Archaeological evaluation at Grove Farm, Bromyard Road, Worcester

Worcestershire Archaeology

for Orion Heritage

November 2019

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REGISTERED ORGANISATION CIfA

worcestershire county council

GROVE FARM, BROMYARD ROAD, WORCESTER

Archaeological evaluation report

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

SITE INFORMATION

Site name:	Grove Farm, Bromyard Road, Worcester
Local planning authority:	Malvern Hills District Council
Planning reference:	16/00972/OUT
Central NGR:	SO 82062 54381
Commissioning client:	Orion Heritage
Client project reference:	PN2069
WA project number:	P5577
WA report number:	2694
HER reference:	WSM 71525
Oasis reference:	fieldsec1-352201
Museum accession number:	

DOCUMENT CONTROL PANEL				
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1	21/05/2019	Tom Vaughan	Draft for comment	Tom Vaughan
2	28/05/2019	Tom Vaughan	With client's comments	Tom Vaughan
3	07/11/2019	Tom Vaughan	C14 dating information added	Tom Vaughan

CONTENTS

Archaeological evaluation at Grove Farm, Bromyard Road, Worcester

Tom Vaughan

With contributions by Elizabeth Pearson

Illustrations by Carolyn Hunt

Summary

An archaeological evaluation was undertaken at Grove Farm, Bromyard Road, Worcester (NGR SO 82062 54381). It was commissioned by Orion Heritage on behalf of Bloor Homes Western, in advance of a proposed residential development, for which a planning application has been consented and this work is being carried out as a condition of that planning permission.

Three trenches were excavated within the north-eastern field within the wider site, to target a possible cobbled surface, recorded during investigations by the University of Worcester.

Two adjacent features were recorded within the north-west side of the field. One was a sub oval pit, the other a possible western ditch terminus, which extended eastwards into the trench baulk. Both were sealed by the subsoil and contained fire cracked stone and charcoal. A Middle Bronze Age radiocarbon date (1660 – 1500 cal BC at 95.4% probability) was obtained from charcoal within the sub oval pit. The charcoal within both features is comparable, indicating a contemporary date for the two features which may relate to industrial rather than domestic activity.

There was no evidence for the possible cobbled surface previously recorded during investigations by the University of Worcester. It is considered that the surface was in fact a particularly dense patch of pebbles, cobbles and gravel within the natural matrix of variable clays and gravels. No other archaeological features, layers, horizons or deposits were revealed, nor artefacts recovered. This reflects the negative results of previous geophysical survey of the site.

Report

1 Introduction

1.1 Background to the project

An archaeological evaluation was undertaken by Worcestershire Archaeology (WA) April 2019 at Grove Farm, Bromyard Road, Worcester (NGR: SO 82062 54381). This comprised three evaluation trenches within the north-eastern field within the wider site. The project was commissioned by Orion Heritage on behalf of Bloor Homes Western, in advance of proposed residential development. An outline planning application has been submitted to Malvern Hills District Council (MHDC) and approved subject to a programme of archaeological works (planning reference 16/00972/OUT).

The archaeological advisor to the local planning authority considered that the proposed development had the potential to impact upon possible heritage assets, primarily a possible cobbled surface recorded during investigations carried out by the University of Worcester (OH 2019, 4, paragraph 1.9). This was not identified during geophysical survey of the site (SUMO Survey 2019).

No brief has been provided, but the project conforms to the requirements of the Archaeology and Planning Advisor to MHDC as agreed between them and the Orion Heritage in correspondence (dated 5 and 6 February 2019). A WSI was prepared by Orion Heritage (2019) and approved by the Archaeological Advisor. The evaluation also conforms to the industry guidelines and standards set out by the Chartered Institute for Archaeologists in *Standard and guidance: for archaeological field evaluation* (CIfA 2014) and the *Standards and guidelines for archaeological projects in Worcestershire* (WCC 2010)

1.2 Site location, topography and geology

The site is located beyond the western edge of the City of Worcester, on the corner of the A44 Bromyard Rd, and the A4440 Grove Way (NGR: SO 82062 54381). It comprises three fields, a total of *c* 6hectares, formerly under agricultural and arborecultural use, and slopes gradually down from west to east, from *c* 42mAOD to *c* 35mAOD.

The underlying geology comprises bedrock of the Sidmouth Mudstone Formation; mudstone. sedimentary bedrock formed approximately 228 to 250 million years ago in the Triassic Period. This is overlain by superficial deposits of the Kidderminster Station Member; sand and gravel deposits formed up to 2 million years ago in the Quaternary Period (BGS 2019). The predominant soils on the site belong to the Newnham Soil Association (541w), comprising well drained reddish coarse and fine loamy soils over gravel (Soil Survey of England and Wales 1983).

2 Archaeological and historical background

2.1 Introduction

The archaeological and historical background to the project is summarised in the WSI, as follows:

> Archaeological reports for archaeological investigation of land immediately east (archaeological desk-based assessment Wessex Archaeology 2005; geophysical survey Stratascan 2006 and archaeological evaluation (Wessex Archaeology 2006) and for evaluation of land to the southeast at Oak View Way (Worcestershire Archaeology 2018) have been reviewed. These phases of investigation have recorded agricultural activity; no evidence (including artefactual) pre-dating the Post-Medieval period has been recorded. Investigations carried out ahead of the Medical Centre and Oak View Way infrastructure had similarly negative results. (OH 2019, 4, paragraph 1.11)

2.2 Previous archaeological work on the site

It is understood that the University of Worcester has undertaken archaeological investigations on the site, which revealed a possible cobbled surface within the north-eastern portion of the site (OH 2019, 4, paragraph 1.9). The exact extent and location of these investigations is unknown as the report is currently unavailable. Geophysical magnetometer survey was undertaken in January 2019 (SUMO Survey 2019). It did not reveal archaeological anomalies but did identify linear trends of uncertain origin, a former field boundary, an infilled pond and traces of ridge and furrow agricultural activity

3 Project aims

The principal aims of the evaluation were to.

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

The general objectives of the evaluation 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; and
- The recording of archaeological remains, to place this record in its local context and to make this record available.

4 Project methodology

A Written Scheme of Investigation (WSI) was prepared by Orion Heritage (OH 2019). Fieldwork was undertaken between 8 and 9 April 2019.

Three trenches, amounting to 135m² in area, were excavated within the north-eastern field within the wider site. The location of the trenches is indicated in Figure 2.

The trenches were non-gridded and positioned to interrogate the possible cobbled surface recorded by the University of Worcester, in agreement with the Archaeology and Planning Advisor to MHDC.

Deposits considered not to be significant were removed under constant archaeological supervision using a JCB 3CX type wheeled 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. On completion of excavation, trenches were reinstated by replacing the excavated material.

All fieldwork records were checked and cross-referenced. Analysis was undertaken through a combination of structural 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 with Museums Worcestershire.

5 Archaeological results

5.1 Introduction

The features recorded in the trenches are shown in Figures 3 and 4 and Plates 1 to 13. The trench and context inventory is presented in Appendix 1.

5.2 Trench descriptions

5.2.1 Natural deposits across the site

The natural undisturbed geology comprised a mixed clay with variable bands and patches of sub rounded and sub angular pebbles, cobbles and gravels, and manganese flecks, at a depth of 0.40-0.54m below the present ground surface. This was overlain by silty clay subsoil and topsoil with a small proportion of pebbles and cobbles, and frequent rooting.

The topsoil contained occasional modern plastic debris within Trench 2, but was otherwise not apparently extensively disturbed. A series of roughly parallel bands of lighter clay within the surface of the natural in Trench 2 may relate to ploughed out traces of ridge and furrow agricultural activity.

5.2.2 Undated

Two features were recorded within the north-west end of Trench 3 (Plates 8-13, Figures 3 and 4). These comprised a sub oval pit, [303], 1.25m long, 0.69-0.85m wide, and 0.21m deep, and a linear cut, [305], 0.96m wide, 0.34m deep, and at least 1.55m long before continuing into the east trench baulk. It was unclear if the latter was an elongated pit or the western terminus of a ditch. Both were sealed by the subsoil (301) and contained fire cracked pebbles and cobbles, charcoal flecks and fragments. The latter were sampled for analysis (Section 7 below).

6 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 Environmental evidence, by Elizabeth Pearson

7.1 Project parameters

Environmental sampling was undertaken according to standard Worcestershire Archaeology practice (WA 2012). The environmental project conforms to guidance by CIfA (2014a) on archaeological evaluation, guidance by English Heritage (2011) and Association for Environmental Archaeology (1995).

7.2 Aims

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.

7.3 Methods

7.3.1 Sampling policy

Samples were taken according to standard Worcestershire Archaeology practice (2012). A total of two samples (each of 40 litres) of possible prehistoric date were taken from the site (Env Table 1).

7.3.2 Processing and analysis

The samples were processed by flotation using a Siraf tank. The flots were collected on a 300μm 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 hammerscale. 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).

The cell structure of a selection of non-oak identification samples was examined in three planes under a MEIJI dark illumination microscope and identifications were carried out using reference texts (Schweingruber 1978 and Hather 2000) and reference slides housed at Worcestershire Archaeology.

7.4 Discard policy

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

7.5 Results

The samples are summarised in Env Tables 2 and 3.

The site is located on freely draining slightly acid loamy soils of low fertility (Cranfield Soil and AgriFood Institute 2019).

7.5.1 Plant remains

Abundant charcoal was present in both fills (304) and (306) of pit [303] and ditch [305]. Although some fragments were affected by mineral concretions, most were well-preserved and identifiable. Fragment size and condition was similar in both samples, suggesting that both deposits may be of the same phase of activity. Possible hazel (cf *Corylus avellana*), alder/hornbeam/hazel (*Alnus*/*Carpinus*/*Corylus* sp), oak (*Quercus robur*/*petraea*) and possible (pear/apple/hawthorn/whitebeam) charcoal was recorded.

These remains are likely to be waste from hearths or kilns, indicating the potential for information on woodland resources used for specific activities to be identified.

The lack of charred cereal crop waste indicates a low level of cereal crop cultivation and processing on the site (likely because of low soil fertility), or a non-agricultural part of a settlement. The regular size and condition of the charcoal may reflect fuel for industrial rather than domestic heaths.

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.

7.5.2 Radiocarbon dating

A single sample of possible pear/apple/whitebeam/hawthorn (cf Maloideae sp) charcoal from pit fill (304) was submitted for radiocarbon dating to Chrono, Queen's University of Belfast. The charcoal was dated to the Middle Bronze Age (1660 – 1500 cal BC at 95.4% probability).

The results are conventional radiocarbon ages (Stuiver and Polach 1977) and are listed in Env Table 4. 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 distribution of the calibrated dates, calculated using the probability method (Stuiver

and Reimer 1993) is shown in the graph in Appendix 4. This has 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).

7.6 Significance

Identifiable charcoal remains from possible prehistoric deposits were of local significance, indicating the potential to recover information on use of timber resources to fuel hearths and kilns.

Context	Sample	Feature type	Fill of	Period	Sample volume (L)	Volume processed (L)	Residue assessed	Flot assessed
304	1	Pit	303	?Prehistoric	40	10	Yes	Yes
306	2	Ditch	305	?Prehistoric	40	10	Yes	Yes

Env Table 1: List of bulk samples

context	sample	charcoal	uncharred plant	artefacts
304	1	mod	abt*	occ wood, abt burnt & heat-cracked stone
306	2	abt	abt*	occ fired clay, heat-cracked stone

*Env Table 2: Summary of environmental samples; occ = occasional, mod = moderate, abt = abundant, * = probably modern and intrusive*

context	sample	Preservation type	species detail	category remains	quantity/diversity	comment
304	1	?wa*	*Taxus*, *Pinus*, *Juniperus*, *Abies*, *Larix* needle, unidentified root fragments (herbaceous), unidentified root fragments (woody)	misc	++++/low	
304	1	ch	cf Maloideae sp, cf *Corylus avellana* wood, *Alnus*/*Carpinus*/*Corylus* sp wood	misc	+++/low	Well-preserved identifiable non-oak fragments
306	2	?wa*	unidentified root fragments (herbaceous), unidentified root fragments (woody)	misc	++++/low	
306	2	ch	*Quercus robur*/*petraea*, cf *Corylus avellana* wood, *Alnus*/*Carpinus*/*Corylus* sp wood	misc	+++/low	Well-preserved identifiable fragments

Env Table 3: Plant remains from bulk samples

Key:

preservation	quantity
ch = charred	+++ = 51 - 100
?wa = waterlogged or uncharred	++++ = 101+
	* = probably modern and intrusive

Lab code	Context number	Material	Conventional Age	OxCal calibrated age (95.4% probability or 2 sigma)
UBA-41278	304	cf Maloideae charcoal	3305 +/- 28 BP	1660 – 1500 cal BC

Env Table 4 Radiocarbon dating results

8 Discussion and conclusions

The two features recorded in Trench 3 to the western side of the field investigated did not contain any artefacts, although they were sealed by the subsoil. It is unclear if the feature which extended into the eastern baulk of the trench was an elongated pit, similar to the one defined pit adjacent, or was the western terminus of an east to west aligned ditch. Existing and previous field boundaries recorded on earlier Ordnance Survey maps are similarly aligned east to west and north to south, whilst the former alignment of Bromyard Road to the north was east to west, so the linear may be of a later date.

A Middle Bronze Age radiocarbon date (1660 – 1500 cal BC at 95.4% probability) was obtained from charcoal within the sub oval pit. The charcoal within the two features was comparable, indicating a contemporary date and may relate to industrial waste from hearths or kilns rather than domestic activity. The lack of charred cereal crop waste indicates a low level of cereal crop cultivation and processing in the immediate vicinity.

The exact nature of the two features recorded is unclear, although they did not appear to relate to any intensive activity within the site. The developed soil profile observed within each trench indicates that there has not been any substantial disturbance of the soils within the field, although possible traces of ridge and furrow were noted on the eastern side of the field.

There was no evidence for the possible cobbled surface previously recorded during investigations by the University of Worcester. It is considered that the surface was in fact a particularly dense patch of pebbles, cobbles and gravel within the natural matrix of variable clays and gravels. No other archaeological features, layers, horizons or deposits were revealed, nor artefacts recovered. This reflects the results of the geophysical survey.

The methods adopted allow a high degree of confidence that the aims of the project have been achieved. Conditions were suitable in all of the trenches to identify the presence or absence of archaeological features. It is considered that the nature, density and distribution of archaeological features provides an accurate characterisation of the north-eastern part of the site.

9 Project personnel

The fieldwork was led by Andrew Walsh, ACIfA, assisted by Jem Brewer, PCIfA.

The project was managed by Tom Vaughan, MCIfA, who also produced and collated the report. The illustrations were prepared by Carolyn Hunt, MCIfA. The environmental processing was undertaken by Adrian Robins, PCIfA, and the assessment prepared by Elizabeth Pearson, ACIfA.

10 Acknowledgements

Worcestershire Archaeology would like to thank the following: Cathy Patrick (Technical Director, Orion Heritage Ltd), Aidan Smyth (Archaeology and Planning Advisor, Malvern Hills District Council), and Chrono (Queen's University of Belfast).

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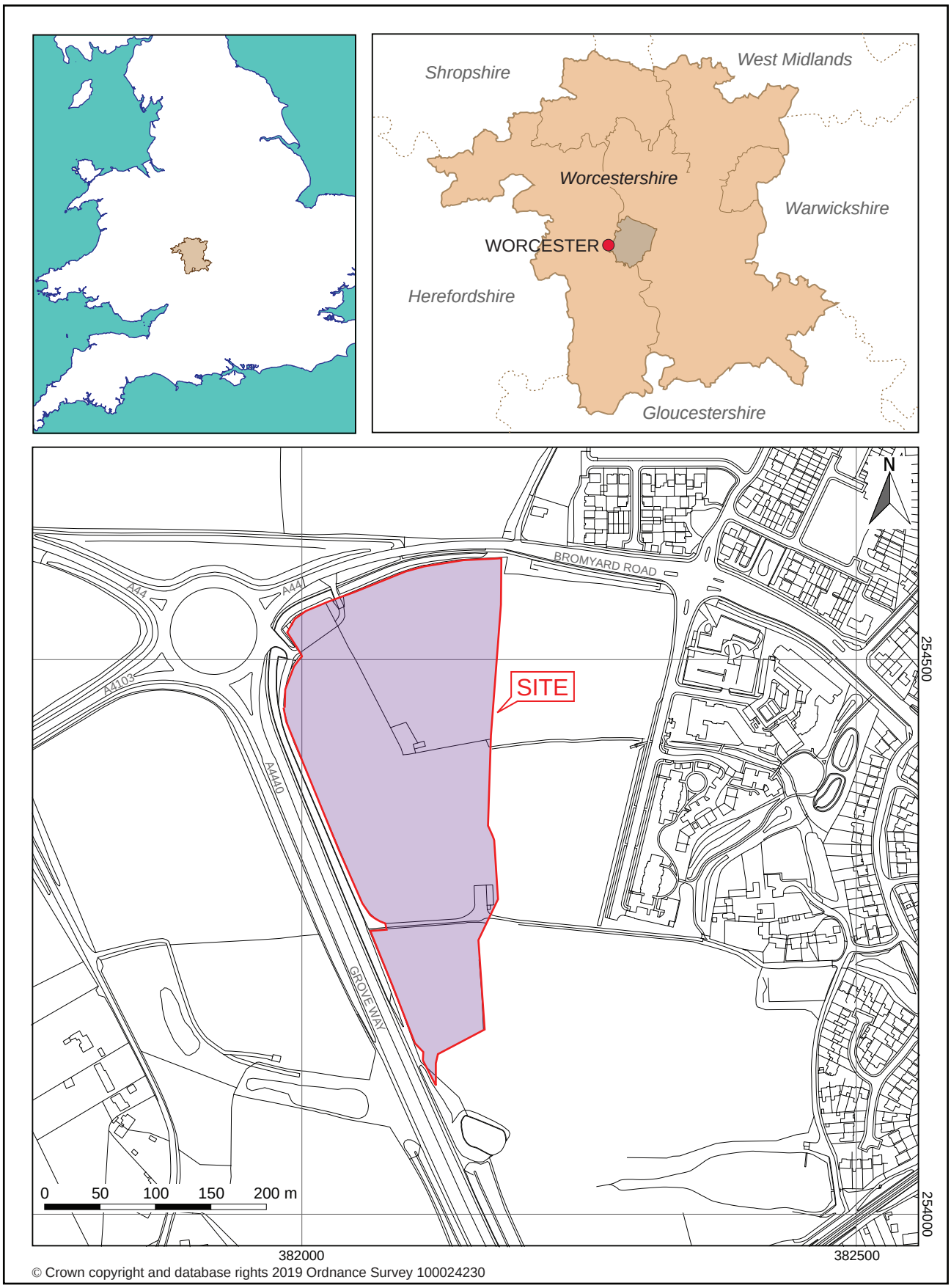
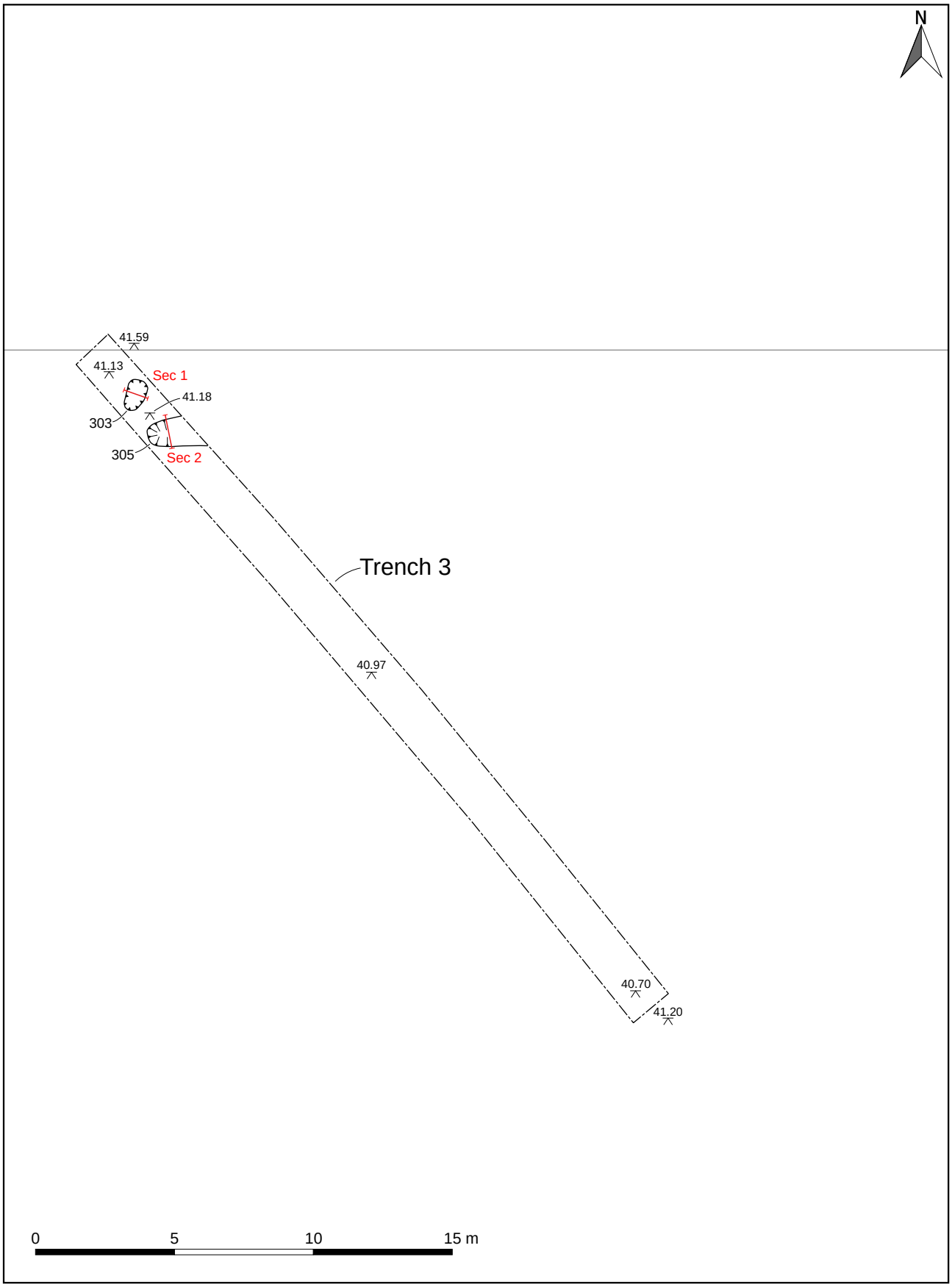
Figures



Location of the site *Figure 1*

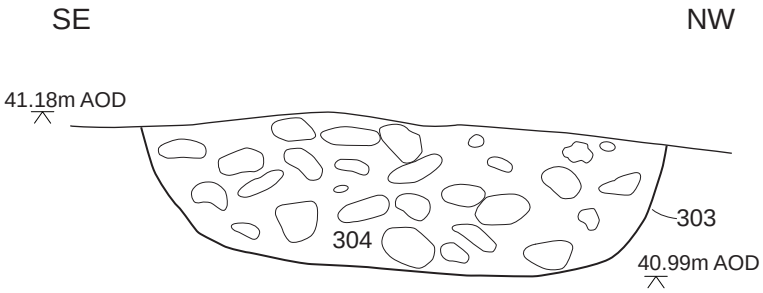
Trench location plan *Figure 2*



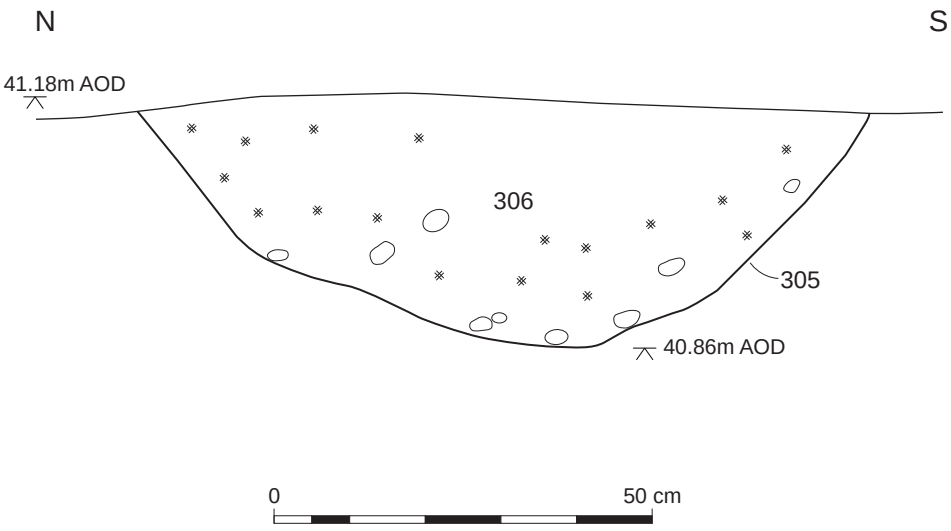
Plan of Trench 3

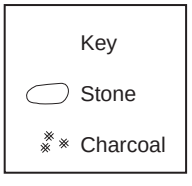
Figure 3

SECTION 1: PIT 303



SECTION 2: FEATURE 305





Sections *Figure 4*

Plates

Plate 1: Tr 1, general view west, 2x 1m scales

Plate 2: Tr 1, general view east, 2x 1m scales

Plate 3: Tr 1, sample section, view south, 0.50m scale

Plate 4: Tr 2, general view south-west, 2x 1m scales

Plate 5: Tr 2, general view north-east, 2x 1m scales

Plate 6: Tr 2, sample section, view north-west, 0.30m scale

Plate 7: Tr 3, general view north-west, 2x 1m scales

Plate 8: Tr 3, general view south-east, 2x 1m scales

Plate 9: Tr 3, sample section, view north-east, 0.30m scale

Plate 10: Tr 3, pit [303], half sectioned, view south-west, 0.50m scale

Plate 11: Tr 3, pit [303], half sectioned, view south-west,0.50m scale

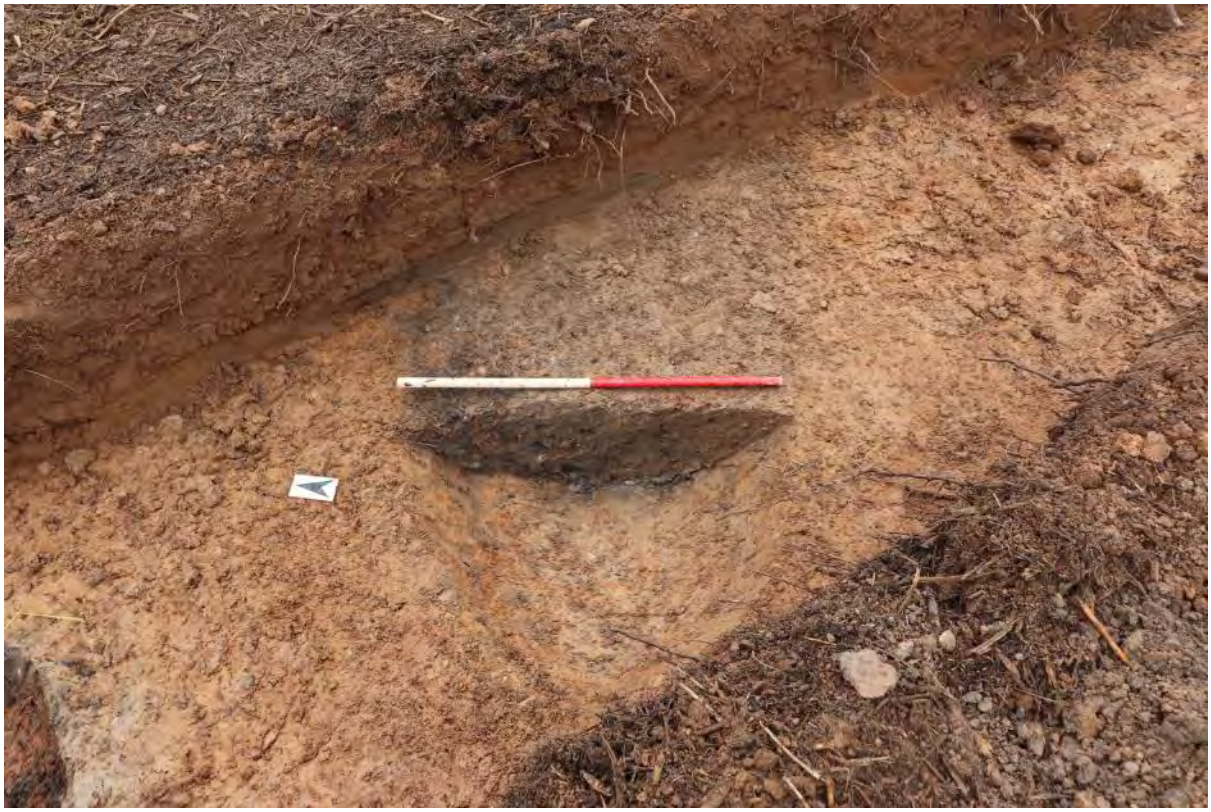


Plate 12: Tr 3, feature [305], sectioned, view east, 1m scale

Plate 13: Tr 3, feature [305], sectioned, view east, 1m scale

Appendix 1: Trench descriptions

Main deposit descriptions

Trench 1

Maximum dimensions: Length: 30m Width: 1.5m Depth: 0.52m

Orientation: east to west

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
100	Topsoil	Dark orangey brown silty clay, soft and cohesive, abundant rooting, occasional sub angular and sub rounded pebbles	0.00-0.20m
101	Subsoil	Mid yellowish brown silty clay, soft and cohesive, occasional roots, occasional subangular and sub rounded pebbles	0.20-0.41m
102	Natural	Mixed pinkish clay with yellowish clay bands, occasional bands and patches of sub angular and sub rectangular pebbles and cobbles, rare sub angular and sub rounded gravels	0.41m+

Trench 2

Maximum dimensions: Length: 30m Width: 1.5m Depth: 0.52m

Orientation: north-east to south-west

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
200	Topsoil	Dark brown silty clay, soft and cohesive, frequent rooting, rare sub rounded pebbles, rare modern plastic debris	0.00-0.19m
201	Subsoil	Mid yellowish brown silty clay, soft and cohesive, rare roots, occasional charcoal flecks, sub rounded pebbles, very rare cobbles	0.19-0.40m
202	Natural	Mixed pinkish brown clay with light yellowish brown clay bands, moderately compact, frequent manganese flecks, occasional subangular and sub rectangular pebbles, rare sub rounded cobbles Bands aligned north-west to south east in north-east end of trench; may be traces of ploughed out ridge and furrow	0.40m+

Trench 3

Maximum dimensions: Length: 30m Width: 1.5m Depth: 0.61m

Orientation: north-west to south-east

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
300	Topsoil	Mid orangey brown silty clay, soft and cohesive, frequent rooting, occasional charcoal, sub angular and sub rounded pebbles	0.00-0.31m
301	Subsoil	Light orange brown silty clay, soft and cohesive, occasional roots, charcoal flecks, rare sub rounded and sub angular pebbles	0.31-0.54m
302	Natural	Mixed pinkish brown clay with occasional light yellowish clay patches, moderately compact, occasional manganese flecks, subangular and sub rectangular pebbles, rare sub rounded gravels	0.54m+
303	Pit	Sub oval in plan, sharp break of slope with steep slightly concave sides, rounded break of slope at base, flat base to north, slightly concave to south, aligned north to south, filled by 304, 1.25m long, 0.69-0.85m wide, 0.21m deep, sealed by (301)	0.54-0.75m
304	Fill	Fill of [303], soft and cohesive, mid black brown silty clay with abundant fire cracked stone and charcoal, no finds, sealed by (301)	0.54-0.75m
305	Feature – ditch?	Linear cut with terminus to west, sharp break of slope, steeply sloping sides, moderately sloped to west end, moderate break of slope to moderately concave base, filled by 306, 1.55m long an continues into east trench baulk, 0.96m wide, 0.34m deep, sealed by (301)	0.54-0.88m
306	Fill	Fill of [305], firm to compact mid to light grey clayey silt, frequent cobbles and pebbles, many fire cracked, moderate to frequent charcoal flecks and fragments, sealed by (301)	0.54-0.88m

Appendix 2: Summary of project archive (WSM 71525)

TYPE	DETAILS*
Artefacts and Environmental	none
Paper	Context sheet, Drawing, Plan, Report, Section
Digital	GIS, Images raster/digital photography, Survey, Text

**OASIS terminology*

Appendix 3: Summary of data for HER

Context	Sample	Feature type	Fill of	Period	Sample volume (L)	Volume processed (L)	Residue assessed	Flot assessed
304	1	Pit	303	?Prehistoric	40	10	Yes	Yes
306	2	Ditch	305	?Prehistoric	40	10	Yes	Yes

Env Table 1: List of bulk samples

context	sample	charcoal	uncharred plant	artefacts
304	1	mod	abt*	occ wood, abt burnt & heat-cracked stone
306	2	abt	abt*	occ fired clay, heat-cracked stone

*Env Table 2: Summary of environmental samples; occ = occasional, mod = moderate, abt = abundant, * = probably modern and intrusive*

context	sample	Preservation type	species detail	category remains	quantity/diversity	comment
304	1	?wa*	*Taxus*, *Pinus*, *Juniperus*, *Abies*, *Larix* needle, unidentified root fragments (herbaceous), unidentified root fragments (woody)	misc	++++/low	
304	1	ch	cf Maloideae sp, cf *Corylus avellana* wood, *Alnus*/*Carpinus*/*Corylus* sp wood	misc	+++/low	Well-preserved identifiable non-oak fragments
306	2	?wa*	unidentified root fragments (herbaceous), unidentified root fragments (woody)	misc	++++/low	
306	2	ch	*Quercus robur*/*petraea*, cf *Corylus avellana* wood, *Alnus*/*Carpinus*/*Corylus* sp wood	misc	+++/low	Well-preserved identifiable fragments

Env Table 3: Plant remains from bulk samples

Key:

preservation	quantity
ch = charred	+++ = 51 - 100
?wa = waterlogged or uncharred	++++ = 101+
	* = probably modern and intrusive

Lab code	Context number	Material	Conventional Age	OxCal calibrated age (95.4% probability or 2 sigma)
UBA-41278	304	cf Maloideae charcoal	3305 +/- 28 BP	1660 – 1500 cal BC

Env Table 4 Radiocarbon dating results

Appendix 4: Radiocarbon dating information