.8m Depth: 0.56m

Orientation: E-W

Context	Context type	Feature type	Description	Interpretation	Depth
1600	Layer	Topsoil	Moderately compact mid brownish grey silty clay	Topsoil	0.25m
1601	Layer	Subsoil	Compact mid reddish orange silty clay	Subsoil	0.26m
1602	Layer	Natural	Compact light orangey brown silty clay	Natural	0.05m+

Trench 17

Site area: Field 1

Maximum dimensions: Length: 30.5m Width: 1.8m Depth: 0.56m

Orientation: E-W

Context	Context type	Feature type	Description	Interpretation	Depth
1700	Layer	Topsoil	Moderately compact mid brownish grey silty clay	Topsoil	0.26m
1701	Layer	Subsoil	Compact mid reddish orange silty clay	Subsoil	0.19m
1702	Layer	Natural	Compact light orangey brown silty clay	Natural	0.04m+

Trench 18

Site area: Field 1

Maximum dimensions: Length: 29.2m Width: 2m Depth: 0.55m

Orientation: NW-SE

Context	Context type	Feature type	Description	Interpretation	Depth
1800	Layer	Topsoil	Moderately compact mid greyish brown silty clay	Topsoil	0.29m
1801	Layer	Subsoil	Moderately compact light yellowish brown silty clay	Subsoil	0.16m
1802	Layer	Natural	Loose light brown sand	Natural. Limestone brash and clay patches in sandy gravel.	0.1m+
1803	Fill	Field drain		Stone infill of drain.	
1804	Cut	Field drain		Cut of land drain.	
1805	Fill	Field drain		Stone infill of land drain [1806].	
1806	Cut	Field drain		Cut of land drain.	
1807	Fill	Modern Feature	Light blueish yellow clay	Fill of modern intrusion [1808].	

1808	Cut	Modern Feature		Modern intrusion at SE end of trench.	
1809	Fill	Burnt mound	Friable mid brownish grey silty clay	Dark stony layer in shallow depression [1810], contains heat affected stone and charcoal, no finds.	0.29m
1810	Cut	Burnt mound		Shallow, irregular depression, possibly a cut, containing layer of heat cracked stones and charcoal.	0.29m

Trench 19

Site area: Field 1

Maximum dimensions: Length: 30m Width: 1.8m Depth: 0.39m

Orientation: E-W

Context	Context type	Feature type	Description	Interpretation	Depth
1900	Layer	Topsoil	Moderately compact mid greyish brown silty clay	Topsoil	0.22m
1901	Layer	Subsoil	Compact light greyish brown silty clay	Subsoil	0.09m
1902	Layer	Natural	Light yellowish brown silty clay	Natural	0.08m+

Trench 20

Site area: Field 1

Maximum dimensions: Length: 30.2m Width: 2m Depth: 0.4m

Orientation: N-S

Context	Context type	Feature type	Description	Interpretation	Depth
2000	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.22m
2001	Layer	Subsoil	Friable mid reddish brown silty clay	Subsoil	0.03m
2002	Layer	Natural	Friable mid orangey yellow silty clay	Natural	0.15m+

Trench 21

Site area: Field 1

Maximum dimensions: Length: 29.6m Width: 2.05m Depth: 0.37m

Orientation: NW-SE

Context	Context type	Feature type	Description	Interpretation	Depth
2100	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.25m
2101	Layer	Subsoil	Friable mid orangey brown silty clay	Subsoil	0.04m
2102	Layer	Natural	Friable mid orangey yellow silty clay	Natural	0.08m
2103	Fill	Natural	Friable dark greyish brown silty clay	Fill of natural feature [2104].	
2104	Cut	Natural		Cut of natural feature.	
2105	Fill	Natural	Friable mid pinky brown silty clay	Fill of natural feature [2106]	
2106	Cut	Natural		Cut of natural feature.	

Trench 22 (Test Pit)

Site area: Field 1

Maximum dimensions: Length: 1m Width: 1m Depth: 0.39m

Orientation: N/A

Context	Context type	Feature type	Description	Interpretation	Depth
2200	Layer	Topsoil	Friable mid greyish brown clay silt	Topsoil	0.22m
2201	Layer	Subsoil	Moderately compact mid brownish yellow silty clay	Subsoil	0.17m
2202	Layer	Natural	Yellowish mid orange silty clay	Natural	-

Trench 23 (Test Pit)

Site area: Field 1

Maximum dimensions: Length: 1.1m Width: 1.1m Depth: 0.33m

Orientation: N/A

Context	Context type	Feature type	Description	Interpretation	Depth
2300	Layer	Topsoil	Moderately compact mid brownish grey clay silt	Topsoil	0.21m
2301	Layer	Subsoil	Friable mid yellowish brown silty clay	Subsoil	0.12m
2302	Layer	Natural	Mid orangey yellow silty clay	Natural	-

Appendix 2 Technical information

The archive

The archive consists of:

- | | |
|-----|--|
| 18 | Context records AS1 |
| 4 | Field progress reports AS2 |
| 3 | Photographic records AS3 |
| 167 | Digital photographs |
| 1 | Drawing number catalogues AS4 |
| 4 | Scale drawings |
| 1 | Sample number catalogues AS18 |
| 1 | Bag of flots and sorted remains from residue |
| 23 | Trench record sheets AS41 |
| 1 | Box of finds |
| 1 | CD-Rom/DVDs |
| 1 | Copy of this report (bound hard copy) |

The project archive is intended to be placed at:

Oxfordshire County Museum and Archive Store
Cotswold Dene
Standlake
Oxon, OX29 7QG

A copy of the report will be deposited with the Historic Environment Record (HER) and the National Monuments Record (NMR) as appropriate.

Appendix 3 Radiocarbon Dating



Beta Analytic
RADIOCARBON DATING

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

Mr. Darden Hood
President

Mr. Ronald Hatfield
Mr. Christopher Patrick
Deputy Directors

ISO/IEC 2005:17025-Accredited Testing Laboratory

January 23, 2018

Ms. Elizabeth Pearson
Worcestershire Archaeology
Worcestershire Archaeology
The Hive, Sawmill Walk
The Butts
Worcester, Worcester WRI 3PD
United Kingdom

RE: Radiocarbon Dating Results

Dear Ms. Pearson,

Enclosed is the radiocarbon dating result for one sample recently sent to us. As usual, specifics of the analysis are listed on the report with the result and calibration data is provided where applicable. The Conventional Radiocarbon Age has been corrected for total fractionation effects and where applicable, calibration was performed using 2013 calibration databases (cited on the graph pages).

The web directory containing the table of results and PDF download also contains pictures, a cvs spreadsheet download option and a quality assurance report containing expected vs. measured values for 3-5 working standards analyzed simultaneously with your samples.

The reported result is accredited to ISO/IEC 17025:2005 Testing Accreditation PJLA #59423 standards and all pretreatments and chemistry were performed here in our laboratories and counted in our own accelerators here in Miami. Since Beta is not a teaching laboratory, only graduates trained to strict protocols of the ISO/IEC 17025:2005 Testing Accreditation PJLA #59423 program participated in the analysis.

As always Conventional Radiocarbon Ages and sigmas are rounded to the nearest 10 years per the conventions of the 1977 International Radiocarbon Conference. When counting statistics produce sigmas lower than +/- 30 years, a conservative +/- 30 BP is cited for the result. The reported d13C was measured separately in an IRMS (isotope ratio mass spectrometer). It is NOT the AMS d13C which would include fractionation effects from natural, chemistry and AMS induced sources.

When interpreting the result, please consider any communications you may have had with us regarding the sample. As always, your inquiries are most welcome. If you have any questions or would like further details of the analysis, please do not hesitate to contact us.

Thank you for prepaying the analyses. As always, if you have any questions or would like to discuss the results, don't hesitate to contact us.

Sincerely ,

Darden Hood
Digital signature on file



REPORT OF RADIOCARBON DATING ANALYSES

Elizabeth Pearson

Report Date: January 23, 2018

Worcestershire Archaeology

Material Received: January 11, 2018

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 - 484595

P5221/1809/2

3430 +/- 30 BP

IRMS δ13C: -25.2 o/oo

(80.8%)	1782 - 1643 cal BC	(3731 - 3592 cal BP)
(10.2%)	1876 - 1841 cal BC	(3825 - 3790 cal BP)
(4.4%)	1821 - 1797 cal BC	(3770 - 3746 cal BP)

Submitter Material: Charcoal

Pretreatment: (charred material) acid/alkali/acid

Analyzed Material: Charred material

Analysis Service: AMS-Standard delivery

Percent Modern Carbon: 65.25 +/- 0.24 pMC

Fraction Modern Carbon: 0.6525 +/- 0.0024

D14C: -347.53 +/- 2.44 o/oo

Δ14C: -352.80 +/- 2.44 o/oo(1950:2017)

Measured Radiocarbon Age: (without d13C correction): 3430 +/- 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: $\delta^{13}\text{C} = -25.2$ o/oo)

Laboratory number **Beta-484595**

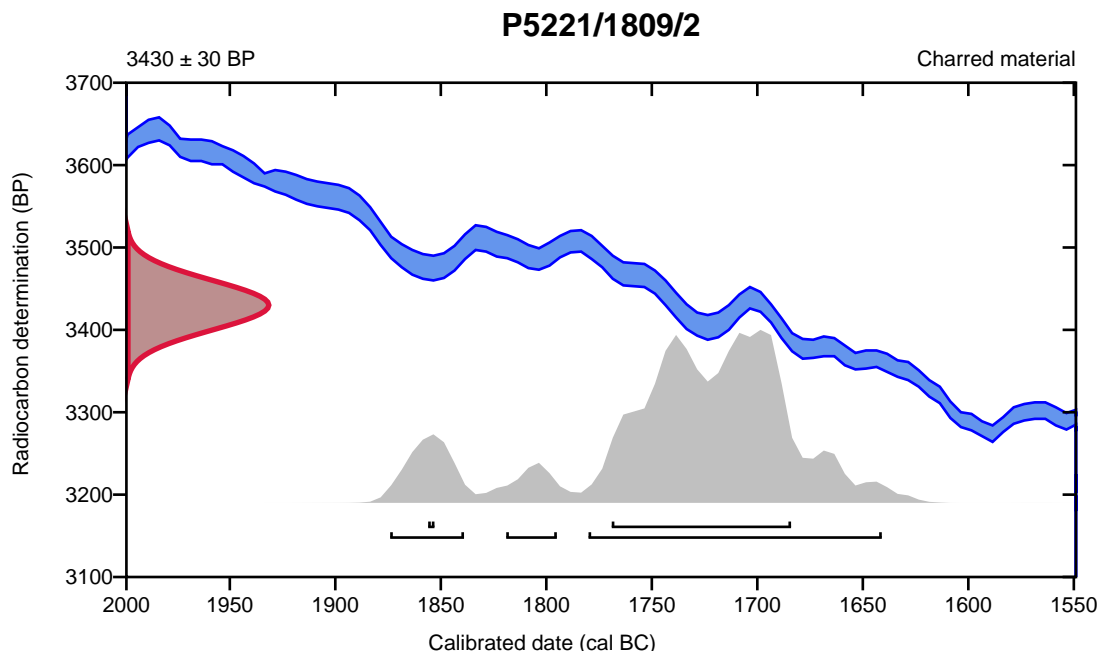
Conventional radiocarbon age **3430 \pm 30 BP**

95.4% probability

(80.8%)	1782 - 1643 cal BC	(3731 - 3592 cal BP)
(10.2%)	1876 - 1841 cal BC	(3825 - 3790 cal BP)
(4.4%)	1821 - 1797 cal BC	(3770 - 3746 cal BP)

68.2% probability

(67.2%)	1771 - 1686 cal BC	(3720 - 3635 cal BP)
(1%)	1858 - 1855 cal BC	(3807 - 3804 cal BP)



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, *Radiocarbon*55(4).



Quality Assurance Report

This report provides the results of reference materials used to validate radiocarbon analyses prior to reporting. Known-value reference materials were analyzed quasi-simultaneously with the unknowns. Results are reported as expected values vs measured values. Reported values are calculated relative to NIST SRM-4990B and corrected for isotopic fractionation. Results are reported using the direct analytical measure percent modern carbon (pMC) with one relative standard deviation. Agreement between expected and measured values is taken as being within 2 sigma agreement (error x 2) to account for total laboratory error.

Report Date: January 23, 2018
Submitter: Ms. Elizabeth Pearson

QA MEASUREMENTS

Reference 1

Expected Value: 129.41 +/- 0.06 pMC

Measured Value: 129.39 +/- 0.35 pMC

Agreement: Accepted

Reference 2

Expected Value: 0.44 +/- 0.10 pMC

Measured Value: 0.44 +/- 0.03 pMC

Agreement: Accepted

Reference 3

Expected Value: 96.69 +/- 0.50 pMC

Measured Value: 96.95 +/- 0.28 pMC

Agreement: Accepted

COMMENT: All measurements passed acceptance tests.

Validation:

Date: January 23, 2018